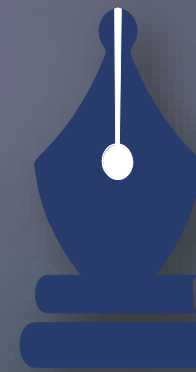


# Analysis of the Efficiency of Teaching Chess in Schools

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Theoretical  
and Practical  
Issues of Chess  
Education in Schools

## Aim of the research

The aim of the research is to reveal the context-driven and context-based factors influencing school teaching of chess

# Methodology of the research

There are two major measurability bases underlying this research:

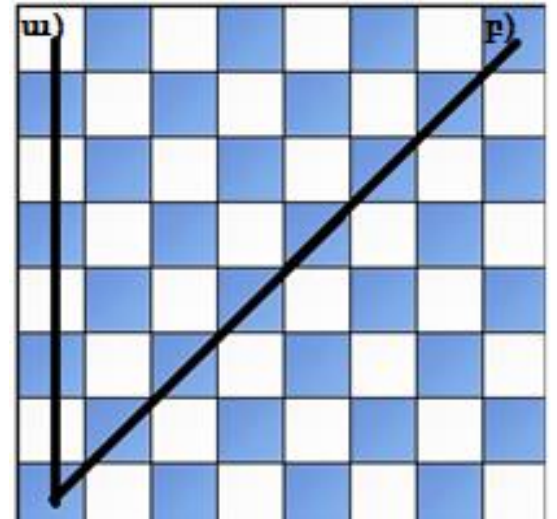
- ▶ The first one derives from the very **context of chess education**. The context-based and context-driven factors covered in the research are identical to the factors defined in TIMSS 2011. The set of dimensions of contextual factors are:
  - ❖ Socio-cultural context;
  - ❖ School context;
  - ❖ In-class/Contact hour context
  - ❖ Context of pupils' characteristics and attitudinal approach.

# Chess skills evaluation test

- ▶ The second measurability basis that the research comprises is the level of knowledge of chess. In the course of research a test was designed on the basis of the chess education school programme (targeting from the 2<sup>nd</sup> to the 4<sup>th</sup> grade schoolchildren). The test evaluates the level of knowledge of chess and cognitive skills.
- ▶ Every single task refers to every single content-based component and cognitive competences necessary for completing the assignment given.
- ▶ Every section of the test involves certain content-based item on chess scheduled for teaching/learning among the 2<sup>nd</sup>-4<sup>th</sup>-grade pupils.

# Structure of Test

- ▶ The domain of **knowledge** comprises the notions and processes that must be mastered by schoolchildren.
- ▶ The domain of application is aimed at evaluating the **skills** of applying knowledge or ideas for answering questions or solving problems .
- ▶ The domain of **reasoning** derives from the sphere of solving simple problems and involves unfamiliar situations, complete contexts and problems.



