

SECTION 2.

PEDAGOGY

(EDUCATIONAL SCIENCES)



“CHESS” EDUCATIONAL SUBJECT IN ELEMENTARY SCHOOL[§]

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Abstract

The article analyzes the peculiarities of teaching chess in elementary school. The Republic of Armenia is moving to ability-based learning with the new standard requirements for education. The educational subject “Chess” has an excellent potential for forming personal qualities and developing the creativity and abilities of a junior high school student who faces the challenges of modern life, analyzes, synthesizes, summarizes, thinks critically, and initiates. The problem of studying the professional competencies of the elementary school “Chess” teacher is urgent and topical due to:

- ✓ Non-standardized requirements, competency-based learning (Procedure for formation and approval of the State Standard of General Education, 2021).
- ✓ with the ever-increasing demands of the labour market in training a specialist,
- ✓ with personality formation problems of younger schoolchildren.

The components of the professional competence of the elementary school chess teacher have also been developed and presented in the article.

Keywords: challenges, new perspectives, opportunity, self-reflection, achievements, cognitive-metacognitive abilities, self-criticism, self-control, critical thinking, social skills.

INTRODUCTION

The subject of chess” has great potential in forming the general educational abilities of the students of the “Chess” subject; it develops not only the intellectual abilities and logic of junior

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schoolchildren but also forms their personalities. By playing chess, a junior high school student, first of all, learns to think and make decisions independently. Even the most straightforward solutions teach the student to be responsible, to consider the other person's point of view, to predict his behaviour, and to build his manifestations based on them. (Mikayelyan M. A. 2015, p. 211-214).

We want to point out a significant circumstance, as "Chess" is a game and has its requirements and rules for the game; it develops responsibility, cooperation, the ability to be guided by the rules of the game, and, most importantly, to set goals independently, win, accept defeat with honour, to fight for success. From our perspective, thanks to chess, contact and cooperation with peers are closer and more robust, contributing to the younger schoolboy's social-personal development. The "Chess" teacher, with his competence logically, first of all, conveys strategic skills. Chess not only contributes to the development of the cognitive and motivational spheres of the younger schoolboy, but also, due to self-reflection, the student can regulate his behaviour, evaluating his abilities and capabilities accordingly. Chess has contributed to junior schoolchildren's self-control and self-regulation activities since elementary school. (Elementary school "Chess" subject standard (2-4 classes), (2012) p. 26).

To provide children's development in education, it's essential to consider the theory of zones of "actual" and "proximal" development suggested by L. S. Vygotsky. The zone of proximal development (ZPD) is an overarching concept that integrates the central tenets of Vygotsky's theory of human development. This zone refers to the range of abilities an individual can perform with the guidance of a teacher but cannot yet perform on their own. When children are close to mastering a skill set required to complete a task but still need the guidance of a teacher to do so, they are considered to be in their zone of proximal development. It is the distance between a child's actual and possible development. When children can solve a problem on their own without the help of an adult, it indicates the zone of actual development. The possible development is when the child learns and masters the presented material. (Vygotsky L.S., 1978, p. 78).

To study chess's influence on children's cognitive development for more than seven years, the ASPU Research Institute has used complex „Egoskop”, a practical, innovative tool for psychological and psychophysiological diagnostics created on the basics of original technologies. (Sargsyan V.G., Sargsyan T.A., 2022 p. 10-14)

It is also imperative that the student's level of self-confidence in his abilities increases due to the game. A positive attitude is considered a guarantee of the future success of the younger

schoolchild. Teaching chess in schools provides many learning opportunities and effectively assimilates other curricular subjects. (Khachatryan H.V.2014,p.73-86).

When the subject of "Chess" was introduced to the school, it led to changes in the lives of junior schoolchildren, their parents, and teachers. Due to the lack of specialists and methodical literature, initially, chess was taught in schools by people who knew only the game without teaching experience and teacher qualifications.

Em. Lasker was one of the first to draw attention to the problem of teaching chess. He believed that the ability to play chess cannot be a matter solely of memory and that learning to play chess should cultivate the ability to think independently. Lasker points out the importance of mastering the rules of chess, which combine and systematize numerous exceptional cases and gives recommendations for the number of hours of study required to achieve a specific qualification. (Gabbazova A.Ya.,2008 p.).

