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Развитие метакогнитивных навыков учащихся через применение инструментов визуализации мышления

Аннотация

Основная проблема: Метакогнитивные навыки – это умение учащихся осознавать, контролировать и регулировать свои мыслительные процессы. В последние годы исследователи уделяют особое внимание развитию этих навыков, поскольку они являются ключевыми для формирования автономного обучения, критического мышления и успеха в академической среде.

Цель: Основной целью исследования было изучение эффективности инструментов визуализации мышления в развитии метакогнитивных навыков учащихся.

Методы: Теоретические методы: анализ научной литературы, сравнительный анализ подходов к визуализации мышления, эмпирические методы: педагогический эксперимент, тестирование учащихся, опросы и анкетирование, статистические методы: количественный анализ успеваемости, обработка данных с использованием методов корреляционного и сравнительного анализа.

Результаты и их значимость: В данной статье представлены результаты практического исследования, проведенного в течение учебного года в Назарбаев Интеллектуальной школе химико-биологического направления (НИШ ХБН) г. Павлодара среди учащихся 11 классов, обучаемых на английском языке.

Ключевые слова: метакогнитивные навыки, визуализация мышления, когнитивные стратегии, осознанное обучение.

Введение

Метакогнитивные навыки играют ключевую роль в успешности обучения, позволяя учащимся осознавать, контролировать и адаптировать свои мыслительные процессы [1]. Современные исследования доказывают, что развитие этих навыков положительно сказывается на академической успеваемости, критическом мышлении и самостоятельности в обучении [2].

Цель исследования: Определить влияние инструментов визуализации мышления на развитие метакогнитивных навыков учащихся 11-х классов Назарбаев Интеллектуальной школы химико-биологического направления г. Павлодар. Исследование направлено на выявление эффективности использования концептуальных карт, интеллект-карт, графических органайзеров и таблиц K-W-L в образовательном процессе.

В данном исследовании проведен статистический анализ влияния инструментов визуализации мышления на метакогнитивные навыки учащихся 11 классов Назарбаев Интеллектуальной школы химико-биологического направления (НИШ ХБН) г. Павлодара. Исследование охватывало учебный год, в течение которого анализировались показатели контрольной и экспериментальной групп.

Объект исследования – процесс формирования метакогнитивных навыков учащихся в школьном образовании.

Предмет исследования – применение инструментов визуализации мышления для развития метакогнитивных навыков на уроках информатики.

Гипотеза исследования: если систематически применять инструменты визуализации мышления (концептуальные карты, интеллект-карты, графические органайзеры и таблицы K-W-L) в образовательном процессе, то это приведет к повышению уровня метакогнитивных

навыков учащихся, улучшению осознанности учебного процесса и росту академической успеваемости.

Новизна исследования:

Проведен статистический анализ эффективности инструментов визуализации мышления в контексте школьного образования.

Разработаны и апробированы критерии оценки метакогнитивных навыков учащихся на уроках информатики.

Определены ключевые методики повышения осознанности учебного процесса через графическое представление знаний.

Материалы и методы

Теоретические методы: анализ научной литературы, сравнительный анализ подходов к визуализации мышления.

Эмпирические методы: педагогический эксперимент, тестирование учащихся, опросы и анкетирование.

Статистические методы: количественный анализ успеваемости, обработка данных с использованием методов корреляционного и сравнительного анализа [3].

Критерии оценки метакогнитивности на уроках информатики

1. Осознанность учебной деятельности – способность учащихся понимать и объяснять свои учебные стратегии.

2. Планирование и целеполагание – умение ставить учебные цели и выбирать эффективные пути их достижения.

3. Контроль и саморегуляция – способность отслеживать свое понимание и корректировать действия в процессе решения задач.

4. Рефлексия и самооценка – умение анализировать свои ошибки, делать выводы и применять знания в новых ситуациях [4].

Методология исследования

В исследовании приняли участие 68 учащихся 11 классов, обучаемых на английском языке. Они были разделены на две группы:

Контрольная группа (34 учащихся) обучалась по традиционной методике без использования инструментов визуализации мышления.

