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COGNITIVE FACTORS IN THE REPRODUCTION OF EDUCATIONAL MATERIAL

Abstract. Cognitive factors, such as memory, play an important role in the process of reproducing learning material. To successfully reproduce educational material, students need to have sufficient memory capacity, the ability to memorize and retain information in memory for a long period of time. Other cognitive factors, such as attention, perception, thinking, and evaluation, can also affect students' ability to reproduce learning material. Understanding these cognitive factors can help educators develop effective teaching methods and approaches that take into account students' individual needs and abilities.

Keywords: cognitive factors; memory; reproduction of educational material; cognitive activity.

Аннотация. Когнитивные факторы, такие как память, играют важную роль в процессе воспроизведения учебного материала. Чтобы успешно воспроизвести учебный материал, студентам необходимо иметь достаточную емкость памяти, способность к запоминанию и сохранению информации в памяти на длительный период времени. Другие когнитивные факторы, такие как внимание, восприятие, мышление и оценка, также могут влиять на способность студентов к воспроизведению учебного материала. Понимание этих когнитивных факторов может помочь педагогам разработать эффективные методы обучения и подходы, которые учитывают индивидуальные потребности и способности студентов.

Ключевые слова: когнитивные факторы; память; воспроизведение учебного материала; познавательная деятельность.

The reproduction of educational material by schoolchildren depends on many factors, including the individual characteristics of each student, the quality of teaching, the availability of materials and the learning environment. Cognitive factors are factors related to cognitive processes that determine the success of the learning process. Cognitive factors are important for the successful assimilation of educational material and the development of these factors in trainees are possible using various methods and technologies. Some of these factors include:

Attention: The reproduction of the material requires focus and attention to detail, so the ability to hold attention is an important factor.

Memory: The reproduction of the material requires access to relevant knowledge and information in memory. A good memory and the ability to organize knowledge will help to reproduce the material more effectively.

Motivation: Motivation can be a key factor in the reproduction of learning material. The more a student is interested in a topic, the more willing they will be to put in the effort to understand and memorize it.

Information Processing Strategies: Effective information processing strategies can help students memorize material more effectively. For example, the use of mnemonic devices, the compilation of coherent stories, etc.

Different types of memory: There are several types of memory, and each of them can have an impact on the reproduction of educational material. For example, short-term memory is used to store information for a short period of time, while long-term memory is used to store information on a long-term basis.

Stress: Stress can negatively affect a student's ability to reproduce material. If a student experiences a high level of stress, then he may have difficulty concentrating and reproducing the material.

Intellectual abilities: and intellectual abilities can have an impact on a student's ability to reproduce educational material. The higher the level of intelligence, the easier it will be to remember and reproduce the material.

Speed of information processing: The speed with which a student processes information can have an impact on the ability to reproduce material. Fast processing of information can help the student absorb new material faster and increase its reproduction efficiency.

Visual abilities: The visual abilities, such as the ability to perceive and remember graphic images, can be useful in reproducing material that contains graphic elements such as diagrams or diagrams.

Ability to analyze and synthesize: Students who have the ability to analyze and synthesize information can better reproduce the material. This is due to their ability to see the connections and relationships between different elements of information and apply this information in new contexts.

Language ability: Language proficiency can affect the ability to reproduce material, especially if the material involves understanding and using specialized vocabulary and terms.

Emotional state: A student's emotional state can affect a student's ability to reproduce material. For example, feelings of anxiety or fear can make it difficult to remember and reproduce material.

All of these cognitive factors interact with each other, and they can manifest differently in each student depending on their individual characteristics. To improve the ability to reproduce instructional material, students may need to experiment with different learning strategies and find the optimal way that best suits their unique cognitive abilities and learning style.

