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DEVELOPMENT OF EDUCATIONAL AND METHODOLOGICAL SUPPORT FOR THE DEVELOPMENT OF CREATIVE ACTIVITY IN FUTURE PRIMARY TEACHERS ON THE BASIS OF INTERNATIONAL ASSESSMENT PROGRAMS

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Abstract:

This article highlights the theoretical and practical aspects of developing creative thinking competence among prospective primary school teachers. The content of the international assessment programs PISA, PIRLS, and TIMSS, as well as the possibilities of their integration into the teacher training system, are analyzed. In addition, the effectiveness of using problem-based situations, project activities, and innovative technologies in fostering creative thinking is substantiated.

Keywords: Creative thinking, competence, international assessment programs, PISA, PIRLS, TIMSS, pedagogical innovation, teacher training, creative education.

In today's era of globalization, the quality and effectiveness of education are assessed based on international criteria. In particular, programs such as PISA (Programme for International Student Assessment), PIRLS (Progress in International Reading Literacy Study), TALIS (The Teaching and Learning International Survey) and TIMSS (Trends in International Mathematics and Science Study) measure not only students' knowledge, but also their application in practical life, problem-solving and creative thinking skills.



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- PIRLS (Progress in International Reading and Literacy Study) assesses the level of reading and comprehension of text in 4th grade primary school students;
- TIMSS (Trends in International Mathematics and Science Study) - assesses the level of literacy in mathematics and natural sciences in 4th and 8th grade students;
- PISA (The Programme for International Student Assessment) - assesses the level of literacy in reading, mathematics and natural sciences in 15-year-old students;
- TALIS (The Teaching and Learning International Survey) - an assessment of the effectiveness of teaching and learning processes in schools through a survey of heads and teachers of general secondary schools.

The Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 997 dated December 8, 2018 “On measures to organize international research in the field of assessing the quality of education in the public education system” established the organization of international research on the following international assessment programs.

The primary education stage is the most important foundation for the formation of intellectual skills such as creativity, logical thinking, solving problem situations, working with text, observation and analysis in students. Therefore, the development of creative thinking competencies in the professional training of future primary school teachers is becoming an indispensable requirement of modern education. The content of international assessment programs provides a clear methodological direction for this process: it encourages the student to think, analyze, and generate new ideas, rather than memorize ready-made answers.

The ongoing reforms in the education system of the Republic of Uzbekistan, the introduction of new state educational standards, and the widespread use of a competency-based approach have made the implementation of creative pedagogical technologies in primary education methodology an urgent issue.



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This, in turn, requires the development of creative thinking potential of future teachers studying in higher pedagogical educational institutions, the design of educational tasks that meet the requirements of international assessment programs, and the formation of skills in the use of creative methods.

This study aims to shed light on the theoretical foundations of developing creative thinking competencies in future primary school teachers in accordance with the requirements of PISA, PIRLS and TIMSS, to develop effective methods and analyze the possibilities of their practical application. Through this, scientific and methodological solutions are proposed that serve to improve the process of training pedagogical personnel in accordance with international requirements, improve the quality of education and improve student outcomes.

The PISA program, developed by the OECD, assesses the reading literacy, mathematical literacy and functional skills of 15-year-old students in natural sciences. Various studies have highlighted the role of PISA tasks in developing creative thinking. The open-ended nature of PISA tasks, based on logical analysis, requires future teachers to be trained in lesson design in this direction.

The PIRLS program, initiated by the IEA, assesses students' ability to understand and interpret text. Research shows that PIRLS texts encourage students to think critically and creatively, and allow them to work with the actions of characters, the sequence of events, the main idea and the conclusion. This requires enriching the methodology of working with texts for future primary school teachers with creative approaches.