Экспериментальная группа (34 учащихся) активно использовала концептуальные карты, интеллект-карты, графические органайзеры и таблицы K-W-L.

Методы сбора данных включали:

– Диагностическое тестирование до и после применения визуализации.

– Опросы учащихся о развитии их метакогнитивных стратегий.

– Статистический анализ изменений в академической успеваемости.

Результаты

1. Средний балл по предметам до и после внедрения инструментов визуализации

После внедрения методов визуализации средний балл учащихся экспериментальной группы увеличился на 12 % по сравнению с контрольной группой.

2. Динамика развития метакогнитивных навыков

Результаты опросов показали, что 78 % учащихся экспериментальной группы отмечали улучшение в осознании и контроле своих учебных стратегий, тогда как в контрольной группе этот показатель составил всего 55 %.

3. Уровень самостоятельности в обучении

В экспериментальной группе 85 % учащихся стали чаще использовать самооценку и самокоррекцию в учебном процессе, в то время как в контрольной группе этот показатель составил 60 %.

4. Графическое представление результатов

На рисунке 1 представлено сравнение контрольной и экспериментальной групп по ключевым показателям:

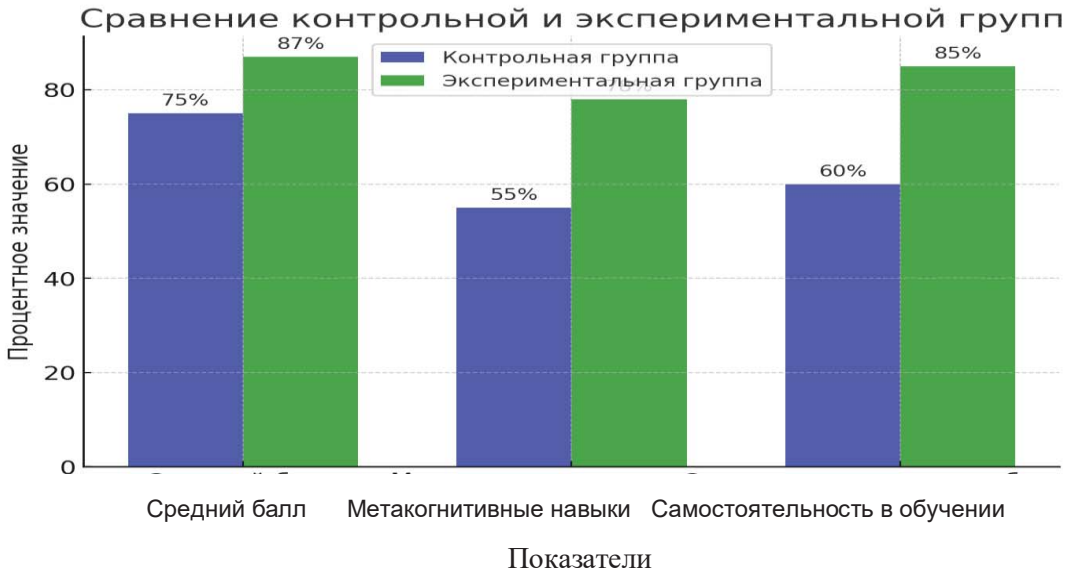

Рисунок 1. – Сравнение контрольной и экспериментальной групп по среднему баллу, метакогнитивным навыкам и самостоятельности.

Обсуждение

Анализ статистических данных подтвердил, что использование инструментов визуализации мышления значительно повышает уровень метакогнитивных навыков учащихся. В частности, наблюдается рост осознанности учебного процесса, улучшение академических результатов и повышение самостоятельности в обучении [6].

Для дальнейшего развития метакогнитивных навыков рекомендуется:

– внедрять визуальные инструменты в учебный процесс на регулярной основе;

– использовать интеллект-карты и концептуальные схемы для анализа сложных тем;

– включать визуализацию в задания на рефлексию и самооценку;

– разрабатывать междисциплинарные проекты, требующие графической организации информации.

Заключение

Развитие метакогнитивных навыков – ключевая задача современного образования. Статистический анализ результатов исследования подтверждает эффективность инструментов визуализации мышления в повышении учебной самостоятельности, академической успеваемости и осознанности учебного процесса. Внедрение данных методик способствует формированию компетентных и критически мыслящих выпускников, готовых к успешному обучению в высших учебных заведениях.