Memory plays a key role in the process of learning and reproducing information. The level of memory development is an important factor for the successful reproduction of educational material. A well-developed memory allows for faster and more accurate reproduction of material and improves the overall quality of learning. When studying the factors of influence of memory on the reproduction of educational material, researchers rely on a lot of research in the field of cognitive psychology, neuroscience and pedagogy. Modern methods of memory research include both experimental and neurophysiological methods. Thanks to these methods, research becomes more accurate and reliable, which allows you to get a more complete understanding of the processes associated with memory.

There are a number of studies that suggest that memory development is an important condition for successful learning:

- And following "The Role of Working Memory in Learning" (Baddeley, 2003). In this study, researchers examined the relationship between working memory and learning ability. They found that working memory is an important factor that affects the ability to learn. The larger the amount of working memory a person has, the better he is able to remember and reproduce information [1];

- Study "Effects of Emotional Context on Word Reproduction" (Kensinger&Corkin, 2003). In this study, researchers examined the effects of emotional context on word memorization and reproduction. The study showed that words related to emotional context are better remembered and reproduced than neutral words [5];

- The study "Contextual Reproduction and Memory" (Godden & Baddeley, 1975). In this study, the researchers examined how context affects the reproduction of information. The study was conducted on divers who studied the material underwater and on land. The study showed that information is better reproduced when the context of reproduction coincides with the context in which the information was studied [4];

- Study "The Influence of Motivation on Material Retention" (Murayama & Kuhbandner, 2011). In this study, researchers examined how motivation affects information retention. The study found that participants who were motivated to make more money were better at retaining information [6].

In 2020, a study conducted by Carolyn Rotermund and her colleagues was published in the journal *Frontiers in Psychology*, which investigated the relationship between memory and time perception in primary school children. The study was conducted on 98 children aged 6 to 8 years. The children were asked to complete a task that consisted of estimating the duration of the presentation of a series of images on a computer screen. The children were then asked remember which images were shown, and assess your confidence in the correctness of your answers. The results of the study showed that children who performed better on the task of estimating the duration of the presentation of images also remembered images better and were more confident in their answers. This suggests that memory and perception of time are closely related in children of primary school age. Thus, this study shows that children with a good memory have a better developed perception of time, which can be useful for the successful assimilation of educational material [3].

Other studies also confirm the link between memory and learning learning. A study in the *Journal of Educational Psychology* in 2015 investigated the effect of the use of game elements in the educational

process on memorization and assimilation of material in children. The study involved elementary school students who were taught mathematics using game elements such as timed assignments, assignment rewards, and competitive forms of work. The results showed that participants who used game elements in the learning process had better memorization and understanding of the material than participants who did not use game elements. In addition, the use of game elements also contributed to a more positive attitude of students to the learning process [7].

The study, "The Impact of Working Memory Training on Cognitive Functioning of Children from Low-Income Families" (American psychologist), conducted in New York City in 2012, examined the effect of working memory training on improving cognitive function in children from disadvantaged areas of the city. The study involved children aged 7 to 9 years who lived in areas with high levels of poverty and social maladjustment. The children were offered working memory training, which included performing tasks for memorizing and then reproducing a sequence of objects in a certain order. The duration of the workout was about 25 minutes a day, 5 days a week, for 8 weeks. The results of the study showed that children who underwent working memory training had higher scores on tests of attention, memory, problem solving and decision-making, compared to the control group of children who did not undergo such training. In addition, the children who underwent training demonstrated improved academic success and increased motivation to learn. This study confirms that working memory training can have a positive effect on cognitive function in children, especially in conditions of social maladjustment and disadvantage [2].

Working memory training is a set of exercises aimed at developing the ability to memorize and manipulate information in working memory. Working memory is a type of memory that allows information to be stored and manipulated for a short time (a few seconds or minutes).

Working memory training can include various tasks, such as:

- memorizing a sequence of objects or numbers and then reproducing them in the correct order;
- solving mathematical problems that require temporary storage of intermediate results;
- performing tasks to select the correct answer from the proposed options, where you need to remember the conditions of the problem and the rules used to select the answer.

