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THE ROLE OF THE "TOGYZ KUMALAK" GAME IN TEACHING ARITHMETIC TO YOUNG PEOPLE

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ABOUT ARTICLE

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Abstract: The article describes the one of the oldest national games of the Karakalpak people "Togyz kumalak" (*meaning: nine sheep's dung*). The article also reveals how this board game forms logical thinking and endurance. The game helps to develop mathematical skills among players, as players have to use all four basic mathematical actions. The article outlines the significance of this game for teenagers. This article explores the significance of incorporating games into the teaching of arithmetic for young learners. It discusses how traditional teaching methods often fail to engage students effectively and suggests that incorporating game-based learning can enhance motivation, engagement, and understanding of arithmetic concepts among young people. Drawing on both theoretical frameworks and practical examples, the author highlights several key benefits of using games in arithmetic instruction. These benefits include promoting active learning, fostering a positive learning environment, encouraging problem-solving skills, and providing immediate feedback. Moreover, the article emphasizes the potential of games to accommodate diverse learning styles and abilities, making arithmetic learning more accessible and enjoyable for all students.

INTRODUCTION

The utilization of games in teaching arithmetic to young people holds significant importance due to several compelling reasons:

Engagement and Motivation: Games inherently captivate children's attention and stimulate their interest. When arithmetic concepts are embedded within games, learning becomes enjoyable and motivating. This engagement helps sustain attention and fosters a positive attitude towards mathematics.

Active Learning: Games promote active learning, allowing children to interact directly with mathematical concepts. Through hands-on experiences and problem-solving within game contexts, students can internalize arithmetic principles more effectively compared to passive learning methods like rote memorization.

Conceptual Understanding: Games often require strategic thinking and application of mathematical concepts in varied scenarios. This fosters deeper understanding as children explore different approaches to problem-solving and discern the underlying principles behind arithmetic operations.

Retention and Practice: Repetition is crucial for mastering arithmetic skills, and games provide a fun way for children to practice without feeling burdened by drills or exercises. The repetitive nature of games helps reinforce learning and enhances retention of mathematical concepts over time.

Collaboration and Social Skills: Many arithmetic games involve collaboration and teamwork, fostering social interaction among peers. Through cooperative gameplay, children learn to communicate effectively, share ideas, and negotiate strategies, all of which are valuable skills in both academic and social contexts.

Confidence Building: Success in games boosts children's confidence in their mathematical abilities. As they experience achievements and overcome challenges within game environments, they develop a sense of competence and self-assurance, which translates into a positive attitude towards mathematics as a whole.

Adaptability and Differentiation: Games can be adapted to accommodate varying skill levels and learning styles, making them inclusive learning tools. Teachers can modify game rules or introduce different levels of complexity to cater to individual needs, ensuring that all students can participate and progress at their own pace.

Real-World Application: Many arithmetic games simulate real-life situations, demonstrating the practical relevance of mathematical concepts. By applying arithmetic skills to scenarios resembling everyday experiences, children recognize the utility of mathematics beyond the classroom, enhancing their motivation to learn.

Cognitive Development: Game-based learning stimulates cognitive skills such as critical thinking, problem-solving, and decision-making. By navigating challenges and making strategic choices within game contexts, children develop essential cognitive abilities that extend beyond arithmetic to other areas of academic and personal growth.

Long-term Interest in Mathematics: Cultivating a positive association with mathematics from a young age can have long-term benefits, influencing children's attitudes and career choices later in life. By integrating games into arithmetic instruction, educators can instill a lifelong interest in mathematics and lay a solid foundation for future learning and achievement.