СПИСОК ИСПОЛЬЗОВАННЫХ ИСТОЧНИКОВ

1 Flavell, J.H. (1979). Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry. American Psychologist, 34(10), 906–911.

2 Novak, J.D., & Gowin, D.B. (1984). Learning How to Learn. Cambridge University Press.

3 Schraw, G., &Moshman, D. (1995). Metacognitive Theories. Educational Psychology Review, 7(4), 351–371.

4 Sweller, J. (1994). Cognitive Load Theory, Learning Difficulty, and Instructional Design. Learning and Instruction, 4(4), 295–312.

5 Mayer, R. E. (2009). Multimedia Learning. Cambridge University Press.

6 Veenman, M. V. J., Van Hout-Wolters, B. H. A. M., & Afflerbach, P. (2006). Metacognition and Learning: Conceptual and Methodological Considerations. Metacognition and Learning, 1(1), 3–14.

REFERENCES

1 Flavell, J.H. (1979). Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry. American Psychologist, 34(10), 906–911.

2 Novak, J.D., & Gowin, D.B. (1984). Learning How to Learn. Cambridge University Press.
3 Schraw, G., &Moshman, D. (1995). Metacognitive Theories. Educational Psychology Review, 7(4), 351–371.
4 Sweller, J. (1994). Cognitive Load Theory, Learning Difficulty, and Instructional Design. Learning and Instruction, 4(4), 295–312.
5 Mayer, R.E. (2009). Multimedia Learning. Cambridge University Press.
6 Veenman, M.V.J., Van Hout-Wolters, B.H. A.M., & Afflerbach, P. (2006). Metacognition and Learning: Conceptual and Methodological Considerations. Metacognition and Learning, 1(1), 3–14.

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Ойлау бейнелеу құралдарын қолдану арқылы оқушылардың метакогнитивтік дағдыларын дамыту

Метакогнитивті дағдылар-бұл оқушылардың ойлау процестерін білу, Бақылау және реттеу қабілеті. Соңғы жылдары зерттеушілер бұл дағдыларды дамытуға ерекше назар аударды, өйткені олар автономды оқытуды, сыни ойлауды және академиялық ортада табысқа жетуді қалыптастырудың кілті болып табылады.

Зерттеудің негізгі мақсаты оқушылардың метакогнитивті дағдыларын дамытудағы ойлауды бейнелеу құралдарының тиімділігін зерттеу болды.

Теориялық әдістер: ғылыми әдебиеттерді талдау, ойлауды визуализациялау тәсілдерін салыстырмалы талдау, эмпирикалық әдістер: педагогикалық эксперимент, оқушыларды тестілеу, сауалнамалар мен сауалнамалар, статистикалық әдістер: үлгерімді сандық талдау, корреляциялық және салыстырмалы талдау әдістерін қолдана отырып деректерді өңдеу.

Бұл мақалада ағылшын тілінде оқитын 11 сынып оқушылары арасында Павлодар қ.химия-биологиялық бағыттағы Назарбаев Зияткерлік мектебінде (ХБН НЗМ) оқу жылы ішінде жүргізілген практикалық зерттеу нәтижелері келтірілген.

Түйін сөздер: метатанымдық дағдылар, ойлауды визуализациялау, когнитивтік стратегиялар, саналы оқыту.

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Developing students' metacognitive skills through the use of mental visualization tools

Metacognitive skills are the ability of students to recognize, control, and regulate their thought processes. In recent years, researchers have been paying special attention to the development of these skills, as they are key to the formation of autonomous learning, critical thinking and success in an academic environment.

The main purpose of the study was to study the effectiveness of thinking visualization tools in the development of students' metacognitive skills.

Theoretical methods: analysis of scientific literature, comparative analysis of approaches to visualization of thinking, empirical methods: pedagogical experiment, student testing, surveys and questionnaires, statistical methods: quantitative analysis of academic performance, data processing using methods of correlation and comparative analysis.

