

Problem learning

What? How? Why?



Karibzhanova A.K. - NIS Pavlodar
Kalizhanova U.S. - NIS Ust-Kamenogorsk
Andakaeva A.N. - NIS Semey

The essence of any teaching method

Consists of three components:

Objective;

What to learn?

Instruments;

Why are we teaching?

How do we teach?

Result.

How can we help
them be effective?





**How was the
problem identified?**

Problem



Grade 10 students showed an unsatisfactory level of HOTS skills in the external exam.

Purpose of the study

Research on the development of HOTS skills of students in grade 10 physics using various methods



Research problem

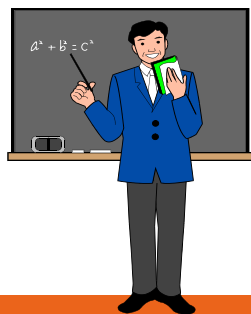
Research method

1. The concept

Is it included?

2. The model of the educational process

How ?

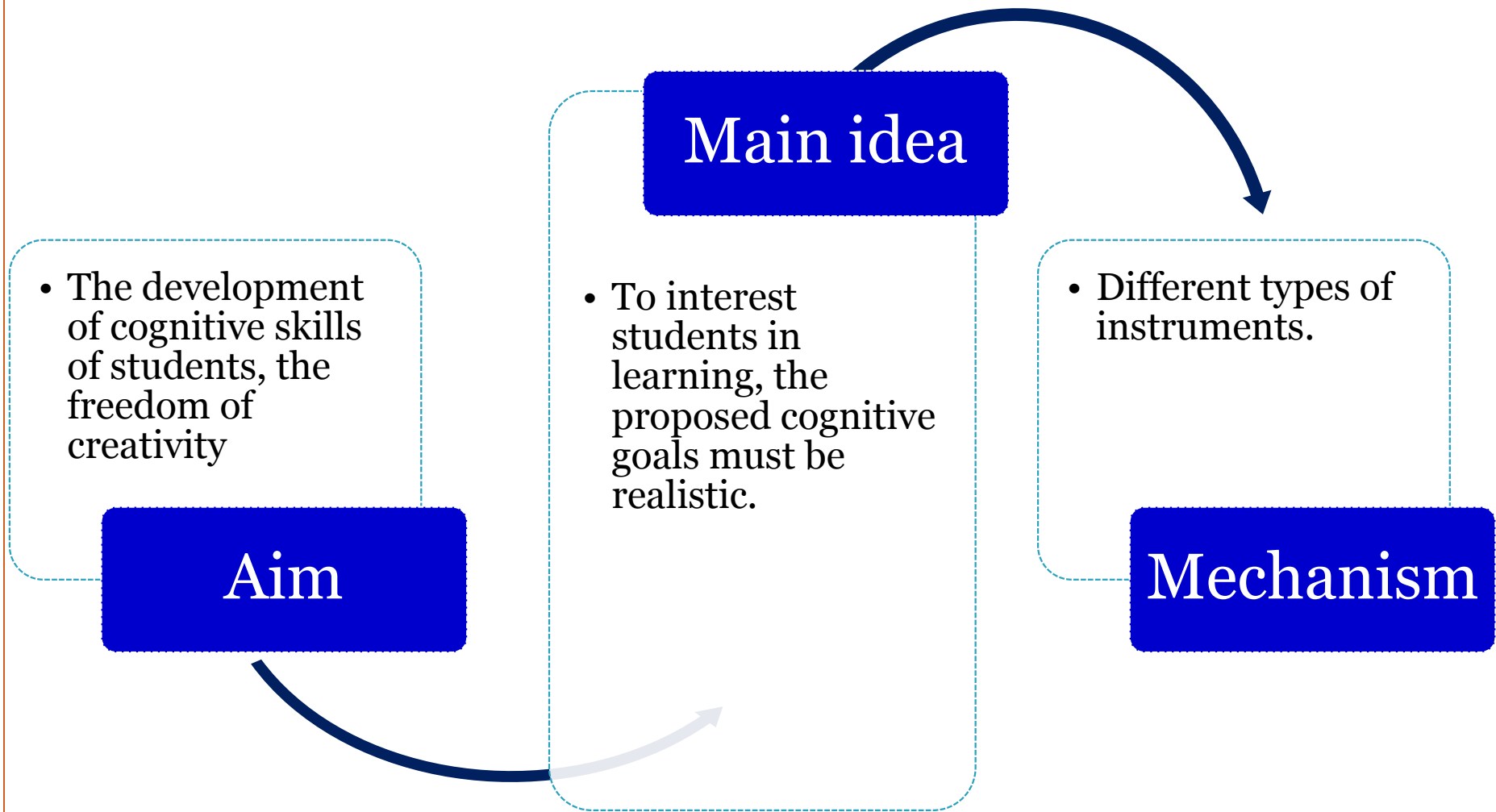


The method for solving

problems is the creation of a space for learning. The learning objectives in a specific lesson should be realistic and in line with students' cognitive skills.

The model of the educational process "LEARNING through RESEARCH"

Problem-based Learning Methodology



Research work NIS Ust-Kamenogorsk



Selected methods: yes, no; The “error” method was applied;

Grade Level: Understanding, High Level Skills;

Student activity: preparing research questions, teaching a short selection of resources for independent work.

Research work by NIS Pavlodar



Selected Methods: Problem-Based Learning

Grade level: High level of skills.

Student activity: dissertation, scientific exchange, problem lecture, problem solving.

Results

Quality of performance has increased:

81% → 100%

Grade	Quality of knowledge / percentage of completion
Experimental group	54 % increased by +17,7
Control group	42% increased by +8,3

Research work by NIS Semey



Selected Methods: Differential Method

Differentiation (in Latin) is the division of a system consisting of the same elements into the different qualitative parts.

Level of assessment: theoretical knowledge in the application of uncertainty.

Student activities: explanation, identification, description, analysis of information, logical communication, conclusions.

Results



Performance quality growth : 41% → 53%

СЫНЫП	1 – тоқсан/орташа балл (max50)	2 – тоқсан/орташа балл (max50)	3 – тоқсан/орташа балл (max50)
10 А	29,4	32,7	34,1
10 Е	32,6	35,2	35,9

Students became interested in the subject and their creative and research skills began to develop. For example, two students were nominated in the Nauryz meetings “Space and Energy” (March 17-19, 2019)

Comparison of Results



External exam results for 2017-2018: 70%;

External exam results for 2018-2019: 83%.

The performance growth is 13%.

2018-2019 academic year:

All components (max. 130): 83%

Component I (maximum 90): 75%

Component II (maximum 40): 83%

Thank you for your attention

We wish you success!

