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DESKTOP INTELLECTUAL GAMES AND THEIR USE IN THE EDUCATIONAL PROCESS OF INSTITUTIONS OF GENERAL SECONDARY EDUCATION

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The article is devoted to the research of the essence of intellectual games and analysis of the experience of their use in the educational process of institutions of general secondary education. The author's position on understanding the essential traits of intellectual games has been expressed.

The article presents the classification of board intellectual games into games on a special board, card games and dice games.

It is stated that various activities aimed at popularizing desktop intellectual games among schoolchildren are supported by of certain international non-governmental organizations. Particular attention deserves the activity of the World Chess Federation, which in its structure created a special unit on school chess and initiated the adoption by the European Parliament of the Declaration on the implementation of the program "Chess in School", which became a significant event for the development of school chess.

In the article on the example of chess, draughts and Go, the positive influence of desktop intellectual games on the development of many qualities of pupils is substantiated. These games contribute to improving mental skills, develop memory, attention, thinking skills, increase interest in schooling, and provide ample opportunities for self-knowledge and self-realization. The level of mastery of such games is an indicator of the intellectual development of students.

Using the methods of analysis and comparison, the experience of using desktop intellectual games in the educational process of Ukrainian and foreign institutions of general secondary education was investigated. The problems of the domestic educational process are described. It is emphasized that chess is the most preferred among the whole set of desktop intellectual games in the institutions of general secondary education of Ukraine.

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Desktop intellectual games have significant pedagogical potential. The conclusion is made on the expediency of using such games in the educational process of institutions of general secondary education as a means of versatile development of a student.

Key words: *desktop intellectual games, chess, draughts, Go, development, education, educational process, institution of general secondary education.*

НАСТІЛЬНІ ІНТЕЛЕКТУАЛЬНІ ІГРИ ТА ЇХ ВИКОРИСТАННЯ В ОСВІТНЬОМУ ПРОЦЕСІ ЗАКЛАДІВ ЗАГАЛЬНОЇ СЕРЕДНЬОЇ ОСВІТИ

М. О. Сарнавський

Стаття присвячена дослідженню сутності інтелектуальних ігор та аналізу досвіду їх використання в освітньому процесі закладів загальної середньої освіти. Висловлено авторську позицію щодо розуміння сутнісних характеристик інтелектуальних ігор.

Здійснено класифікацію настільних інтелектуальних ігор на групи: ігри на спеціальній дошці, картярські ігри та ігри з костями.

Констатується, що за підтримки окремих міжнародних громадських організацій проводяться різноманітні заходи, спрямовані на популяризацію настільних інтелектуальних ігор серед школярів. Особливої уваги заслуговує діяльність Міжнародної федерації шахів, яка у своїй структурі створила спеціальний підрозділ з питань шкільних шахів та ініціювала прийняття Європейським Парламентом Декларації про запровадження програми "Шахи в школі", що стало значущою подією для розвитку шкільних шахів.

У статті на прикладі шахів, шашок та Го обґрунтовано позитивний вплив настільних інтелектуальних ігор на розвиток багатьох якостей школярів. Ці ігри сприяють покращенню розумових здібностей, розвивають пам'ять, увагу, вміння мислити, підвищують інтерес до шкільного навчання, надають широкі можливості для самопізнання й самореалізації. Рівень оволодіння такими іграми є своєрідним показником інтелектуального розвитку школяра.

За допомогою методів аналізу та порівняння досліджено досвід використання настільних інтелектуальних ігор в освітньому процесі українських та закордонних закладів загальної середньої освіти. Висвітлено проблемні питання вітчизняного освітнього процесу. Акцентовано увагу на тому, що серед усієї сукупності настільних інтелектуальних ігор у закладах загальної середньої освіти України перевага здебільшого надається шахам.

Визначено, що настільні інтелектуальні ігри мають значний педагогічний потенціал. Зроблено висновок про доцільність їх використання в освітньому процесі закладів загальної середньої освіти як засобу різнобічного розвитку школяра.