This article presents the results of a practical study conducted during the academic year at the Nazarbayev Intellectual School of Chemical and Biological Sciences in Pavlodar among 11th grade students taught in English.

Keywords: metacognitive skills, thinking visualization, cognitive strategies, conscious learning.

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Attention and memory as key cognitive functions in the educational environment

Annotation

Main problem: the article highlights the problem of deterioration of concentration of memory and attention of students in stressful situations of the educational process.

Purpose: Diagnostics of the level of attention and memory of psychology students during the examination session.

Methods: “Black-red tables of Schulte numbers” technique.

Results and their significance: The article considers attention and memory as the main cognitive resources that ensure the effectiveness of educational activities. The emphasis is on the analysis of their relationship and functional significance in the process of assimilation of information. The main types of attention and memory, their classification, as well as the features of manifestation under the conditions of the academic load are described. The "Black and Red Schulte Tables" technique aimed at diagnosing the stability, concentration and switchability of attention was used as an empirical basis for the study. The study involved 20 students of the Innovative University of Eurasia studying in the specialty "Psychology". A comparative analysis of the indicators of first- and second-year students revealed significant differences in the pace of work, the number of errors and the level of attention stability.

Key words: diagnostics, cognitive processes, attention, memory, psyche.

Introduction

In the conditions of the modern educational environment, the requirements for the cognitive activity of students are increasing. Since the modern education system often assumes a high overload of a constant flow of new information and a high pace of life, this especially affects the cognitive abilities of a person, and especially memory and attention. These cognitive processes contribute to and ensure successful and high-quality perception, processing and reproduction of incoming information, and in addition, these processes play a very important role in the formation and development of self-regulation and critical thinking skills.

Such cognitive processes as attention and memory are considered in psychological science as the most closely interconnected, since they form the basis for human cognitive activity. In this case, attention acts as a filter and regulator of incoming information, while memory is an object of long-term or short-term storage and updating of information. For effective and productive learning, students need a stable and arbitrary influence that allows them to focus and concentrate on the learning task, and the learning process is impossible without memory, since without it, information would simply not be absorbed by the student.

If we consider the psychological classification of mental phenomena, the cognitive processes, along with attention and memory, also include perception, thinking, imagination and speech. These processes allow us to actively reflect and transform information that comes from the outside world. At the same time, all these processes together form the basis of adaptive behavior of the individual and the psyche.

Let's take a closer look at what attention and memory are. V.V. Guzeev says that «Attention is a mental process that is based on the concentration of consciousness on certain objects or actions with the simultaneous distraction of attention from other actions and processes» [1]. That is, we can say that attention itself does not have its own content, but acts as a regulator of other mental functions. The main characteristics of attention include volume, stability, switchability, concentration and distribution. By content, attention is divided into voluntary, involuntary and post-voluntary, by direction – into external and internal.

Memory is also a mental process, for a definition of memory we will turn to G.S. Abramova: "Memory is a mental process that ensures the memorization, storage, reproduction and forgetting of information" [2]. Memory plays a vital role in the learning process, since it is responsible for the accumulation of knowledge, the formation and development of skills and abilities, as well as for the introduction of new experience into the existing system of acquired knowledge, as well as for its renewal. We reflect the classifications of attention and memory in Table 1.

Table 1 – Classification of memory and attention as cognitive processes

Mental process	Classification criterion	Types / Forms
Attention	By origin	– Involuntary – Voluntary – Post-voluntary
	By direction	– External – Internal
	By main characteristics	– Volume – Concentration – Stability – Switchability – Distribution
Memory	By duration of information storage	– Sensory – Short-term – Operational – Long-term
	By modality	– Visual – Auditory – Motor – Olfactory and gustatory
	By the nature of mental activity	– Motor – Emotional – Figurative – Verbal-logical
	By degree of awareness	– Involuntary – Voluntary

Attention and memory as the foundation of cognitive activity of the psyche. Attention and memory are among the most important components of the human cognitive sphere. Without them and their active work, no educational activity is possible, since there will be neither assimilation of information nor its memorization. Attention and memory act as an inseparable duet, the first is responsible for the choice of the object of concentration, and also contributes to the stable perception of new information, and the second is responsible for the storage, processing and reproduction of this information.

