

*Chess Educational Study Centre  
at Khachatur Abovian Armenian State  
Pedagogical University*



*Current Level of Expression of Psychological  
Components of Assimilation of Chess as a School  
Subject and the Ways of Its Activation*



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*In 2015 and 2016 a series of experiments were carried out to explore even deeper into the role and significance of chess for schooling.*





*The most important question?*

*What is the aim of the research the results  
of which we are going to introduce now?*



# ***The research aims were two***

***1. First of all, to reveal the current level of assimilation of Chess as a school subject***

***2. Secondly, to develop relevant methods of activating that very assimilation process.***



*We thought that the stepwise strategy applied in the research in order to reach the aforementioned aims might be of particular interest.*



*The total number of participants – 135, 5th and 6th-grade schoolchildren; the teaching prehistory/background/chess experience – the 5th-grade school students had been taught chess for 3 continuous years, while the 6th-grade students who were involved in the experiment had never had special course of chess at school.*







*In the course of experiment the first observations were focused on the 5th-grade students' movement coordination and their skills of volitional self-regulation under the circumstances of time deficiency. Subsequently, the data collected was compared with the similar indices detected among the 6th-grade participants.*





- *It was a tough task to make a relevant selection of methods relevant to the research aims;*



However, this task was accomplished due to the objective psychological analyses and “Egoscope” testing set.



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***Which were the methodologies applied and what was uncovered through them?***





- The methodology that we opted for and applied for gaining the major purposes set forth is famous as “Trajectory-3”. In the course of experiment there is a requirement to follow up the red light moving along the trajectory through the e-pen moving at certain distance on the dynamic touchscreen.*



*The methodology is designed to  
evaluate the movement coordination  
and volitional self-regulation skills in  
time-deficit conditions.*



*Among other facts, what we would underline first is the fact that for both groups under experiment the experiment timing remained the same – thirty seconds. The movement coordination and the volitional self-regulation skills suppose that in the course of the experiment the total number of mistakes must keep decreasing.*





*This indicator turned out to be more marked among the 5th-grade participants with previous three-year-long school courses of chess.*







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• *The aim of the research that we targeted was also to define the current level of speed in decision making and the degree of exhaustion. All the data were collected and compared between the two target groups – the 5th-grade students' and 6th-grade students indicators.*



*We chose the methods of “Simple and Complex visual and somatic responses”.*





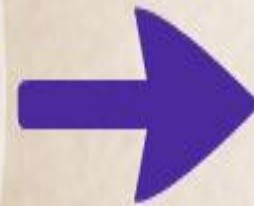


*In the case of simple visual-somatic responses, the respondent was asked to press the black button installed above the Tubus right after noticing the green light inside. In cases of complex visual-dynamic responses, the participant receives the same instruction with one difference – together with the already mentioned green light there is also a red one inside. Once the respondent sees the red light, (s)he must simply wait till the green light appears.*





• *So, which were the results and what do they evidence?*



## *Average data of "Simple and Complex Visual-somatic responses"*

<i>Criteria defined</i>		<i>5<sup>th</sup>-grade participants With previous chess courses completed at school</i>		<i>6<sup>th</sup>-grade participants Without any previous chess courses at school</i>	
		<i>Right hand</i>	<i>Left hand</i>	<i>Right hand</i>	<i>Left hand</i>
<i>1</i>	<i>Number of delays (in units)</i>	<i>1</i>	<i>1</i>	<i>3</i>	<i>3</i>
<i>2</i>	<i>Number of quick responses (in units)</i>	<i>3</i>	<i>3</i>	<i>5</i>	<i>5</i>
<i>3</i>	<i>Number of accurate, precise responses (in units)</i>	<i>26</i>	<i>26</i>	<i>22</i>	<i>22</i>
<i>4</i>	<i>Agility level</i>	<i>High</i>		<i>Below average</i>	



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• *So, the 5th-grade student, who has covered the chess, is able to make optimal decision within quite limited time period which is the result of assimilating chess.*





*We must note that we have discovered the psychological components of assimilating chess, namely – the speed of decision making process, movement coordination and the volitional regulation of the latter and, what is of foremost significance, the quick motion.*





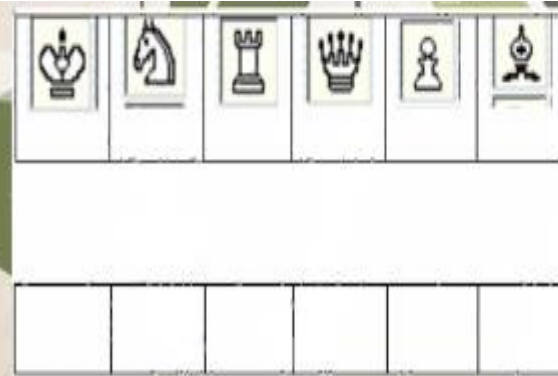
- *However, within the academic process, in general, the level of the efficiency of chess differs among the students of high, average and low academic achievements. Consequently, in the course of our research a new target was outlined and set forth – to influence the process of learning chess, especially, among schoolchildren of low-level academic progress.*





• *It is curious and even quite doubtful whether this target is attainable or not.*





• *However, it turns out to be quite possible and even through the application of a number of different psychological games, means, tricks and techniques.*





- *We just imagine the following aims:*

- a) to increase the level of perception relevant to the changes between space and time;*

- b) to contribute to the development of coordination and volitional regulation of movements within limited time boundaries;*



*We just imagine the following aims:*

*c) to increase the level of self-organization and independent activity ability and skills;*

*d) to enhance the level of focus and stability of attention.*



*Now, let us introduce some examples of psychological game-tasks that we used for activating the psychological component of learning chess among the groups of low-level academic achievements.*





*Can a teacher of chess use  
the game that we are  
introducing during the  
lesson?*





**YES!**

*Teachers of chess can make use of it as this game, together with other similar game-assignments, has been introduced to the teachers of chess in different regions both in the Republic of Armenia and Nagorno-Karabakh Republic within the framework of teacher-training, professional enhancement course.*







- *Now, let's introduce the game-task aimed at increasing the level of perception relevant to the changes between space and time and the development of coordination and volitional regulation of movements within limited time boundaries called*

***Help the bee to harvest.***



1. S	2. Г	3. U	4. U	5. U	6. Q
7. F	8. Φ	9. η	10. U	11. Г	12. F
13. Q	14. C	15. U	16. W	17. Π	18. 2
19. U	20. U	21. S	22. U	23. Q	24. Q
25. F	26. Г	27. S	28. U	29. L	30. F



## *Help the bee to harvest.*

*In fact, during this game the children learn how to concentrate their attention towards the verbal instructions, how to follow them, how to regulate their movements voluntarily complying with the example introduced.*



**Well, are there other  
similar games of  
similar interest as  
this one?**




*For the development of the level of  
self-organization, autonomy  
capacities and skills we have used  
the game*

**“Draw the chess pieces as they are  
depicted”.**



- *We would like to introduce another interesting game. The following game=assignment is used in order to increase the level of focus and stability of attention among schoolchildren. After looking attentively at the table with chess pieces for about 20 seconds, the schoolchild is asked to depict it as similarly as it is possible in the empty cells.*






- *Our research group has developed, designed and introduced a variety of psychological game-assignment, tasks and drills that have already been published in methodological manuals, guidebooks for teachers of chess.*



Thank  
you!