Ключові слова: *настільні інтелектуальні ігри, шахи, шашки, Го, розвиток, виховання, освітній процес, заклад загальної середньої освіти.*

Introduction of the issue. Over the last few years, domestic general secondary education has been in the process of reforming. The introduction of the New Ukrainian School significantly influenced both the management of the system of general secondary education and the organization of the educational process. The Verkhovna Rada of Ukraine

adopted the new Law of Ukraine "On Education" dated September 5, 2017 # 2145-VIII, the Cabinet of Ministers of Ukraine approved a new State Standard of Elementary Education (Resolution of the Cabinet of Ministers of Ukraine dated January 21, 2018, # 87). In the current year it is planned to develop and approve the State Standard of Basic Secondary Education, in 2023 –

the State Standard of Specialized Secondary Education. This is an indication of the state's efforts to optimize the domestic educational process, to make it more qualitative and accessible.

The analysis of the Concept of the New Ukrainian School made it possible to conclude that its main principles were pedagogy of partnership, student orientation, upbringing on human values. Observance of the above principles requires a pedagogical team to seek and apply such means of education, which would promote the development of the necessary team skills for students, the creation of an optimal environment for learning. One of these means of education is intellectual games. The combination of the aims of the game and educational character points to the great pedagogical possibilities of such games, and accordingly the relevance of studying their use in the educational process.

Current state of the issue.

Intellectual games were the subject of scientific research by scholars from both the Soviet era and the modern period. Comprehensively intellectual games were studied by S. O. Korchitsky, B. R. Mandel, and I. A. Romanova. The psychological and pedagogical aspects of certain types of intellectual games were studied by Yu. V. Anikeev, B. S. Gershunsky, E. Ya. Gik, N. V. Krogius, S. S. Malakhov, T. V. Petrosyan and others.

The outline of unresolved issues brought up in the article. The above-mentioned scholars have given priority to the study of the influence of intellectual games on personality development. The use of these games in the educational process was researched indirectly.

Aim of research of this article is to find out the essence of intellectual games, in particular, desktop, and to

analyze the experience of their use in the educational process of institutions of general secondary education.

Results and discussion. The notion of "intellectual games" is not new for modern psychological and pedagogical science. For the first time, it was applied probably in the beginning of the XX century by K. Groos, who noted the special function of "complementing" intellectual games to being in people engaged in physical labor, and by M. Lazarus, which delimited games related to physical activity, games related to spectacular enthusiasm, gambling and intellectual games [4: 44]. There is still no consensus among scientists about the definition and nature of the notion being analyzed. Thus, B. R. Mandel, an intellectual game calls individual or (more often) collective implementation of tasks that require the use of productive thinking for the knowledge of substantive and social reality in conditions of limited time and competition. In addition, the scientist points out that the intellectual game is a game in which the thinking and memory are fully engaged, and the mental operations of the participant-players are directed at the definition and understanding of the material presented; a game that has a convergent (search in one direction when one is received – the only correct answer) and divergent (search in different directions) performance in order to get an evaluated judgment about the logic (correctness) of a given situation, the accuracy of the answer or the solution found [4: 45-47].

According to I. A. Romanova, the essence of intellectual games is to overcome mental difficulties. Expanding the content of this concept, the scientist focuses on the internal state of the player, his psychological experiences and notes that "the outward performance of the game is the correct answer or victory in the competition, and internally – those

emotions and states that accompany the intellectual process, the acquisition of personality of experience fruitful mental activity, intellectual self-affirmation" [7: 67].

S. O. Korchitsky considers intellectual games as a syncretic type of activity that combines elements of sport, science and art, and also has an inexhaustible potential for the development of a wide range of important personal qualities [2]. We agree with the scientist on the characterization of intellectual games as a triad of sports, science and art. Indeed, the thirst for struggle, the desire to win emphasize the sporting nature of such games. Their integral analytical component indicates a kinship with science, and the aesthetic pleasure that spectators derive from the skill of participants in the game testifies to the close connection of intellectual games with art. In addition, in our opinion, the essence of intellectual games is, first and foremost, the application by players-participants of personal, mostly mental, qualities in order to achieve victory in the game or to provide the correct answer to the questions stipulated by the rules of the game.

In the context of this article, given its purpose, desktop intellectual games will be the subject of research. In reference sources, the term "desktop" is defined as "intended for the table" [1: 737; 5: 310]. In the context of our subjects, it points to the place where manipulations with game objects occur – on the table or on any other similar surface.

To date, there are many types of desktop intellectual games. The main ones include the following: games on a special board (chess, draughts, backgammon, Go, reversi); card games (bridge, debertz); dice games (dices, craps).

