DEVELOPING STUDENTS' LOGICAL THINKING THROUGH FOLKLORE IS A PEDAGOGICAL PROBLEM

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Abstract. *Developing students logical thinking is a core pedagogical challenge in modern education. Folklore, rich in riddles, proverbs, folk tales, and cumulative narratives, naturally stimulates analytical reasoning, cause-and-effect inference, pattern recognition, classification, generalization, and problem-solving skills. This study addresses the pedagogical problem of effectively incorporating folklore into teaching to purposefully foster logical competencies. It examines cognitive mechanisms activated by folklore material (analogy, hypothesis testing, deductive/inductive reasoning) and identifies key methodological difficulties: age-appropriate text selection, balancing engagement with cognitive load, and ensuring systematic skill progression.*

Keywords: *logical reasoning, Uzbek folklore, pedagogical problem, cognitive mechanisms, deductive/inductive reasoning.*

РАЗВИТИЕ ЛОГИЧЕСКОГО МЫШЛЕНИЯ СТУДЕНТОВ ЧЕРЕЗ ФОЛЬКЛОР КАК ПЕДАГОГИЧЕСКАЯ ПРОБЛЕМА

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Аннотация. *Развитие логического мышления студентов является одной из ключевых педагогических задач в современном образовании. Фольклор, богатый загадками, пословицами, народными сказками и нарастающими повествованиями, естественным образом стимулирует аналитическое*

мышление, причинно-следственные выводы, распознавание закономерностей, классификацию, обобщение и навыки решения проблем. В данном исследовании рассматривается педагогическая проблема эффективного включения фольклора в учебный процесс с целью целенаправ-ленного развития логических компетенций. Анализируются когнитивные механизмы, активируемые фольклорным материалом (аналогия, проверка гипотез, дедуктивное/индуктивное рассуждение), и выделяются основные методические трудности: подбор возрастно-адекватных текстов, балансировка вовлеченности и когнитивной нагрузки, обеспечение систематического прогрессирования навыков.

Ключевые слова: *логическое мышление, узбекский фольклор, педагогическая проблема, когнитивные механизмы, дедуктивное/индуктивное рассуждение.*

TALABALARNI MANTIQIY FIKRLASHGA RIVOJLANTIRISHDA FOLKLOR – PEDAGOGIK MUAMMO SIFATIDA

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Annotatsiya. *Talabalarning mantiqiy fikrlashini rivojlantirish zamonaviy ta'limda asosiy pedagogik muammolardan biridir. Topishmoqlar, maqollar, xalq ertaklari va ketma-ket hikoyalar bilan boyitilgan folklor tabiiy ravishda tahliliy fikrlash, sabab-oqibat munosabatlarini aniqlash, naqshlarni tanib olish, tasniflash, umumlashtirish va muammoni hal qilish ko'nikmalarini rag'batlantiradi. Ushbu tadqiqotda mantiqiy kompetensiyalarni maqsadli rivojlantirish uchun folklorni samarali tarzda o'qitish jarayoniga kiritish pedagogik muammosi yoritilgan. Folklor materiali orqali faollashadigan kognitiv mexanizmlar (analogi, gipotezalarni tekshirish, deduktiv/induktiv fikrlash) tahlil qilinadi va asosiy metodik qiyinchiliklar aniqlanadi: yoshga mos matnlarni tanlash, o'quvchilarni jalb qilish bilan kognitiv yukni muvozanatlash va ko'nikmalarni tizimli ravishda rivojlantirishni ta'minlash.*

Kalit so'zlar: *mantiqiy fikrlash, o'zbek folklori, pedagogik muammo, kognitiv mexanizmlar, deduktiv/induktiv fikrlash.*

Logical reasoning is the process of using a logical and systematic sequence of steps to reach a conclusion about a given statement. Situations that require logical reasoning require structure, relationships between given facts and logical reasoning chains. "Logical thinking begins with a proposition or statement. This statement can be either true or false. Logical thinking is a skill that you use in everyday situations in combination with other cognitive abilities. Logical thinking helps you make important decisions, solve problems, discover truths, come up with new ideas, and determine ways to achieve goals. Logical thinking is an important aspect of measuring intelligence during a person's IQ test[1].

Over the centuries, many scientists have focused on logical thinking. For example, Plato and Aristotle distinguished between the cognitive aspects of human nature (thinking, problem solving, logic, etc.) and the negative aspects of human behavior (related to feelings, emotions, passions, and will)[2].

Later, Cicero introduced the concept of "intelligence" (from the Latin "intelligentia", "the ability to understand", coined by Cicero).

According to Miriam Webster (2006), the invariable definition of reasoning is the act of "exercising powers of judgment, imagination, or inference."