Working memory training can be carried out both in the classroom and at home, using a variety of games, exercises and applications for smartphones and tablets. Working memory training can be an effective way to improve academic success and develop cognitive abilities in children and adults.

There are many exercises and techniques for training working memory, for example:

Numbers: Review a set of numbers for a few seconds, and then try to recall them in reverse order.

Letters: Review a set of letters for a few seconds, and then try to recall them in reverse order.

Pictures: Look at a series of pictures for a few seconds, and then try to recall them in the correct order.

Crossword puzzles and puzzles: Solve crosswords and puzzles to train your logical thinking ability and memory.

Repetition of information: Ask someone to give you a list of words or objects, and then repeat them in reverse order.

Images: Preview a set of images for a few seconds and then try to recall them in the correct order.

Visual associations: link new information with what you already know to improve its retention.

There are also computer programs and games that are designed to train working memory. Some of them use "brain trainer" technology to help improve memory, attention, and other cognitive functions. For example, some of these programs are:

"Lumosity" is a popular brain training program that offers a set of games and exercises to improve memory, attention, reaction speed, and other cognitive functions.

"BrainHQ" is another brain training program that uses games and exercises to improve memory, attention, and processing speed.

"Cogmed" is a working memory training program designed specifically for children with diagnosed attention deficit hyperactivity disorder (ADHD).

"Dakim Brain Fitness" is a computer program that uses games and exercises to improve memory, attention, logical thinking and other cognitive functions.

"Memory Trainer" is a mobile memory training app that offers a variety of games and exercises to improve memory.

All these methods and complexes of memory training can be effective if used regularly and in combination with other methods, such as repetition and active participation in the learning process.

We considered various aspects of the relationship between memory and reproduction of educational material. The main conclusions can be formulated as follows:

Memory plays an important role in the successful reproduction of educational material. The ability to memorize and retain information determines how well a student will be able to recall and apply the material studied.

Various studies show that well-developed working memory and long-term memory, as well as the ability to correctly use various strategies for memorizing and reproducing information, can help improve the quality and speed of reproduction of educational material. In general, a well-developed memory is an important factor in the successful reproduction of educational material.

Various methods and techniques can be used to improve memory, such as working memory training, the use of mnemonic devices, the use of game elements in the learning process, and physical activity. It is also important to take into account the individual characteristics of students and their level of memory development when planning the educational process and choosing teaching methods.

Research in this area is ongoing, and new methods and techniques may be developed in the future to improve memory and reproduction of learning material even more effectively.

However, it should be noted that memory is not the only factor influencing the reproduction of educational material. In addition to memory, the success of learning is influenced by many other factors, such as motivation, attention, interest in educational material, adequacy of teaching methods, etc. Therefore, in order to achieve maximum results in learning, it is necessary to take into account all these factors and select an individual approach to each student.

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ЖАЛПЫ СОЙЛЕУ ҚАБІЛЕТІ ДАМУАҒАН ЕРЕСЕК ЖАСТАҒЫ МЕКТЕП ЖАСЫНА ДЕЙІНГІ БАЛАЛАРДЫҢ ТІЛДІК ҚАБІЛЕТТЕРІН ҚАЛЫПТАСТЫРУ ТӘЖІРИБЕСІНЕ ӘДЕБИ ШОЛУ

Аннотация: В данной статье, делая обзор на исследования отечественных и зарубежных ученых, затрагивается мысль о формировании языковой способности ролевыми играми у детей с общей недоразвитой речи, формировании необходимости разговорных отношении, развитии коммуникативных способностей, улучшении гармоничной речи с помощью активного и пассивного словарного запаса, грамматического построения речи, интегрирования звуковой культуры и других сфер образования ребенка. Другими словами, о том, как педагог, создавая условия для улучшения речевой способности детям дошкольного возраста, уделяет особое внимание на то, что сможет помочь сформировать важную для дальнейшего развития культурную, речевую, интеллектуальную