# Participants of the research

Pupils

- N=500

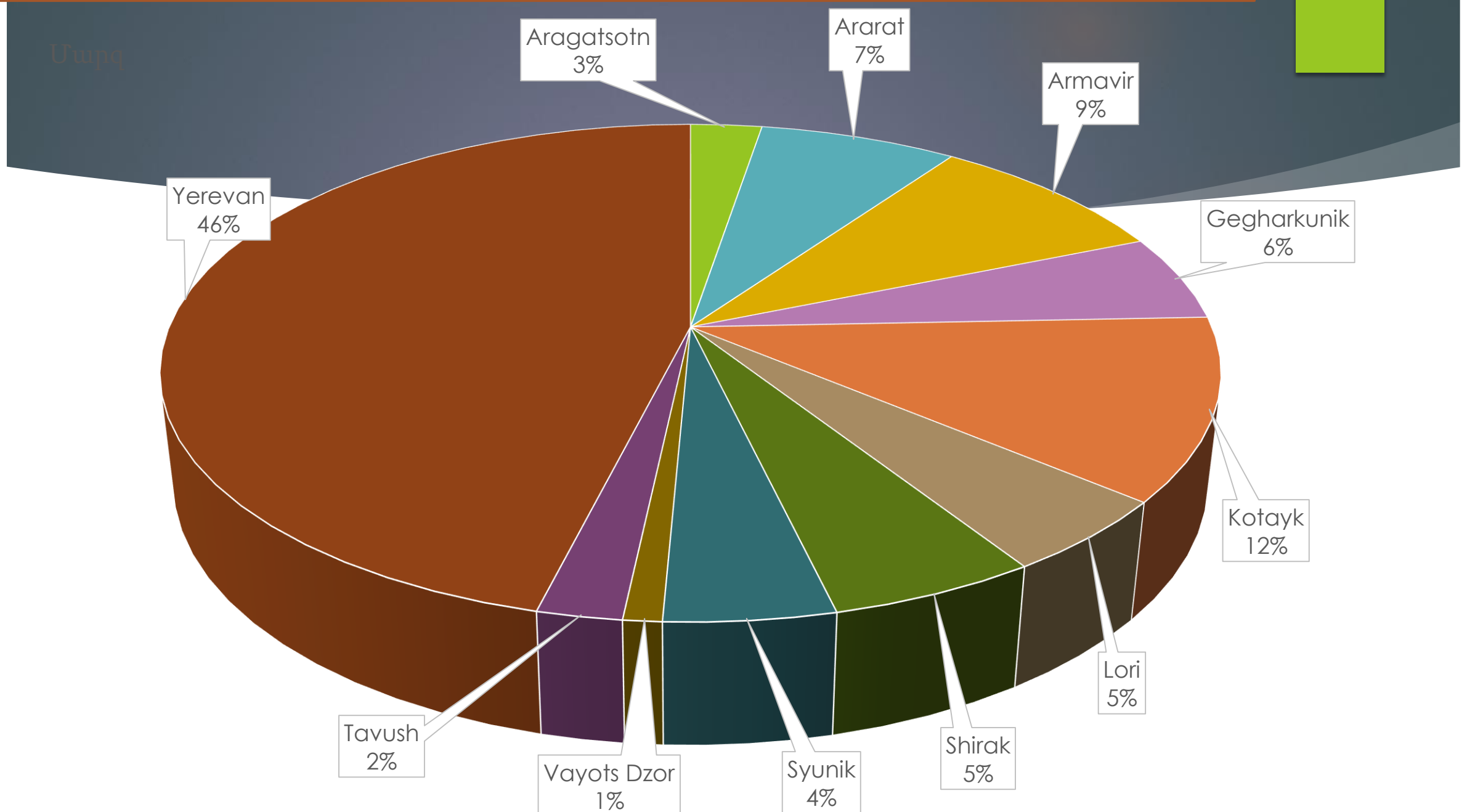
Teachers

- N=38

Parents

- N=500

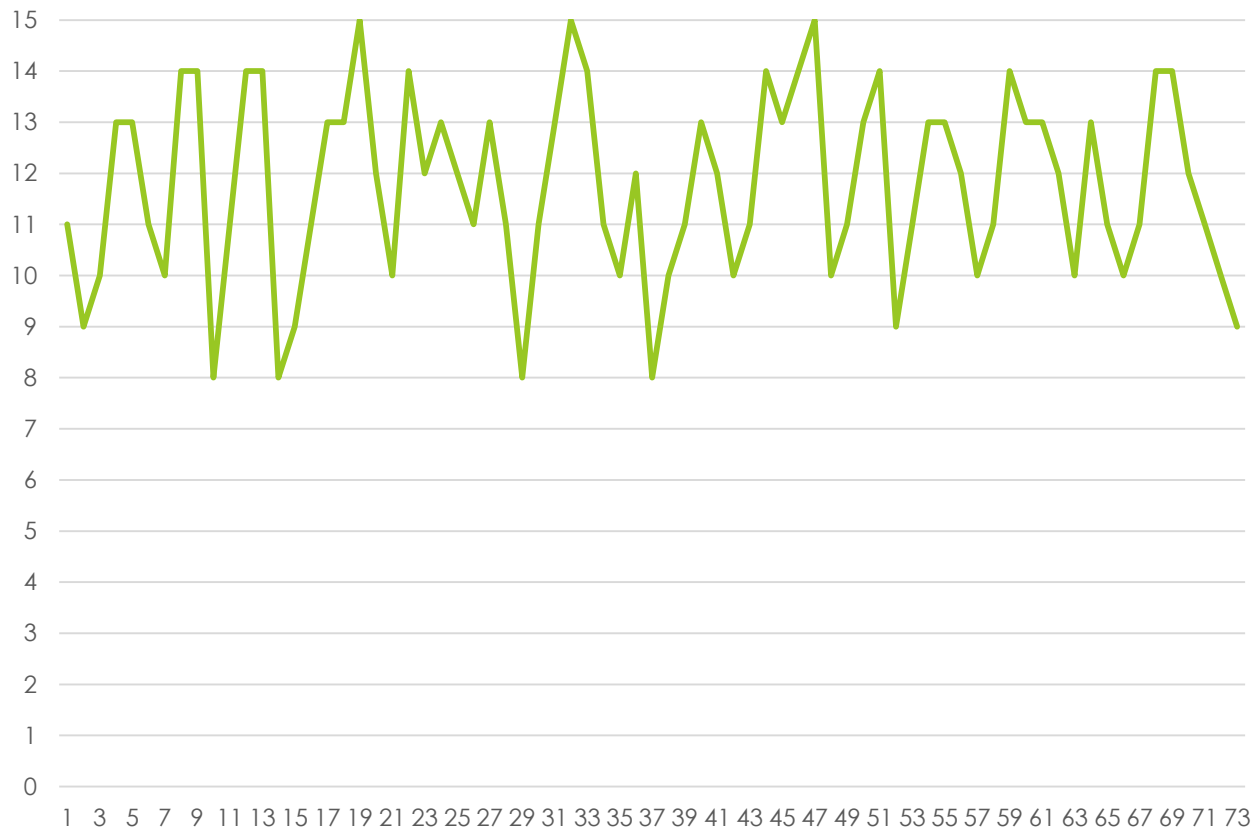
# Selection of the Target Group among the 5<sup>th</sup>-grade students from schools all over Armenia