The efficiency of the process of memorizing information in studies largely depends on the function of attention. For example, a high level of concentration allows the student to more effectively perceive and assimilate new information, reduces the risk of being distracted by another stimulus of the external or internal environment, although physiological stimuli are still capable of distracting attention.

The relationship between attention and memory in the educational process. We have already mentioned the close relationship between these two cognitive functions above, let's examine them in more detail in the educational process [2, 64 p.]. We can build the following formula: at the initial stage, attention ensures the selection of the necessary information, highlighting the necessary and filtering out the unnecessary. Then, having established that the information is important to us, or we simply need to learn it, memory comes into play, which ensures the memorization of this information and its storage. The more understandable the information is for a person, the easier it will be learned and the longer it will be stored in the data warehouse. And accordingly, vice versa, incomprehensible information can also be learned by our memory, but without meaningfulness it will pass into the

category of mechanical memorization, and after completing the necessary task, this information will quickly be deleted and forgotten.

In this case, memory can act as support for attention, this happens at the moment when stored images, knowledge or attitudes are activated. To summarize, we can say that attention and memory act as a well-oiled mechanism that ensures the effectiveness of perception and processing of information.

In the context of educational activities, the following aspects are especially important:

1. Attention influences the choice of the object of memorization

2. The nature and structure of the lesson and the presentation of the material (visuality, logic, emotionality) can both facilitate easy assimilation of the material and hinder its perception.

3. Repetition of educational material (conducting control checks) contributes to better assimilation and consolidation of the material, as well as maintaining attention on educational activities.

4. Difficulties with the perception of the material lead to difficulties in reproducing the material, even if the topic has been repeated many times.

The role of attention and memory in the academic performance of students. A number of psychological studies [3, 4, 5] have proven that students with a high level of concentration and attention endurance, stable short-term and long-term memory, in most cases have higher scores and better academic results. This is due to the fact that they perceive information faster, retain it in memory longer, systematize and find application for it, i.e. all computational processes are more optimized. And accordingly, vice versa, students whose results during the diagnostic study showed a deficit of attention, an average or low level of long-term and short-term memory, showed lower results. Because this is due to the fact that a deficit of attention and fragmentary memorization leads to the appearance of an incomplete picture of the assimilation of the material, instability of skills, and a decrease in motivation [3, 20 p.].

I would like to highlight here the working memory, whose function is to retain information necessary to complete the current task. The following situation can serve as an example of the use of working memory: To solve a problem, the student must simultaneously keep in mind the following variables – the condition of the problem, the formulas necessary for the solution, and the intermediate results. If any of the components falls out of sight, the final result is no longer obtained.

Development of cognitive abilities in educational activities. Cognitive abilities, including memory and attention, can be actively trained. Examples of such exercises include:

1. Exercises aimed at developing concentration – Schulte numerical tables

2. Tasks and games for developing working memory – sequential memorization of logically unrelated numbers and letters

3. Creating conditions that minimize distractions

4. Attention management techniques – emotional saturation, change of activity

Materials and methods

In our study, for the study and diagnostics of attention and memory, we used the method "Black and red table of numbers Schulte". This method is most suitable for our study, because it is multifunctional and checks not one cognitive function but several at once (attention, memory). The Schulte method allows you to simultaneously measure concentration, stability, switching attention and short-term memory of a person.

Our study involved 20 students of the Innovative Eurasian University, educational program "Psychology". We divided the students into 2 groups, group 1 (10 first-year students), group 2 (10 second-year students). All subjects gave voluntary consent to participate in the experiment.

The "Black and Red Schulte Number Table" technique. This technique is a modification of the standard Schulte number tables. This version is a 5x5 grid with numbers from 1 to 25, odd numbers are black and even numbers are red. The subject's task is as follows: first, it is necessary to name and show black numbers in ascending order, and then red numbers in descending order (the numbers are located randomly in the grid). In the third stage, the subject must name black and red numbers alternately.

The procedure for performing the technique consists of 3 stages.