Some desktop intellectual games have become so widespread in the

world that they have received recognition on the international scene, in particular through the formation of relevant international organizations. So, since 1924 the World Chess Federation has been functioning, since 1947 – the World Draughts Federation, since 1958 – the World Bridge Federation, since 1982 – the International Go Federation. It is noteworthy that these four organizations have become the founders of the International Mind Sports Association (IMSA), under whose patronage are being held World Mind Sport Games – integrated competitions in the intellectual sport. The main types of games on such competitions are the types represented by the federations-members of the IMSA – chess, draughts, bridge and Go. Also, an additional kind of intellectual sport may be included in the competition program. For example, in the first World Mind Sport Games, Xiang Qi (Chinese Chess) competitions were added to four main types of games, while mahjong was included in the third game occurrence.

A considerable positive impact of the activities of the abovementioned international organizations not only on the overall development of desktop intellectual games, but also, in particular, on their introduction into the school curriculum and popularization among schoolchildren. A significant step was made in this direction was made by the World Chess Federation, which has created a special unit on school chess in its structure, under the auspices of which there are world school chess Olympiads, various conferences and seminars devoted to the problems of teaching chess. In addition, at the initiative of the federation in 2012, the European Parliament adopted a Declaration on the introduction of the programme "Chess in School", which recommended the use of chess in the educational systems of the European Union. The

European Parliament adopted this decision, with reference in particular to the fact that chess improves the concentration of attention, develops patience, perseverance, creativity, intuition, memory and analytical skills among children, as well as teaches determination, motivation and sporting skills [10].

Some steps towards introducing chess to the school curriculum have also been taken by Ukraine. Thus, in 2011, the Verkhovna Rada of Ukraine adopted a resolution # 3985-VI "On the Proclamation of the Day of Chess in Ukraine", which was proclaimed the 20th of July as the Day of Chess in Ukraine. The same resolution recommended that the Cabinet of Ministers of Ukraine, within three months of its adoption, develop and submit to the Verkhovna Rada of Ukraine a draft law of Ukraine "On the National Program of Development of Chess in Ukraine", recommended that the Ministry of Education and Science, Youth and Sports of Ukraine consider introducing chess elective in schools.

In fulfill the requirements of the said resolution the Cabinet of Ministers of Ukraine issued an order # 706 of September 26, 2012 "On Approval of the Concept of the National Target Social Program for the Development of Chess "Intelligence of the Nation" for 2013-2020", which provided for the implementation of a set of measures aimed, in particular, at ensuring teaching students 1-4 classes of elementary schools basic elements of chess. It was one of the few regulatory acts regarding the development and popularization of chess in Ukraine. However, shortly after, the Cabinet of Ministers of Ukraine, in its resolution # 71 of March 5, 2014, in order to save budgetary funds, recognized this order as invalid.

Currently, Ukraine does not have a national target program for the development of chess. However, at the

local level, this problem has examples of positive solutions. Thus, in 2015 in Lviv, the Program of Development of Chess in General Education Institutions for 2015-2016 was adopted, for the implementation of which a chess club was introduced in 118 educational institutions. In 2016, thanks to the support of the Lviv Chess Federation, 120 elementary school teachers completed courses on teaching children chess. The Program of Development of Chess in General Education Institutions for 2017-2020 provides for the introduction of a chess circle at each such institution.

Comparative analysis of the use of chess in the educational process of institutions of general secondary education allows highlighting positive foreign experience. Armenia is one of the countries where school chess has gained significant development. It is the first country in the world to introduce chess as a compulsory school subject. Beginning in 2011, two chess lessons are held each week for students in grades 2-4 in all its schools. It is significant that from the 2012/2013 academic year at the leading Armenian State Pedagogical University (Yerevan) at the elementary school faculty began to teach chess as a separate subject, and from the 2017/2018 academic year was introduced a new specialty "Chess", which involves four years of chess teacher training. In addition, a special structural unit was created at the University – Chess Scientific Research Institute, whose main task is to conduct research on psychological, educational and sociological issues of chess education. This institute also regularly organizes seminars and trainings for chess teachers, publishes chess textbooks and other teaching materials.

The Russian Federation has also made significant progress in the development of school chess. In 1994, it became the first country in which chess

was introduced as an optional school subject. As of April 2019, at 18,000 Russian schools, chess had the status of a compulsory school subject, and since the beginning of the 2019/2020 school year, chess has become compulsory in all schools in the country. The total number of hours spent in chess is 135: 33 hours for first class and 34 hours for 2-4 classes. Lessons are conducted on methodological developments, prepared by the best chess teachers in the country [3; 6; 9]. In addition, in the Russian Federation, as in Armenia, considerable attention is paid to the theoretical and practical training of chess teachers: thematic seminars, refresher courses, etc. are held on a regular basis for them.