In the world, there are thousands of games that perfect the mind, like *togyz kumalak* (*meaning: nine sheep's dung*), made by the hands and minds of mankind. Most of the scientists who have conducted research on this topic recommend dividing it into five types. In this work, the last type of games, called "kalah" by Africans, and "mankala" by Arabs, are among the types of movement games played on the board. According to today's data, the prototypes of these games appeared 3.5 thousand years ago in Africa and Asia. The game board and ball-shaped objects found as a result of archaeologists' excavations show the period of this time. In particular, the fact that it appeared in early times and was known to the whole world can be seen from the pictures painted on the stones in the Egyptian sarcophagi, in the temples of Athens, and on the old caravan routes. There is a different history of how the kalah game quickly became known to the country. Once, at one of the exhibitions in the city of Chicago, the rules of the intellectual game, which had been played by a large number of people, were presented on the board. After that, the rules of the game are introduced to the public in a number of magazines. The most interesting thing is that in recent times this game has become one of the games that many people enjoy playing. As a result of constant crowding and promotion of the game, the number of people interested in the game has gradually increased. Various organizations and groups were opened, and competitions began to be organized. The artists skillfully took advantage of this. Taking advantage of people's curiosity, they worked out commercial ways of holding the competition and found a source of profit. Big companies have taken over the work of advertising and preparing the board of Kalah game. The game is developed as the time passed. Later, computer programs appeared, and over time, battles between humanity and artificial intelligence began to intensify. Currently, kalah is played in many countries. A site for teaching and promoting the game has also been opened on the Internet.

In our opinion, the Karakalpak people's game "Togyz Kumalak" is a game, an art of logical thinking, which can be equal to the previous models of world cultures. The main goal of the game is aimed at improving the human mind and stimulating the mind. This game can be a clear proof that Turkish people have been responsible for the education of young people since ancient times.

This game was invented and perfected by our forefathers, who paid attention to the fact that a young teenager should be strong and intelligent.

LITERATURE REVIEW. “Togyz Kumalak” game has been played by our people since ancient times. Most of the people who played the game played in their free time from farming. In addition to the Karakalpaks, this game is also played by the Kyrgyz, Kazakh and Altai peoples [4]; [5]. The name “Togyz Kumalak” is widespread among Turkic peoples. There are good reasons for this. Turkic peoples have always been nomadic peoples. Therefore, they spread the game to each other by moving from one place to another. Another reason for the wide spread of the game is that our forefathers paid great attention to teaching math to young people. “Togyz Kumalak” is considered one of the best ways to teach counting.

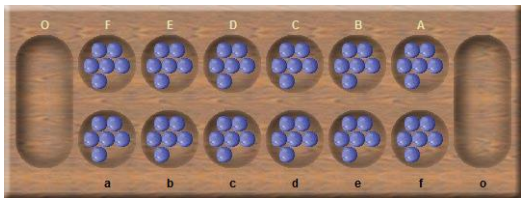
In the farm, it was used to determine the head number of animals, to trade them, and to replace them. There are no complicated calculations in the game. Only add and remove operations have taken place. Thanks to these actions, the brains of young people have been trained logically.

As we have already mentioned, this game is widely spread among the Turkic languages, so we can see that the game has been given different names. For example, the Kyrgyz people of “Togyz kumalak” call it “toguz korgool”, and some nomadic Turkic tribes on the shores of White See call it “toguz tash”. It is clear that the syntax of the word combination is understandable, if not for some differences. And “korgool” means “kumalak” in Mongolian language. In addition to the meaning of stone, the word “stone” is also used as a game tool. What can we see from these words? Noting that “Togyz kumalak” is an ancient game with a history of several hundred years, taking into account the fact that the Turkic peoples are from the east, there are opinions that this game did not have an ancient name common to these peoples.

In the Turkish language, each word has a literal meaning as well as a secondary meaning. Since that time, the interpretation of the term “Togyz kumalak” on the basis of material, marriage related to its second part – cannot show its important features. That is, a simple Turkish patch called “shepherds’ game” for kumalak – “sheep’s dung “and “Togyz kumalak” does not reflect the meaning of the national game in its level, and on the contrary to it. Our ancestors, who understood the power of the art of speech, worked hard for their children to be intelligent and thoughtful. Every term has been thought out [3]. Therefore, we do not approve of the existing opinion, and on the contrary, we agreed to analyze the word “Togyz kumalak” one by one in order to fully

understand the meaning of the name of the game. “Togyz kumalak” is a combined word. The first word of the word combination is a noun, and the next word is a noun.

DISCUSSION. One of the characteristics of kumalak is its tendency to move. If you touch it, it moves, that is, it starts to move. Therefore, “kumalak” is a sign of movement. Therefore, when studying the meaning of the word “togyz kumalak”, one should not forget the nomad worldview. Based on this theory, if we consider the game of “infinite motion” as a game of "infinite movement", then we can show the basis of the game, the meaning of historical worldview in its own degree. The reason is that there are a lot of counter movements of 162 pieces (movement) in the game. In fact, only a person with a strong logic and a quick imagination can remember the various changes of the infinite movements on the board and can play the game of nine tricks well.