A child playing chess visually calculates which piece controls the most fields, which makes him/her active, and he/she compares which piece controls the most fields with his opponent. Unlike chess math exercises and problem-solving, the learner's eye sees the numbers or writes them on his/her own. It can be said that due to the solution of chess problems, the learner develops the ability to turn images into numbers and to act on them. Solving chess problems develops a series of static pieces - imagining and seeing their movement trajectories, which is also an essential skill, significantly when solving problems related to movement; it is also possible when solving geometric problems.(Karapetyan V.S.,Misakyan S.Z.,Sargsyan SH. G.,2021 p.28-37)

METHODS AND METHODOLOGY

The materials used During the research included methodological instructions provided by the elementary school's subjects, the interview method in individual lessons, statistical methods, and surveys among teachers and parents.

From 2011 to the present, the "Chess" subject has been taught in the “Elementary Pedagogy and Methodology” speciality bachelor's educational program at the Faculty of Primary Education of ASPU. Particular emphasis is placed on the formation of competencies that help the future teacher master the content and features of teaching the "Chess" subject (Abovian Kh. ASPU, “Elementary Pedagogy and Methodology” speciality bachelor's educational program, 2018).

Within the framework of our topic, we conducted surveys among teachers teaching the

educational subject "Chess" in public schools of the Kotayk region and among parents of students studying in elementary grades. Our goal was to find out the characteristics of the activities of elementary school chess teachers, the existing difficulties that often arise during the teaching of the subject "Chess", and develop the professional competencies of the elementary school chess teacher. 52 teachers teaching the educational subject of chess participated in the survey, 19 of whom are primary school teachers and practice chess simultaneously, as well as 185 parents of students studying in primary schools. Within the framework of this article, we will present the analysis of the survey results with teachers and parents and design the competencies of the elementary school "Chess" teacher we developed.

The questionnaire "Researching the Professional Competences of a Public School Chess Teacher" addressed to teachers included 9 open and closed questions about the professional competencies of a primary school chess teacher. The primary school teachers who participated in the survey are between 23 and 65 years old. They have 2-42 years of teaching experience and higher education. Out of 52 teachers, 14 did not have a chess degree, 8 teachers had a first degree, 2 had a second degree, 1 had a third degree, and one chess teacher had an international master's degree. Of the 52 teachers participating in the survey, 46 (88%) are female and 6 (12%) are male. Although this is a small number, it is a good indicator compared to other subjects. To the first question, "How many years have you been teaching the subject "Chess" in the public school?" the teachers indicated the answer options "Up to 4 years", "5 to 8 years," and "9 and more years".

The next question in the questionnaire is about their choice of profession. To this question, 15 (28%) of the 52 chess teachers participating in the research chose the proposed option "I like the profession of a teacher", 9 (17%) chose "Everyone in the family is a teacher," 9 (17%) chose "On the advice of my friends" version, 17 (33%) - "It was an opportunity to find a job," and 2 participants (5%) - the other version. In the missing line, several teachers wrote: "I love the game of chess, and I want to popularize this sport."