1. Working with black numbers in ascending order (1, 3, 5, etc.).

2. Working with red numbers in descending order (24, 22, 20, etc.).

3. Alternately naming black and red numbers (1, 24, 3,2 0, etc.).

This option requires the subject to have a high degree of concentration and the ability to quickly switch attention between different methods of processing information, as well as retaining the

current and next numerical value in memory. This feature makes this technique very effective for diagnosing the cognitive abilities of students.

Evaluation of results. The main indicators that are recorded during the work are:

1. Time to complete each grid;
2. Total time to complete the task;
3. Number of errors;
4. Regression (return to the numbers already named.

In addition, the researcher monitors the pace of work, the stability of attention and the switching of the student's attention. At the same time, there are digital versions of this method, which also allow tracking the movement of the subject's eyes, thereby determining the focus of his attention on numbers.

Results

Following the implementation of the "Black and Red Schulte Tables" method, the following indicators were analyzed: total time to complete tasks, number of errors, dynamics of the pace of execution, and indicators of attention switching. The comparison was made between two subgroups: first- and second-year students. The results of diagnostics using the "Schulte Table" method are reflected in Table 2.

Table 2 – Summary quantitative results of attention and memory diagnostics

Indicator	1 course (n=10)	2 course (n=10)
Average execution time of black table	39,8 s.	33,4 s.
Average execution time for black and red	56,2 s.	47,6 s.
Total execution time of two tables	96,0 s.	81,0 s.
Average number of errors	2,1	1,2
Execution rate (numbers per second)	0.52	0,62
Presence of regressions (on average per subject)	1,6	0,9

Analysis of the obtained data. The analysis of the results showed that second-year students demonstrated a higher speed of completing the task, fewer errors, and greater attention stability compared to first-year students. This indicates better developed skills of voluntary attention regulation and cognitive flexibility.

The average time to complete the black table for second-year students was 16% less than for first-year students, which may indicate better concentration and visual search. The difference in the time to complete the black and red table is even more noticeable – 15.3 % less for second-year students, which emphasizes a more developed ability to switch between different types of actions and maintain high productivity when the task becomes more complex.

The number of errors made by first-year students is on average 1.75 times higher, which may be due to less experience in completing such tasks, as well as the peculiarities of adaptation to the requirements of higher education. First-year students also had a greater number of regressions, which may indicate low attention stability and difficulties in monitoring the progress of the task.

Qualitative observations. During the observation of the task performance, the following behavioral characteristics were recorded:

– First-year students more often demonstrated slow reactions, intense attention, a tendency to self-checking and doubts.

– Second-year students completed tasks more confidently, demonstrated automaticity of actions, and less often returned to already found numbers.

These differences can be considered as a reflection of the natural development of cognitive functions in the process of educational activity, as well as the result of adaptation to intellectual workload.

Conclusion

The results of the study confirmed that attention and memory are fundamental cognitive resources that directly affect the success of students' learning activities. The "Black and Red Schulte Tables" method allowed us to identify differences in the level of attention development among students of different years, which, in turn, reflects the degree of development of educational and regulatory skills.

It was revealed that second-year students demonstrate:

1. A higher level of concentration and attention stability;
2. Less fatigue when completing a task;
3. Better switching between different types of cognitive actions;
4. Fewer errors and returns, which indicates developed self-regulation and cognitive flexibility.

First-year students, on the contrary, showed a slower pace of work and a higher frequency of errors, which can be interpreted as a consequence of insufficient experience and not yet completed adaptation to the conditions of higher education.

Thus, attention and memory not only act as cognitive processes, but also serve as indicators of the cognitive maturity of the student. Their development should be considered as a priority direction in educational practice.

THE LIST OF SOURCES

1 Гузеев В.В. Групповая учебная деятельность в образовательном процессе // Педагогические технологии – 2009. – № 6.
2 Абрамова Г.С. Введение в практическую психологию. – М.: Международная педагогическая академия. – 1995. – 264с.
3 Анисимов О.С. Методические средства анализа деятельности. // Методы и средства методической деятельности при создании и совершенствовании программ производственной практики в вузе. – М.: Из-во Моск. ун-та, 1980. – 4.1 – С.19-23.
4 Super D.E. The Psychology of Careers. – New York: Harper & Row, 1957.
5 Слободян О.А., Кузнецова М.С. Современные методы активного обучения в высшей школе. // Вестник педагогических наук, 2023. – № 2. – 27-34с.

