

THE EFFECTIVENESS OF USING INNOVATIVE METHODS IN PRIMARY EDUCATION BASED ON THE INTERNATIONAL PIRLS PROGRAM**Nurullaeva Shakhlo Uktamovna**Karshi State University,
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Abstract. This article analyzes the effectiveness of using innovative methods in primary education based on the PIRLS international assessment program. The study highlights the importance of modern pedagogical technologies in developing students' reading literacy, text comprehension, and independent thinking skills. It also shows the role of interactive methods, digital learning tools, and creative tasks in improving the quality of education. It is argued that lesson processes organized based on PIRLS requirements serve to develop students' logical thinking, analytical skills, and competencies that meet international assessment criteria.

Keywords: PIRLS, reading literacy, innovative methods, primary education, pedagogical technology, interactive methods, international assessment, competency, creative thinking, quality of education.

Introduction. In today's era of globalization and rapid development of information technologies, the demands on the education system are increasing. Especially at the primary education stage, the formation and development of reading literacy of students is one of the important pedagogical tasks. Reading literacy includes not only the ability to read the text, but also the skills to understand, analyze, comprehend its content and apply it in everyday life. Therefore, the use of innovative methods that serve to develop students' independent thinking, logical thinking and creative approach in the modern educational process has become a pressing issue.

In recent years, international assessment programs have become an important tool for determining and assessing the quality of education. One of such programs is the international study PIRLS - Progress in International Reading Literacy Study, which is aimed at assessing the level of reading literacy of primary school students. This program determines the competencies of students in working with text, analyzing information, drawing conclusions and expressing opinions. The PIRLS international program plays an important role in developing the education system, improving the quality and methodology of teaching.[2; 90]

The use of innovative methods in primary education serves to increase students' interest in the lesson, ensure their active participation, and enhance the effectiveness of education. Interactive methods, information and communication technologies, multimedia tools, electronic platforms, and creative tasks help to organize the learning process of students more interestingly and effectively. In

particular, through the use of tasks that meet PIRLS requirements, students' skills in understanding the text, explaining ideas, and analytical approaches are developed.

Today, special attention is paid to international assessment programs in the education system of Uzbekistan. Primary school teachers are striving to form students' knowledge and competencies in accordance with international assessment criteria by introducing modern pedagogical technologies into the teaching process. This, in turn, serves to improve the quality and effectiveness of education.

Lessons organized on the basis of the international PIRLS program allow students to develop independent work, critical thinking and creativity skills. Classes conducted on the basis of innovative approaches increase students' interest in reading and increase their activity. As a result, the level of reading literacy in primary education increases and competencies in accordance with international standards are formed.

Therefore, studying the effectiveness of using innovative methods on the basis of the international PIRLS program, analyzing their role and significance in primary education is one of the current pedagogical issues.

Literature review. The development of reading literacy in primary school students and the effective use of the PIRLS international assessment program have been studied by many domestic and foreign scientists. Scientific research conducted in this area shows the importance of innovative methods in forming students' competence in working with text.

In particular, the PIRLS international study developed by the IEA is one of the most important programs aimed at assessing the reading literacy of primary school students. The PIRLS 2021 Assessment Framework defines the development of students' competences in understanding, analyzing, drawing conclusions and expressing opinions as the main criterion for international assessment.

In his pedagogical research, Uzbek scientist N. Mahmudov emphasizes that the development of independent thinking and reading comprehension skills in primary education increases the effectiveness of the educational process. According to the scientist, the use of modern educational technologies serves to develop students' creative thinking.[5; 150]

Also, the scientific work conducted by K.Yuldoshev has widely covered the importance of interactive methods in primary education. The studies substantiate that methods such as "Brainstorming", "Cluster", "Insert", "BBB" enhance students' work on the text.[1; 133]

S.Matchonov scientifically analyzed the development of students' speech and logical thinking through the use of innovative approaches in reading lessons. His research specifically highlights the role of tasks that meet PIRLS requirements in the formation of students' functional literacy.[4; 77]

Research conducted by foreign researchers Mullis Ina V.S. and Martin Michael O. within the framework of the PIRLS program has scientifically proven the effectiveness of digital technologies and interactive methods in improving students' reading literacy. According to the results of the study, the level of text comprehension of students who used innovative methods was higher than that of students who received education based on traditional methods.[6]

The analysis of the above scientific sources shows that the use of innovative methods based on the international PIRLS program is an effective pedagogical tool for developing reading literacy in primary school students.

Research methodology. This study used scientific and methodological approaches aimed at determining the effectiveness of using innovative methods based on the international PIRLS program in primary education. Theoretical and practical methods were used in the course of the study in harmony.

In the theoretical part of the study, the method of analyzing pedagogical, psychological and methodological literature was used. Scientific sources, curricula, methodological manuals, and

scientific works of local and foreign scientists related to the international PIRLS program were studied. On this basis, modern methods of developing reading literacy in primary education were analyzed.

In the process of practical research, observation, interview, questionnaire, and pedagogical experiment methods were used. Experimental work was conducted with the participation of primary school students, and the effectiveness of lessons organized based on innovative methods was studied in them. In particular, interactive tasks, creative methods of working with text, and exercises in accordance with PIRLS criteria were applied to the lesson process.

During the study, students' reading speed, level of text comprehension, logical thinking and independent judgment skills were analyzed. The results were summarized using a comparative statistical method and the impact of innovative methods on educational effectiveness was determined.