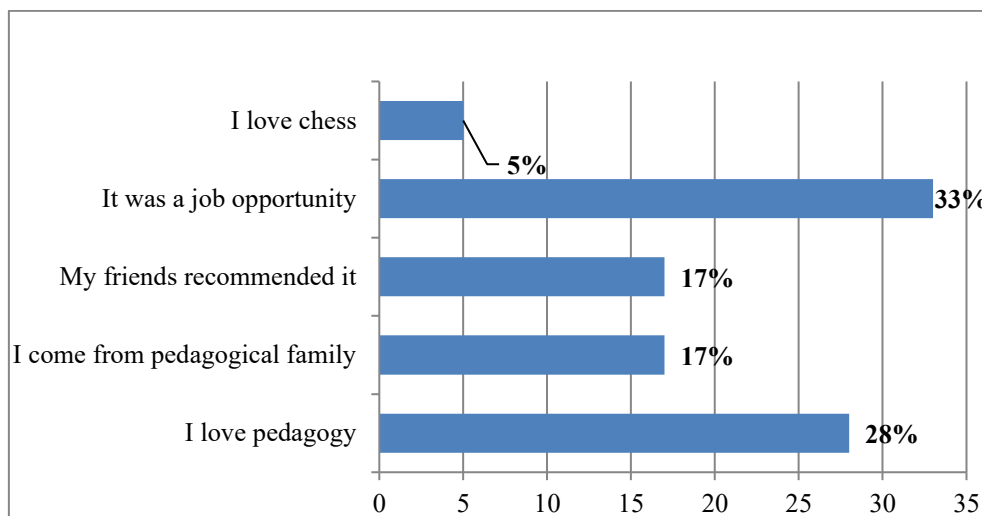


Diagram1. The results of the research on the motivations for the profession choice of chess teachers

We are sorry to note that for 1/3 of the teachers who participated in the survey, the reason for becoming a "Chess" teacher was that they did not have a job at the given moment. The following research question concerns the personal competencies of a modern chess teacher in a public school. Of the 52 teachers participating in the study, 28 (54%) chose "Cooperation," 25 (49%) - "Humanity," 22 (43%) - "Self-criticism", 30 (57%) - "Patience," 32 (62%) "Optimism," 31 (59%) "Fairness," 24 (47%) "Marriage" and 7 participants (14%) other answer options. The importance of the competencies mentioned above of the teacher is further emphasized in the sense that the latter also contribute to the formation of the appropriate competencies of the student, such as cooperation, self-criticism, patience, and fairness, due to the characteristics of the subject of chess.

The fourth research question was about the competencies developed in the student thanks to the educational subject "Chess." Of the 52 teachers participating in the study, 26 (51%) chose the suggested option "Individualism," 28 (54%) - "Responsibility for actions taken," 26 (51%) - "Initiative," 31 out of 52 teachers - (60%): "Ability to calculate, plan next steps", 39 (76%): "Ability to fight, win, lose," and 8 participants (16%) - other options.

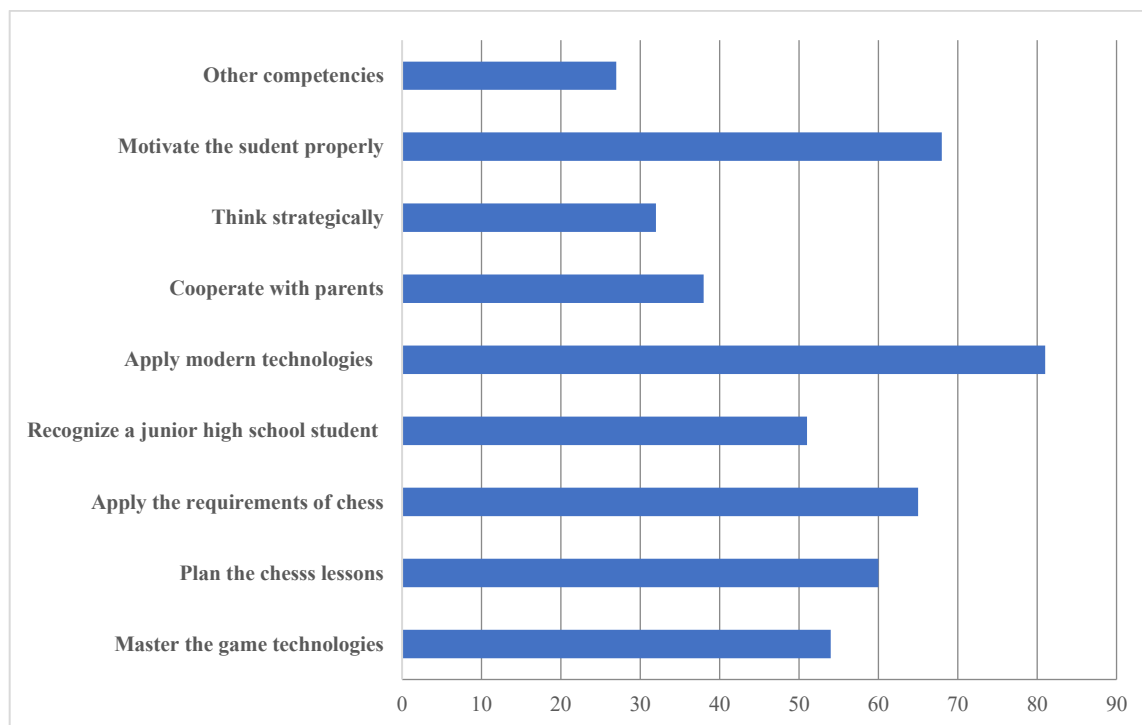


Diagram 2.