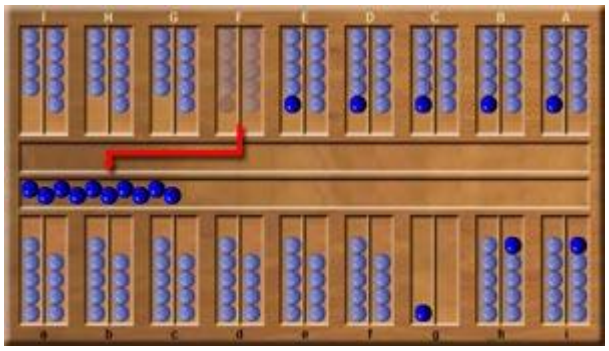


In the above kalah game, there are 2 pots, 12 o’tov (meaning: home), 72 kumalaks. The main goal of the game is for one of the opponents to win 37 tricks with the help of tricks in his family. One feature is that the word kalah in this game means pot. That is, “kalah” or “mankala” is the name of the place where the won coins are placed. Our pot or orda, i.e., the place where we gather and collect the kumalaks, is called by these two terms. For example, “18 grasses are 8 cm apart from each other, and there are 2 large pits on the ground, each 8 cm wide and 2 cm deep. These pits are called “Orda” or “Kazan”. In some cases, the term of a number of movement games has undergone changes depending on the livelihood characteristics of the peoples who have found a place in the left lands. For example, in Nigeria, they used to put the eggs of the *Adi* plant in the grass, so the term of the game was called “Adi”. This side is similar to the game of Kazakh *togyz khamon*. However, our ancestors did not always play with kumalak.

Playing with kumalak came out of compulsion. In fact, “Togyz kumalak” was played by intellectual representatives of the people with round objects made of bone and wood, that is, with stones and plant eggs. The one who played with Kumalak himself called him differently during the march. For example, before the start of the game, in the mentioned 18 grasses, nine horses are used (all 162), we call them walking horses. In the game “Togyz kumalak” there are two games related to the horse [1]; [2]. The reason for the appearance of these terms indicates that the Togyz kumalak game is closely related to the people's life. “Horse” is called a horse that is used during the game.

How to play: Togyz kumalak game is played between two people on a special board. The game board consists of 2 pot, 18 o’tov (home), 162 pieces kumalak. At the beginning of the game,

each player has one pot, 9 horses, and 81 kumalak. After starting the initial walk, the player-initiator keying calls the player who continues the walk - joiner. In order to start walking, we grab all the flowers from one of the grasses on our side, leave one in place, and distribute them one by one from left to right. During distribution, we increase the number of flowers from our own grass and distribute them to the opponent's grass. If the last piece falls on the grass of the opponent with an odd piece and pairs the pieces in it (i.e. 2, 4, 6, 10, 12), the pieces in that piece are won and put into our own pot. If the last card falls on the opponent's court with an even number of cards and turns their number into an odd number (3, 5, 7) or if it lands on our court, then the card is not won.



For example, in the first case on the board above, if the starter H7 distributes 9 of his pieces on the field, the last one goes to the opponent's field H6, and if the number of 9 pieces on it reaches 10, the pieces are won. The turn goes to the opponent, and he continues to walk. It should not be forgotten that it is necessary not to lose one's own kumalaks while winning kumalaks from the opponent during the game. The interesting part of the game is that sometimes the accumulated pieces can fall into the opponent's pot when they are not thinking.

CONCLUSION. Therefore, it is necessary to count the condition of the grass at the same time as counting the flowers. If the player is good at accounting, he won't have a problem. In turn, a player who plays the game a lot will also have the ability to keep accounts. The game is especially useful for young teenagers because it develops the brain by making calculations through the game. The ability to calculate will increase and the mind will rest. In conclusion, using games as a teaching tool for arithmetic with young people has proven to be highly effective. By incorporating elements of fun, engagement, and competition, games make learning more enjoyable and memorable. They help to reinforce mathematical concepts, improve problem-solving skills, and foster a positive attitude towards math. Additionally, games can accommodate various learning styles and abilities, making them inclusive for all students. Overall, integrating games into arithmetic instruction not only enhances academic outcomes but also promotes a lifelong love for learning and mathematics.

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