

**FORMATION OF RESEARCH SKILLS IN PRIMARY SCHOOL STUDENTS  
BASED ON THE MATERIALS OF THE INTERNATIONAL ASSESSMENT  
PROGRAM**

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**Abstract:** The article analyzes the advantages of international evaluation programs, their impact on the educational system, and their role in the formation of research skills. The PISA program aims to assess students' literacy in reading, mathematics and science, and also examines their ability to apply knowledge in practice. The PIRLS program determines the level of reading and comprehension of the text of primary school students. The TIMSS program assesses the level of knowledge of students in mathematics and natural sciences.

**Keywords:** International Assessment Programs, Research Skills, PISA, PIRLS, TIMSS, Quality of Education, Student Literacy, Mathematics and Science, Reading and Comprehension, 21st Century Skills, Education system, Scientific research, Data analysis, Conclusions, Pedagogical evaluation technologies

One of the most important aspects of the educational process is the formation of research skills among elementary school students based on the materials of the international assessment program. Involvement of students in scientific research and development of their ability to think independently is necessary for effective education in the future. International assessment programs, such as PISA or TIMSS, provide for mutual evaluation of educational systems and improvement of pedagogical approaches.

Through these programs, students acquire the skills to solve problems, express their opinions, and approach them logically and structurally. In the formation of research skills, teachers should create opportunities for students to conduct scientific research by using innovative methods. In order to increase the interest of students and develop their interaction, it is necessary to organize projects, group work and experiments, as well as lessons connected

with practice. In this process, it is important to direct the student to research traditions, to use information, to encourage them to research in a safe and friendly environment.

One of the main tasks facing the educational system in the 21st century is the formation of research and 21st century skills in students. These skills include critical thinking, problem solving, creativity, collaboration and digital literacy. International assessment programs such as PISA, PIRLS and TIMSS play an important role in developing these skills.

International assessment programs are based on international criteria for assessing students' knowledge and skills. These programs help determine students' literacy in reading, math, and science. For example:

- PISA (Programme for International Student Assessment): evaluates the literacy of 15-year-old students in reading, mathematics and natural sciences.
- PIRLS (Progress in International Reading Literacy Study): assesses the reading literacy of 4th graders.
- TIMSS (Trends in International Mathematics and Science Study): assesses the knowledge of mathematics and natural sciences of 4th and 8th grade students.

It is desirable that most of the known monitoring of the quality of education carried out by centers for the assessment of the quality of education in our country use general conceptual approaches and individual elements of international research tools. After all, the participation of Uzbekistan in international comparative studies on the assessment of the quality of education is of great importance in the creation of a national system of assessment of the quality of education in our country.

With the decision of the Cabinet of Ministers of the Republic of Uzbekistan "On measures to organize international studies in the field of education quality assessment in the public education system" dated December 8, 2018 No. 997 in international studies on education quality assessment tasks of participation were defined[1].

There are several ways to develop research skills based on the materials of international assessment programs. Through these methods, we achieve sufficient information delivery to the students.

- Problem Solving Tasks: By giving these students tasks that focus on solving real-life problems, their critical thinking and creativity skills can be developed.

- Collaborative learning: Through group work and collaborative learning, students learn from each other and develop teamwork skills.

- Use of digital technologies: Digital literacy of students can be improved by incorporating digital technologies into the educational process.

The following approaches are effective for developing 21st century skills.

- Critical Thinking and Problem Solving: Provide students with a variety of situations and tasks to develop critical thinking and problem solving skills.

- Creativity and Innovation: Allowing students to think freely and try new ideas to develop creativity and innovation skills.

- Digital Literacy: Teaching students the skills to learn and use digital technologies effectively.

There are several effective ways to develop critical thinking and creativity in the 21st century. Here are some of them:

Asking and discussing questions: Students can develop critical thinking skills by asking questions and discussing them. The Socratic method is very effective in this regard.

Problem Solving: Students can develop their critical thinking and problem solving skills by giving them real life problem solving tasks.

Analysis and Evaluation: Students' critical thinking skills can be enhanced by assigning them tasks to analyze and evaluate a variety of sources.

By giving students creative tasks, their creativity skills can be developed. These assignments should be focused on generating new ideas and implementing them. Through group work and collaborative learning, students learn from each other and develop creative skills. By incorporating digital technologies into the educational process, students' creativity can be enhanced. Through interactive lessons, students can be encouraged to actively participate and develop their critical thinking and creativity skills. Through project-based learning, students can be encouraged to use problem-solving and creative approaches. These methods are effective in developing students' critical thinking and creativity skills in the 21st century.

There are several additional ways to develop critical thinking. Here are some of them:

Through the Socratic method, students can be asked questions and encouraged to think more deeply. This method helps students analyze their thinking process and justify their conclusions.

Students' critical thinking skills can be developed by encouraging them to participate in debates and discussions on a variety of topics. This method allows students to consider different points of view and defend their opinions.

Through the analysis and synthesis method, it is possible to improve students' critical thinking skills by tasking them with analyzing different sources and synthesizing new ideas from them. This method develops students' abilities to analyze data and draw new conclusions.

Through the role play method, students can be encouraged to take on different roles in different situations. This method helps students develop empathy and critical thinking skills.

In the problem-solving method, students can develop their critical thinking and problem-solving skills by giving them real-life problem-solving tasks. This method enhances students' creativity and critical thinking skills.

By working collaboratively with others, students learn from each other and develop critical thinking skills. This method also develops students' teamwork skills.

In conclusion, research and the formation of 21st century skills based on the materials of international evaluation programs remain one of the important tasks of the educational system. These programs help assess students' knowledge and skills against international benchmarks and help them develop the skills they need for future success.

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