The next question addressed to the teachers was related to the selection of professional competencies of the modern chess teacher of the general education school. Of the 52 teachers participating in the survey, 28 (54%) chose "Ability to master game technologies," 31 (60%) - "Ability to plan lessons," and 34 (65%) - "Chess" learning. Application of the requirements presented to the subject", 26 of 52 teachers (51%) - "Implementation of the teaching process following the psycho-pedagogical features of the junior school age," 42 (81%) - the use of modern learning technologies in the teaching process of the educational subject "Chess" application," 20 (38%): "Ability of teacher-parent cooperation," 17 (32%): "Availability of strategic thinking of the teacher," 35 (68%): "Ability to stimulate students in an appropriate and timely manner", and 14 participants (27%) - other answer options, where they wrote in the missing line: "Media literacy, ability to self-educate" expressions.

With the fifth open research question, we tried to determine what chess technologies are used in chess lessons. The primary school chess teachers participating in the research asked these questions "Game technologies," "Various," "Developing the ability to make accessible calculations and correctly assess the situation," "Group works," "Cooperative technology," "Studies," "Multiple," "In addition to chess lessons, I recommend playing chess in your free time on your phone, computer, with a suitable game program", answers to "Study of chess games, discussions

about the life of famous chess players". With the sixth open question of the research, we discovered the influence of the subject "Chess" on the student's communication abilities. Research participants believe that "Students become more reserved, tolerant, one begins to know each other better", "Children compete, communicate, become more tolerant, think flexibly, gain patience, reason, learn don't underestimate the other person", "Positive", "Contributes to the development of communication skills, the ability to negotiate, accept victory, defeat", "Due to a positive atmosphere, cooperation skills develop", "Ability to understand each other, listen to each other and effective communication skills", "Forms friendship, cooperation, competition, hard work, cooperation", "Develops patience, ability to think, striving for victory", "Develops ability to calculate further steps", "Improves morale and psychological atmosphere".

The seventh open question of the questionnaire refers to the methods of ensuring the socialization of junior schoolchildren during chess lessons. Research participants find that: "When students play together, they communicate with each other", "Communication, individual approach, self-confidence", "I try to create unity, integrity, interconnectedness", "Providing equal opportunities to participate in the class, encouraging and encouraging", "Organizing chess competitions" by maintaining a friendly environment and a positive atmosphere", "I organize tournaments", "Nominal questions, organization of quizzes", "When solving puzzles, I make everyone a participant, they communicate while playing", "Etudes", "Problem-solving, theory", "Team games" organization, equality", "When they find the solution to the problem, I suggest that they explain how they found it, that is, they present the process of thinking while finding the solution to the problem" and so on.

Regarding the eighth open question of the questionnaire, the participants believe that "The best results are provided by practical, Interactive, and game methods and methodical techniques ("Narrative, demonstrative, brainstorming", "Theoretical and practical", and "When explaining the sequence of steps in solving a problem, they talk about it").

With the last survey task, we asked the teachers to submit suggestions for increasing the effectiveness of chess lessons. In this regard, the survey participants suggest that "Public schools should have specially equipped classrooms for the subject of "Chess", where there will be ample opportunity to use media technologies and appropriate game boards. According to the teachers, it would be good if "The classrooms should have electronic blackboards, literature about chess, and didactic materials". Teachers suggest "Reducing the number of students in classes or dividing the

class during chess time, enriching it with technical means, providing didactic materials, increasing practical work", "Increasing the provision of material and technical base, reducing as much as possible the burden caused by homework", "Increasing interest in the subject through interesting additional materials", holding periodic meetings and conversations with parents", increasing the duration of the "Chess" educational subject up to the end of adolescence, "I suggest not to grade, so that the subject does not become a struggle for the grade for the student, but develops the desire to win through the game", "In schools be special multimedia classrooms for the educational subject "Chess", "Easing textbooks and notebooks, providing didactic materials".