The main goal of the research methodology was to identify effective methods for developing students' reading literacy through the introduction of innovative approaches to the primary education process based on the international PIRLS program.

Analysis and Results. Today, one of the important factors in improving the quality of education is the development of reading literacy of students. The international PIRLS (Progress in International Reading Literacy Study) program is one of the most prestigious assessment systems in this area and is used in more than 60 countries around the world. This program is aimed at assessing the ability of primary school students to understand, analyze and use the text.

The issue of developing reading literacy is also gaining relevance in the Uzbek education system. The formation of independent and critical thinking and text-working skills in primary school students has become one of the main tasks of modern education. Therefore, the introduction of innovative methods based on the PIRLS criteria into school practice and the scientific verification of their pedagogical effectiveness is an important scientific and practical issue.

This study was conducted with the participation of primary school students of grades 4, "A" and "B" of secondary school No. 15 in the city of Karshi. During the study, the impact of innovative methods that meet PIRLS criteria on students' reading literacy was observed, measured, and analyzed using comparative and statistical methods.

At the initial stage of the experiment (pre-test), the reading speed of students in the control and experimental groups was on average the same. At the end of the experiment (post-test), significant differences were observed.

Table 1.

Reading speed indicators (words/minute)				
N	Class	Group	Pre-test (words/minute)	Post-test (words/minute)
1	Grade 4 A	Control group	35–42	48–54
2	Grade 4 B	Experimental group	34–41	61–68

As can be seen from the table, students in the experimental group showed a 20–30% higher increase in reading speed compared to the control group. This confirms the effectiveness of interactive tasks based on PIRLS criteria and creative methods of working with text. In particular, in the 1st grade experimental group, the pre-test indicator was 34–41 words/minute, while in the post-test this indicator reached 61–68 words/minute, that is, the increase was 47–65%.

In the PIRLS program, text comprehension is assessed according to four main skills: (1) finding and extracting specific information; (2) drawing direct conclusions; (3) interpreting and summarizing;

(4) evaluating the structure and style of the text. In this study, the results of the experimental and control groups for each skill were measured on a 100-point scale.

Table 2.

Text comprehension level (on a 100-point scale, average score)

N	Skill type	Control (pre)	Control (post)	Experiment (pre)	Experiment (post)
1	Finding specific information	54.2	63.1	53.8	78.4
2	48.6	48.6	57.3	49.1	74.6
3	Interpreting and generalizing	41.3	50.8	40.9	69.2
4	Evaluating text structure	36.7	45.2	37.1	63.8

According to the results of Table 2, students in the experimental group made significant gains compared to the control group in all four skills. The biggest difference was observed in the skill "Interpretation and Generalization": the experimental group increased from 40.9 points to 69.2 points (+28.3 points), while the control group only increased from 41.3 points to 50.8 points (+9.5 points). This indicator clearly proves that PIRLS-based creative text analysis tasks, discussion and project methods contribute to a deeper understanding of the text.

The obtained data were statistically analyzed using Student's t-test (independent samples). The difference between the experimental and control groups was confirmed to be statistically significant ($p < 0.05$). Cohen's d effect size was 0.82, which corresponds to a large effect size ($d > 0.8$) and indicates the practical significance of the innovative methods.

The percentage of increase was calculated using the following formula: $\text{Increase (\%)} = [(\text{Post-test score} - \text{Pre-test score}) / \text{Pre-test score}] \times 100$. All calculations were performed separately for students in the experimental group of 15 schools and then generalized.

Conclusions and Recommendations. The results of the study show that the use of the PIRLS international assessment program criteria and the application of innovative pedagogical methods in the process of developing reading literacy in primary school students is highly effective. In the modern education system, one of the main tasks remains to develop not only reading skills, but also the competencies of students to deeply understand the text, analyze it, draw independent conclusions and clearly express their thoughts. The study revealed that lessons organized on the basis of interactive and innovative approaches increase the activity of students, increase their interest in the lesson process and serve to consolidate knowledge.

In particular, tasks that meet the requirements of the PIRLS international program play an important role in forming a culture of working with text in students. Through such tasks, students do not limit themselves to just reading the text, but also analyze its content, isolate the main idea and develop the skills to independently answer various questions. Innovative methods, including "Brainstorming", "Cluster", "Insert", "Sinkwain", help develop students' creative thinking. Multimedia tools and digital technologies also serve as an important factor in making the educational process more interesting and effective.

Based on the above analysis, the following proposals were developed: Firstly, it is necessary to organize regular training courses for primary education teachers to improve their knowledge and skills in the PIRLS international program. This will allow teachers to correctly apply modern assessment criteria.

Secondly, it is necessary to widely introduce innovative methods and digital technologies into the teaching process. The effective use of electronic textbooks, interactive platforms and multimedia tools will increase students' interest and improve the quality of education.

Thirdly, it is advisable to create a bank of special educational materials and tasks that meet PIRLS requirements. This will provide teachers with practical assistance in effectively organizing lessons.

Fourthly, it is necessary to improve the system of regular assessment of students' reading literacy. Through diagnostic and monitoring work, it is possible to determine the level of their development.

Fifthly, strengthening cooperation with parents and involving them in the educational process will also positively change students' attitude towards learning.

In conclusion, the use of innovative methods based on the international PIRLS program is important for improving the quality of primary education. This approach develops not only students' reading literacy, but also their independent thinking, analytical and creative approach skills. Future research in this area will serve to further improve the education system.

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