REFERENCES

1 Guzeev V.V. (2009). Gruppovaya uchebnaya deyatel'nost' v obrazovatel'nom protsesse [Group learning activities in the educational process] Pedagogicheskie tekhnologii – Pedagogical Technologies, No. 6 [in Russian].
2 Abramova G.S. (1995).Vvedeniye v prakticheskuyu psikhologiyu [Introduction to practical psychology]. Moscow: International Pedagogical Academy [in Russian].
3 Anisimov O.S. (1994). Akmeologicheskiye osnovy refleksivnoy samoorganizatsii pedagoga: tvorchestvo i kul'tura myshleniya [Acmeological foundations of reflexive self-organization of a teacher: creativity and culture of thinking] Abstract of the dissertation. Doctor of Psychology, Moscow [in Russian].
4 Super, D.E. (1957). The Psychology of Careers. New York: Harper & Row.
5 Slobodyan O.A., Kuznetsova M.S. (2023). Sovremennye metody aktivnogo obucheniya v vysshej shkole [Modern active learning methods in higher education]. Bulletin of Pedagogical Sciences, 2, 2734 [in Russian].

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Зейін мен есте сақтау білім беру ортасындағы негізгі когнитивтік функциялар ретінде

Мақалада оқу процесінің стресстік жағдайларында студенттердің есте сақтауы мен зейінінің шоғырлануының нашарлауы мәселесі көрсетілген.

Емтихан сессиясы кезіндегі психология студенттерінің зейіні мен есте сақтау деңгейінің диагностикасы.

Әдістері – «Шульте сандарының қара-қызыл кестелері» әдістемесі.

Мақалада зейін мен жады оқу қызметінің тиімділігін қамтамасыз ететін негізгі танымдық ресурстар ретінде қарастырылады. Ақпаратты меңгеру процесінде олардың өзара байланысы мен функционалдық маңыздылығын талдауға баса назар аударылады. Зейін мен есте сақтаудың негізгі түрлері, олардың жіктелуі, сондай-ақ олардың академиялық жүктеме жағдайында көріну ерекшеліктері сипатталған. Зерттеудің эмпирикалық негізі ретінде зейіннің тұрақтылығын, шоғырлануын және ауысуын диагностикалауға бағытталған «Қара және қызыл

Шульте кестелері» әдісі қолданылды. Зерттеуге Инновациялық Еуразия университетінің «Психология» мамандығы бойынша білім алып жатқан 20 студенті қатысты. Бірінші және екінші курс студенттерінің үлгеріміне салыстырмалы талдау жүргізгенде, жұмыс қарқынында, қателер саны мен зейін деңгейінде айтарлықтай айырмашылықтар анықталды.

Түйінді сөздер: күресу, жеңу, стресс, стресске төзімділік.

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Внимание и память как ключевые когнитивные функции в образовательной среде

В статье освещена проблема ухудшения концентрации памяти и внимания студентов в стрессовых ситуациях образовательного процесса.

Цель исследований – диагностика уровня внимания и памяти у студентов психологов во время экзаменационной сессии.

Использовалась методика «Чёрно-красные таблицы чисел Шульте».

В статье рассматриваются внимание и память как основные когнитивные ресурсы, обеспечивающие эффективность учебной деятельности. Акцент сделан на анализе их взаимосвязи и функциональной значимости в процессе усвоения информации. Описаны основные виды внимания и памяти, их классификация, а также особенности проявления в условиях учебной нагрузки. В качестве эмпирической базы исследования использована методика «Черно-красные таблицы Шульте», направленная на диагностику устойчивости, концентрации и переключаемости внимания. В исследовании приняли участие 20 студентов Инновационного Евразийского университета, обучающихся по специальности «Психология». Сравнительный анализ показателей студентов первого и второго курсов позволил выявить значимые различия в темпе работы, количестве ошибок и уровне устойчивости внимания.

Ключевые слова: диагностика, когнитивные процессы, внимание, память, психика.

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