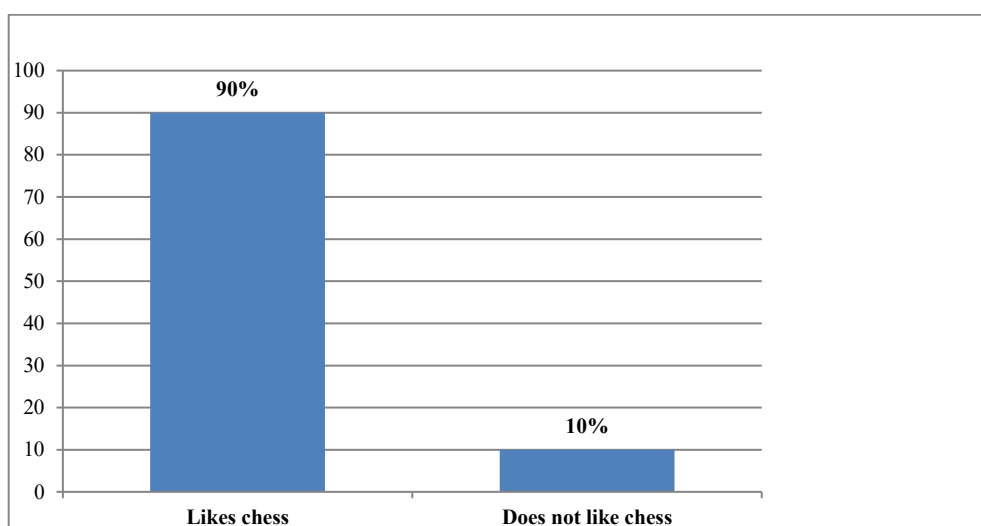


Diagram 3. Parents' responses to the subject of chess

To investigate the problems arising during the teaching of chess in elementary school and to complete the research, we also conducted a survey among the parents. 185 parents of students studying in primary classes of public schools in the Kotayk region got acquainted with the questionnaire we prepared for them through a free conversation. Our questionnaire included 8 open and closed questions. The anonymous questionnaire allowed the research participants to honestly express their attitude towards teaching the subject "Chess," raise problems, concerns, difficulties, evaluate the impact, etc.

The first question addressed to parents participating in the research is: "Does your child enjoy participating in chess lessons?" Analysis of the questionnaire responses of 185 parents participating in the study revealed that 167 (90%) answered "Yes" and 18 (10%) answered "No". We will present the result of the first question addressed to the parents participating in the research through Diagram

3.

The second question addressed to the parents participating in the study, "Does your child like the chess teacher?", 171 of the 185 parents participating in the study (more than 92%) gave a positive answer, and only 14 (8%) answered no. The third closed question of the study, "Does the child like chess lessons?" contains five distractors, from which the parent participating in the survey had to choose one option.

The results of the third research question were distributed as follows: Of the 185 parents, 26 (14%) emphasized Theory, 23 (12%) emphasized Etudes, 89 (49%) emphasized Problem-Solving and Version, 36 (19%) emphasized "Homework," and 11 (6%) answered "Nothing."