Many foreign countries have a similar positive experience in using chess in the educational process. These include the countries of different continents: Argentina, Venezuela, Spain, Mexico, Paraguay, Poland, Slovakia, United States of America, Turkey, Uzbekistan, Czech Republic and others. In some countries, children with disabilities are also taught chess. For example, in Turkey since 2018 there is a project "Sighted Hands". As part of this Project, chess classes have opened in 17 schools for the visually impaired. Education is trained using specially produced chess sets, training manuals and chess clocks.

Positive influence on the development of a child is also carried out by draughts. They have much in common with chess. During the game, players need to constantly calculate the options that may appear on the chessboard, try to implement their own game plan and resist rival plans. All this contributes to the improvement of mental abilities of the child, develops her memory, attention, ability to think. Draughts raise children's interest in schooling, improve their ability to perform logical operations, which

generally promotes the development of intelligence.

In psychological and pedagogical literature it is noted that the most important for schoolchildren in draughts are such properties as concentration and stability of attention. Concentration is equally needed both in perception and in memorizing, reproduction, activity of thinking and imagination. The attention of the player is manifested especially in close connection with thinking, and therefore you can not hesitate to talk about the predominantly intellectual nature of the attention of the players, which has a pronounced arbitrary character [8].

In the modern domestic educational process, draughts as a means of educating students are used quite rarely. In the world, Brazil has a positive experience in this field, and in some schools, draughts are included in the curriculum. One of the modern indicators of the development of school checkers in the world was the conducting in Italy in 2019 of the first World Checkers Championship among school teams. Teams of three students born in 2008 and younger were allowed to participate in the competition.

Among the whole set of desktop intellectual games Go deserves special attention. This is one of the most ancient games that have survived until our times. Its age is about 4-5 thousand years. Unlike many other games, it has practically not undergone significant changes throughout its existence.

The home of this game is China, but it has gained its greatest prosperity in Japan, where it appeared in the first centuries AD. Originally, Go was a privilege of the Japanese imperial court and the aristocracy, but subsequently gradually spread among other strata of society.

Over time, the level of the game of Go began to be regarded as a unique indicator of mental development. This

contributed to the rapid growth of the popularity of the game, the emergence of professional teachers and its inclusion in the school curriculum. Today, this game is taught in schools not only in Southeast Asia, but also in schools in South America and some schools in Russia. In Europe, it appeared only in the XIX century, in our country it was introduced in the late XX century.

A comprehensive analysis of the domestic system of general secondary education revealed that the use of intellectual games as a means of teaching students remains at a low level. In pedagogical literature, this is associated with a number of factors, in particular, with the lack of comprehensive psychological and pedagogical research on the impact of various intellectual games, especially the desktop ones; lack of methodical recommendations on the use of desktop intellectual games in the educational process; fairly low level of teachers' readiness for the use of intellectual games during lesson and extra-curricular activities [7: 64-65].

Conclusions and research perspectives. The results of the study of substantial features of intellectual games revealed that such games simultaneously combine the features of sports, science and art. The essence of intellectual games is, first and foremost, the application by players-participants of personal, mostly mental, qualities in order to achieve victory in the game or to provide the correct answer to the questions stipulated by the rules of the game.

Desktop intellectual games are effective means of educating children of many vital qualities. They develop their memory, attention, persistence, and teach him/her to think independently. The pedagogical potential inherent in desktop intellectual games allows to successfully applying them in the educational process of institutions of

general secondary education. During the training such games stimulate the student's cognitive interest, contribute to the development of his intellectual abilities, creative activity, and provide wide opportunities for self-knowledge and self-realization.

An analysis of the experience of using desktop intellectual games in the educational process of institutions of general secondary education has revealed that lessons from certain types of such games are included in the school curriculum in many countries of the world. For example, chess lessons in some countries are compulsory for elementary school students. In many countries, chess is an optional subject. In domestic schools, among intellectual games, chess is predominantly preferred, but there is no large-scale introduction of them into the state's educational system.

It is expedient to expand the use of desktop intellectual games as a means of versatile development of schoolchildren in domestic institutions of general secondary education, which requires the development of methodological recommendations on the use of desktop intellectual games in the educational process.

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