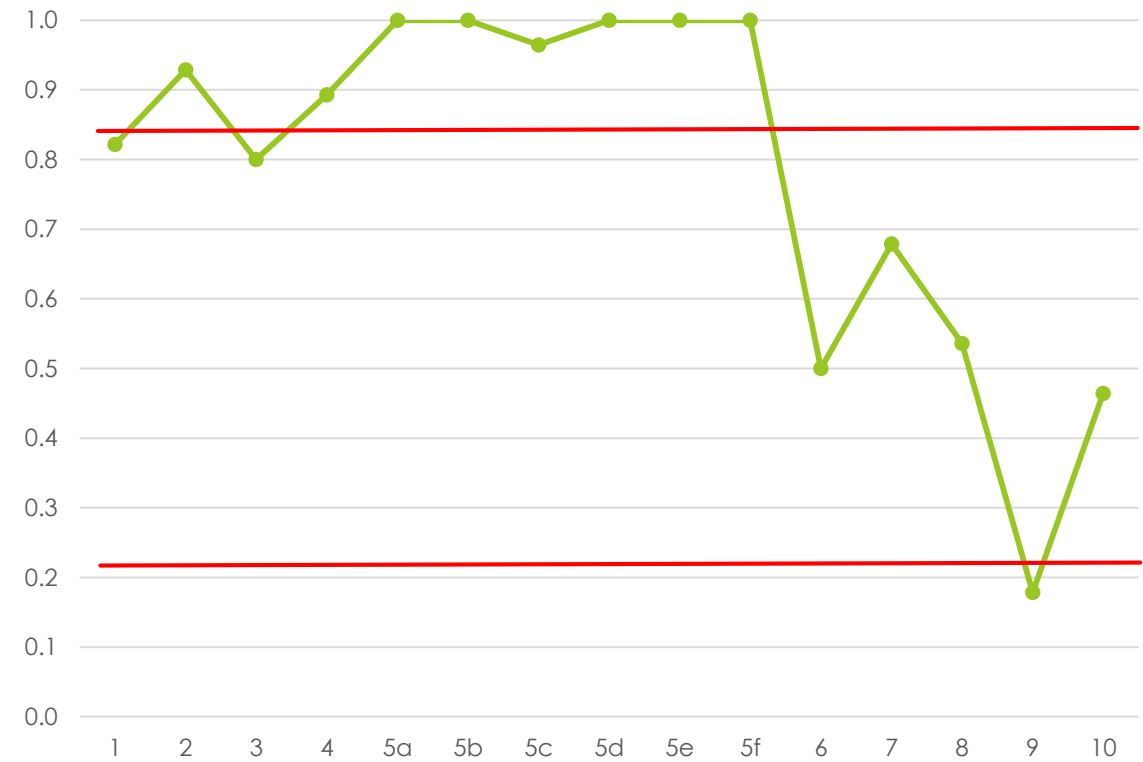
# Database

Data processing through *STATISTICA 12* software

Distribution of Scores (Points)



Degree of Complexity of Assignments





# Correlations



Achievement  
in chess - the  
skill to achieve  
checkmate in  
two moves

$R=0.923$

Teacher's  
pedagogical  
impact

$R=0.654$

Lesson  
preparation  
conditions



Teachers' context

$R = 0,728, p < 0,05$

Pupils' integration level during chess lessons

Chess skills

Chess test

**R=0,417**

Parents' satisfaction with chess lessons

**R=0,577**

Positive approach towards chess as an academic discipline and the family support on academic issues