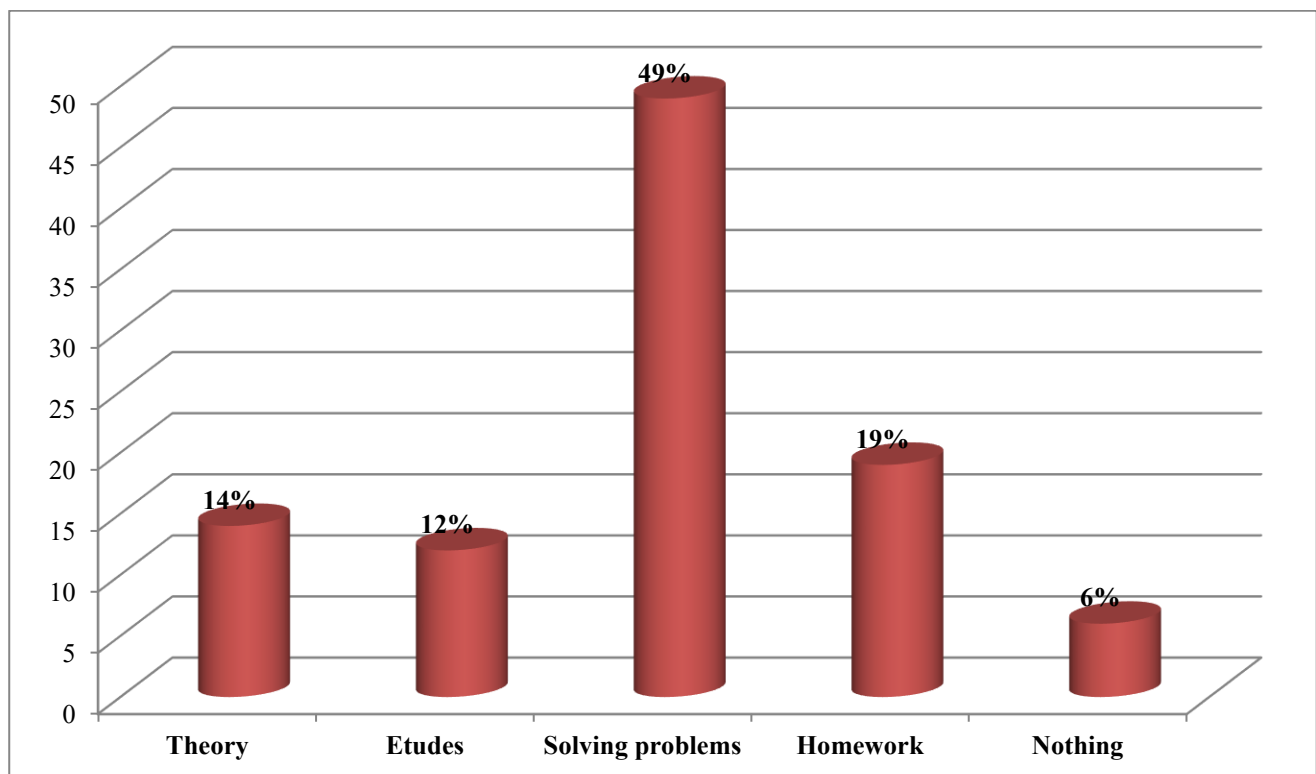


Diagram 4. Kinds of favourite tasks of children in chess lessons according to parents

Using Diagram 4, let's present the results of the third question of the survey of parents of students studying in the primary classes of public schools of Kotayk Marz.

In the fourth question addressed to the parents participating in the research, we try to find out their opinions about the necessity of teaching the educational subject "Chess" in public schools. The answers of parents participating in the study are fascinating. Thus, 143 out of 185 parents (77%) decided that teaching the subject of chess" in public school is a desirable and valuable

necessity, and 42 (23%) think that it is not necessary or at least not mandatory.