Charles Spearman states that "if a person has the general mental abilities that allow him to think logically, solve problems, and succeed in the cognitive domain in general, then a large set of different tasks of varying difficulty can be created to apply these abilities."[3].

World pedagogues also believed that the development of logical thinking in children is the basis of education.

[1] Айзенк Г., Кэмин Л. Природа интеллекта - битва за разум. Как формируются умственные способности. – М.: ЭКСМО-Пресс, 2002. – С. 28-29.
[2] Айзенк Г., Кэмин Л. Природа интеллекта - битва за разум. Как формируются умственные способности. – Москва: ЭКСМО-Пресс, 2002. – С. 9.
[3] Айзенк Г., Кэмин Л. Природа интеллекта - битва за разум. Как формируются умственные способности. – М.: ЭКСМО-Пресс, 2002. – С. 12-13.

For example, the famous Russian scientist P.Ya. Galperin says that logical thinking is a type of thinking that allows a child to analyze, compare, and evaluate objects, situations, and events. The author believes that all operations of logical thinking are closely related to each other and that they can be fully formed[1]. Therefore, it is appropriate to select exercises suitable for logical operations and present them to children.

In domestic and foreign psychology, many studies are devoted to the study of various types of thinking in children, and in them, special features of the formation and development of visual-effective thinking are given an important place. The main features of visual-active thinking are the close and integral connection of thinking processes with practical actions, the fundamental impossibility of solving a problem without the participation of practical actions[2].

Psychologist and philosopher S. L. Rubenstein considers logical thinking as a single process of realization and application of knowledge. Through the process of actualization, the author understands how to select the necessary information and methods from past experience and use them in new conditions. It is possible to develop logical thinking by "taking out" the existing knowledge of children from their memory, using it in new situations, with the participation of new exercises.

According to A.N. Leontiev, logical thinking is a mental process of reflecting objective reality, which is the highest stage of human knowledge[3]. Logical thinking provides knowledge about the important features, connections and relationships of objective reality. Logical thinking refers to thinking, using which the child refers to concepts in the process of solving a problem, performs actions in his mind. He discusses a problem from beginning to end and seeks a solution, using ready-made knowledge expressed in conceptual form, judgments and conclusions. Logical thinking includes logical operations such as comparison, synthesis, analysis, classification and generalization. The lack of these mental activities can lead to the lack of formation of a

[1] Гальперин, П.Я. Методы обучения и умственное развитие ребенка. – М.: Издательство МГАС, 2001. – 287с.
[2] Поддьяков, А. Н. Исследовательское поведение: стратегии познания, помощь, противодействие, конфликт. – М.: Национальное образование, 2015. – 304 с.
[3] Леонтьев А.Н. Психологические основы развития ребенка и обучения. – М.: Смысл. 2009 – 422с.

full-fledged thinking process, which causes children to have a wrong attitude towards the world around them.

I.I.Lyubchenko spoke about mental actions and described mental actions as actions described by objects and ideas and concepts about them. The scientist distinguished mental operations, which are mechanisms of thinking in mental actions.

Comparison - with its help, similar and different features and characteristics of objects are studied.

Analysis is the separation of objects of consciousness into mental parts, distinguishing their parts, aspects, elements, signs and characteristics, and analysis is necessary to understand the essence of the subject.

Synthesis is the unification of separate parts, aspects, elements, signs and properties of objects into a single, qualitatively new whole, which, together with analysis, provides a complete and deep knowledge of reality.

Mental analysis turns into abstraction, that is, some signs and properties of objects are mentally separated from their other signs and from the objects themselves. Abstraction prepares the ground for deep generalization.

The operation of generalization is manifested in the mental integration of objects and events into groups with important properties highlighted in the process of abstraction. Generalization is the continuation and deepening of the synthesized activity of the brain with the help of words[1]. It can be effective to provide primary school students with examples of folk art with the participation of fairy tales, anecdotes, riddles and proverbs with the participation of logical exercises such as comparison, synthesis, analysis, classification and generalization.

According to E.I. Tikheyeva, a child's logical thinking, perception, attention and, of course, speech can be developed through a didactic game. E.I. Tikheyeva emphasizes that the child's logical thinking, observation, attention and, of course, speech are interrelated processes, and didactic games are one of the best ways to develop them. Didactic games encourage critical thinking by teaching them to analyze, compare, draw

[1] Выготский, Л. С. Мышление и речь. – М.: Национальное образование, 2016. – 368 с.

logical conclusions and generalize, increase the stability of the child's perception and attention, improve the ability to focus on the assigned task and distinguish details.

It is desirable to develop the ability of students to think on the basis of laws, forms and methods, give definitions, work with concepts, draw conclusions, reveal contradictions, systematize and classify existing knowledge. It is clear from this that if we set ourselves the goal of training mature personnel in the future, we should apply exercises that develop logical thinking from elementary school to teaching every subject.

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