$R = -0.372$

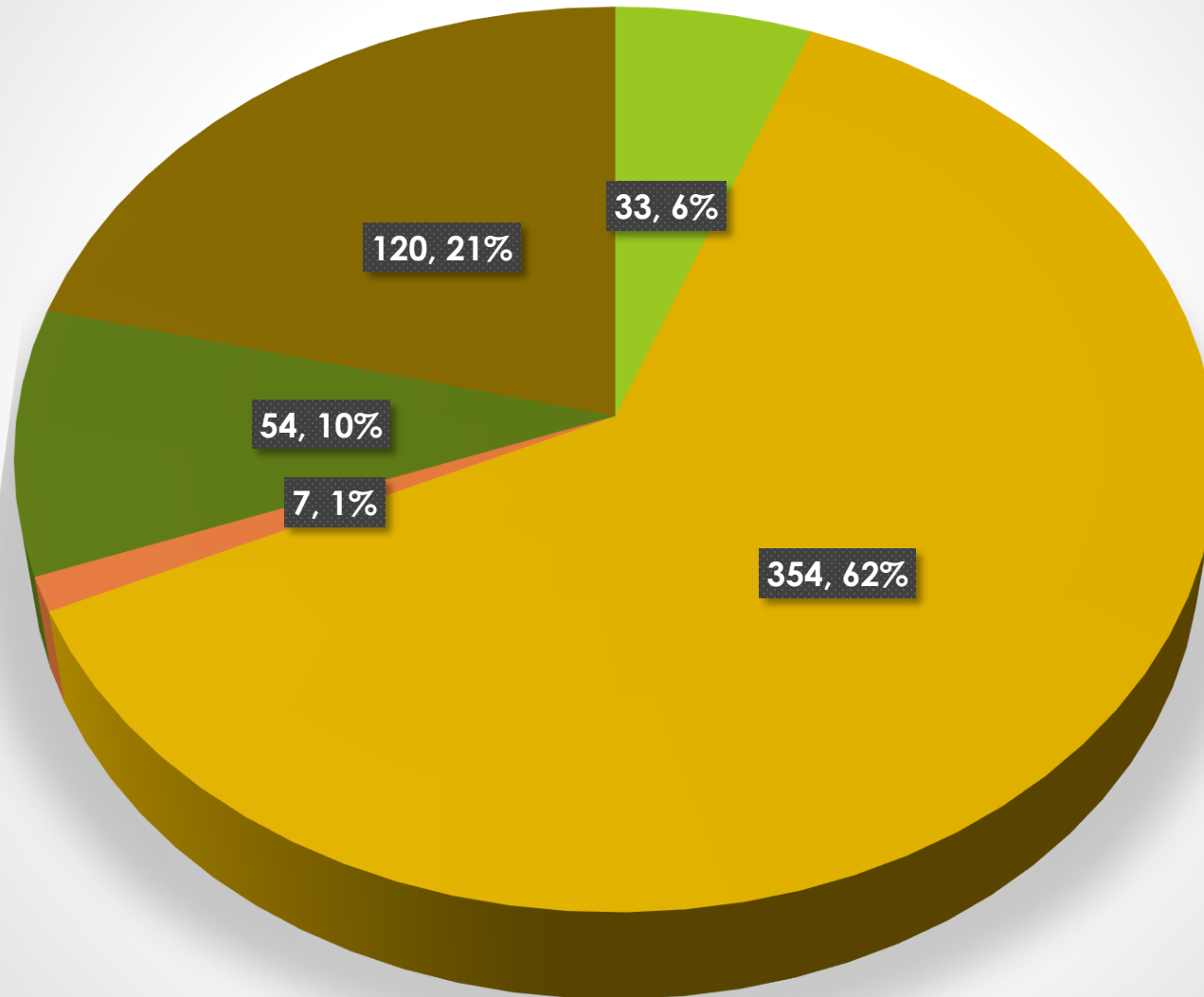
Parents'  
education  
level

The diagram consists of a central green rectangular area. On the left side of this area is a large red arrow pointing to the right. On the right side is a large blue arrow pointing to the left. The text 'Parents' education level' is centered within the red arrow, and 'Significance attributed to Scores' is centered within the blue arrow. The overall layout suggests a negative relationship between the two variables.

Significance  
attributed to  
Scores

# Impact of Chess on Schoolchildren

Which are the positive aspects of teaching chess at school?



1. Cognitive skills 62%
2. Self management skills 6%
3. Neutral responses 21%
4. Negative responses 1%
5. Other 10%

# Examples of Qualitative Indicators

Provides inner balance

Trains the memory

Develops child's memory

Helps to be attentive, think, analyze and develop the logic.

If chess had not been taught at school, we wouldn't attend lessons of chess and wouldn't be familiar with it.

I have noticed no positive aspects.

Normal

In order to play chess and know the moves

Boots attention and self-orientation

# Some conclusions

- ▶ Chess as an academic discipline is mostly referred to as a positive factor of pupils' personal development
- ▶ Parents educational level is one of the frequently expressed contextual factor
- ▶ Chess achievement evaluation test should be improved based on the results of current research: some curricular changes may necessarily be introduced.
- ▶ Parents adequate support and family conditions are also among the priorities.
- ▶ Teachers' pedagogical impact and attitudes towards education for all are also considerably demanded for effective chess education in primary schools.



**Thank you for your kind attention!!**