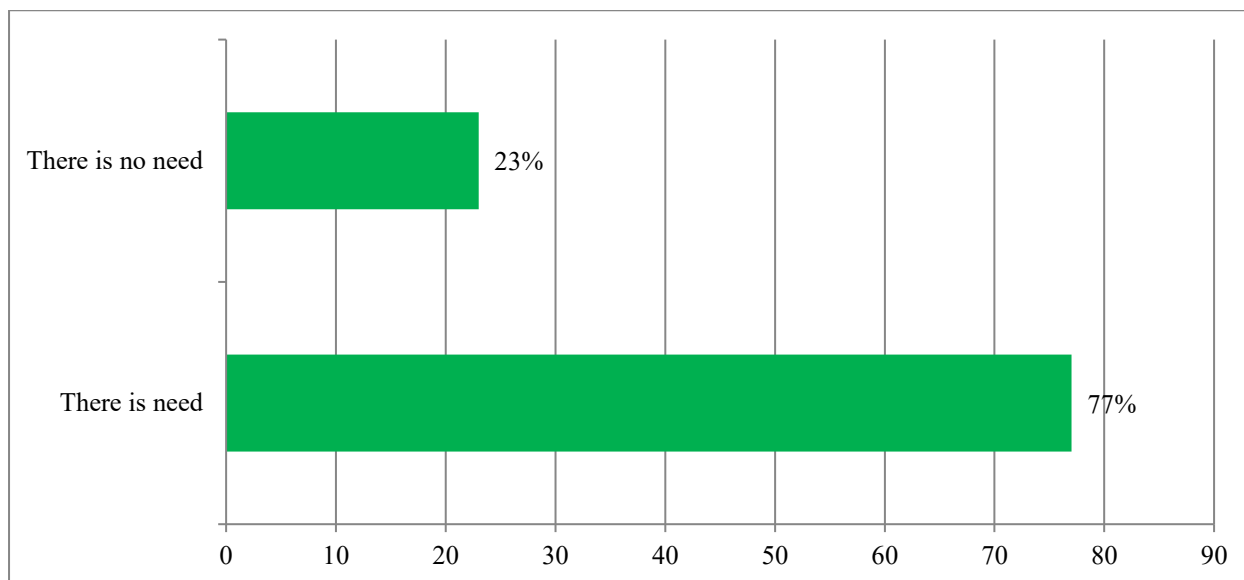


Diagram 5. Parents' opinion about the necessity of teaching chess at school

With the fifth question addressed to the parents participating in the research, we found out the parents' opinion about the influence of the subject "Chess" on the development of the student in the public school. Parents' answers to the open question are mostly positive. ("Chess" educational subject has a great influence on the child's logic", "Thinking, quick orientation", "Thinking, judgment", "It has a very good effect on brain development, logic, quick orientation", "Helps the child to develop mental abilities", "Attention, concentration, ability to think, development, organization...", "The educational Chess subject develops children's orientation in different situations and finding solutions", "Chess affects the development of the student's memory, forms a sober way of thinking, in many cases to reveal the abilities to learn", "Chess helps the child to quickly understand and orientate himself on any given issue", "Focuses attention, develops patience, the ability to think deeper, the ability to weigh the moves, to think before the move", "Logic, patience, intelligence, quick orientation abilities, ability to make independent decisions", "Develops visual memory and contributes to the development of the mind", "I think chess contributes to the development of a child, analytical, critical thinking, improves his intelligence", Analytical, strategic thinking, "Develops independence, increases responsibility, develops

thinking", "The subject of "Chess" develops logic, independence, forms discipline in children", "The subject of "Chess" teaches the child the skill of making a conscious move", "Develops the ability to think quickly, team work, correctly perceiving the feeling of victory and defeat", "The ability to orientate correctly, find alternative answers to questions", "The child learns to predict, count, prevent dangerous moves a few steps after the move", "As an intellectual game , chess develops intelligence, a number of mental qualities, such as will, fighting", and many other repeated thoughts, opinions, and among 185 parents' opinions, only two negative points of view are also presented: "If the parent notices a love or interest in chess, he will send the child to private lessons" and "He gets too nervous because he doesn't like the subject").

With the sixth question addressed to parents participating in the research, we tried to find out the difficulties students and parents face when studying the subject "Chess." The question is closed-ended, but the survey participants could choose multiple answers. The results of the research were distributed as follows: Out of 185 parents, only 8 (5%) chose the answer "Does not like," 23 (12%) - "Does not understand," 62 (34%) - "Can't do homework independently," 62- (34%) "we can't help him in the family with chess" answer options. 27 (15%): "The child is sometimes bored," 44 parents (24%) answered that their child does not have difficulties studying the subject "Chess."