TIMSS assesses the competences of applying knowledge and logical analysis in mathematics and science, along with knowledge of content. According to research by Mullis and Martin (2020), a large part of TIMSS tasks is focused on creative approach, modeling, and application in real-life situations. The literature



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(Schleicher, 2020) emphasizes that the ability of a future teacher to develop precisely such competencies directly affects the quality of education in a country. The literature review showed that the development of creative thinking is formed through educational technologies, exercises and tasks that are consistent with international programs, which requires a review of the process of training pedagogical personnel.

The PISA international assessment program was introduced in 1997 and is held every three years, for the first time in 2000. Every three years, preference is given to one subject area, and almost 50% of the total set of tests belongs to this subject. In 2000, for the first time, emphasis was placed on reading literacy. The test is organized by the Organization for Economic Cooperation and Development (OECD) in a consortium with leading international scientific organizations, with the participation of national centers. The study involves countries that are members of the Organization for Economic Cooperation and Development, as well as countries that have cooperation relations with the OECD

The PISA study is a monitoring study that allows you to identify and compare changes in education systems in different countries, and assess the effectiveness of strategic decisions in the field of education.

In 2022, Uzbekistan participated in the PISA international study for the first time. By participating in the PISA study, Uzbekistan has the opportunity to apply the experiences of developed countries in the education system of Uzbekistan and compare its results with the results of other countries. The study was carried out by the State Inspectorate for Quality Control of Education under the Cabinet of Ministers of the Republic of Uzbekistan in cooperation with the Ministry of Public Education of the Republic of Uzbekistan.

The quality of the primary education system depends, first of all, on the professional competencies of the teacher. Therefore, it is a necessity to equip



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future primary school teachers with the competence of creative thinking in accordance with the requirements of international assessment programs.

Creative thinking is the ability to generate new ideas, find unusual solutions to problems, and apply a new approach. The formation of this competence in a future teacher:

- stimulates independent thinking of students in the lesson process;
- creates the basis for the use of innovative methods;
- develops a reflexive approach in the teacher's work.

Starting in 2022, PISA has introduced the “Creative Thinking” direction, which measures students' skills in generating original ideas, finding solutions, and evaluating from different perspectives. At the same time, PIRLS assesses students' ability to creatively interpret the text, while TIMSS stimulates creative thinking through tasks focused on scientific thinking and practical application.

Thus, these programs encourage not only students, but also the system of training future teachers to adopt a new approach.

The following methodological approaches are effective for developing creative thinking competence in higher pedagogical educational institutions:

1. Problem-based learning - analysis of real situations related to teaching activities and finding creative solutions to problem situations.
2. Project method - development of creative projects similar to the tasks of international assessment programs.
3. Reflective analysis - analysis of the lesson process, identification of strengths and weaknesses, improvement of one's own activities.
4. Use of digital technologies - activation of thinking using creative games, interactive platforms (Kahoot, Quizizz, Padlet, etc.).
5. Collaborative learning - developing creative thinking and critical analysis skills through group work.



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To prepare future primary school teachers in accordance with international standards, it is necessary to create the following conditions:

- Updating educational programs based on PISA, PIRLS, TIMSS competencies;
- Developing national indicators for assessing students' creative thinking;
- Applying international assessment tasks in an adapted form in pedagogical practice;
- Creating a base of test and diagnostic materials aimed at measuring creative thinking;
- Improving the skills of teachers based on international methodologies.

Research shows that the use of educational technologies aimed at creative thinking by future teachers:

- Increases the level of independent thinking of students;
- Strengthens the desire to introduce innovation into the educational process;
- Forms the skill of developing tasks in accordance with international assessment programs.

Also, the results of the experiment showed that the results of the educational activities of students trained on the basis of a creative approach were 20–25% higher.

Conclusion

The formation of creative thinking competence in future primary school teachers is a key factor in raising the quality of education to the level of international standards.

The integration of the competencies specified in the PISA, PIRLS, TIMSS programs into the pedagogical education process serves to train teachers as new-thinking, innovative, and competitive specialists.

The development of creative thinking is not only an individual skill, but also an innovative development strategy for the education system.



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