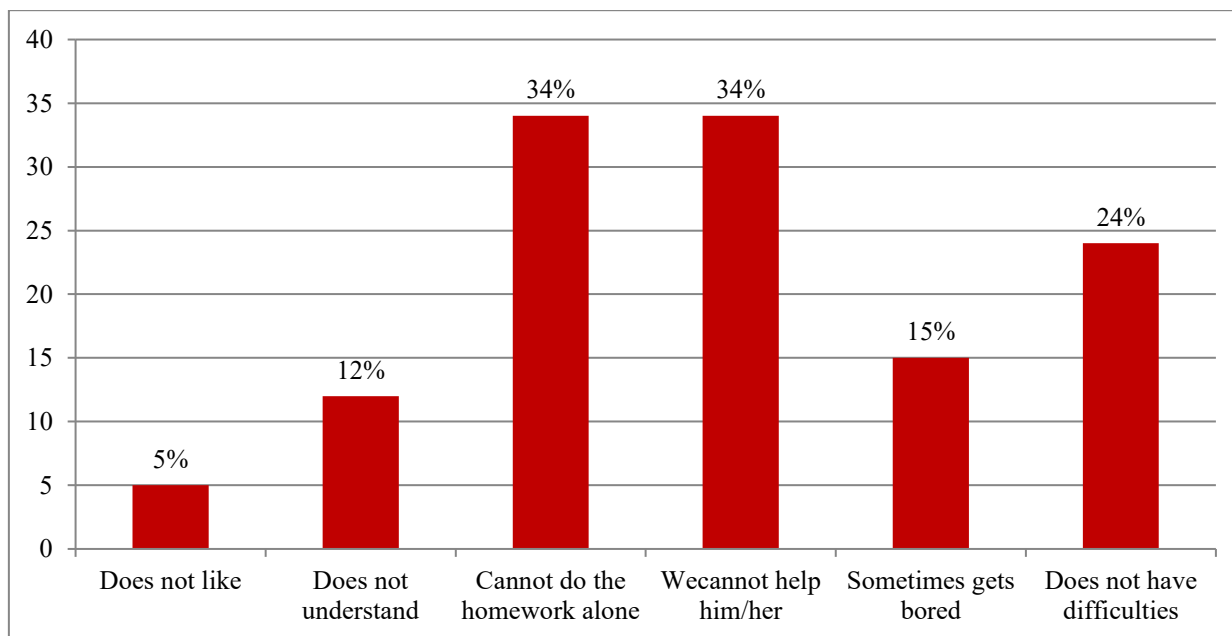


Diagram 6. Child's difficulties in studying chess

The seventh question, addressed to the parents participating in the research, asked us what difficulties the students have when doing homework. One hundred seventeen of the parents (63%)

answered that the child can draw and complete a specific part of the task, and 68 parents (37%) indicated that they help the child with homework, significantly solving chess problems.

The last question addressed to the parents concerns the influence of the "Chess" subject on the student's communication and socialization with classmates. Fifty-nine of the parents participating in the research (32%) believe that chess strengthens friendships and team spirit and teaches fair game rules, and 126 parents (68%) believe that "Chess" is an educational tool for communication and student socialization. The subject has no particular effect.

In the course of teaching "Chess," a necessary condition is not only the effective use of teaching technologies by the teacher but also the design of the lesson based on several methodological principles and standards because the students always start the lesson in the same way, they will immediately lose their interest, always the same repeating.

The research results will be incorporated into the course «Basics of professional development of elementary school teachers,» and the annual teacher and tutor training process will be improved.

CONCLUSION AND FINDINGS

Thus, our survey results showed that students develop in different directions by practising chess. Participation in chess lessons forms the student's volitional qualities, purposefulness, ability to fight, work, etc. During the study of exact positions, solving chess problems, and blind games, students' memory improves, logical thinking, imagination, and spatial perception of images develop.

Thus, based on the study of video-methodical literature, the analysis of criteria, and the results of the conducted research, we developed the characteristics of the professional competencies of the "Chess" teacher of the elementary school:

- *development of strategic thinking,*
- *the philosophy of teaching the subject "Chess"*
- *ability to forecast and plan,*
- *ability to correctly orient oneself in changing chess situations,*
- *ability to make decisions in complex situations and influence the course of situations,*
- *ability to develop examination and creative thinking in junior schoolchildren,*
- *ability to solve multiple or alternative chess problems,*

- *ability to develop the social skills of junior schoolchildren,*
- *development of system thinking.*

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