

A MODEL OF PROBLEM-SOLVING SKILLS FORMATION IN PRIMARY SCHOOL STUDENTS BASED ON INTERNATIONAL ASSESSMENT PROGRAMS

Abduganiyeva Shodmonay Bakhodirjon kizi

Teacher of the University of Science and Technology

Tashkent city

<https://doi.org/10.5281/zenodo.10044891>

Abstract. *This article creates a model for developing problem-solving skills in primary school students based on international assessment programs, examines the stages of this process, including the purpose, content, methods, forms and means of teaching based on the TIMSS international assessment program, as well as lesson plans (development).*

Keywords: *international assessment programs, forms and tools, content component, target component, outcome assessment, fundamental, cognitive stage, motivational stage, creative, non-standard situation.*

A model of problem-solving skills formation in primary school students based on international assessment programs, a structure including the purpose, content, methods, forms and tools of teaching based on the TIMSS international assessment program, as well as a lesson project (development).

The model itself is "an artificially created object in the form of a scheme, physical drawing, symbolic form or formula specific to the object (or view) under investigation, which represents the elements between this object in a simpler form of structure, properties, interdependence and relationship. does and reflects" [3].

A model of practical implementation of the theoretical results obtained during the research was developed. Based on international assessment programs, the model of problem-solving skills formation in elementary school students consists of "target", "meaningful component", "organizational" and "resultative-evaluation" components. It includes elements such as goals, approaches, principles, and stages. Also, the model reflects the level of results to be achieved.

The model mainly serves to reveal the pedagogical process and result.

Target component. The structural structure of the model elements is the main component of the studied process, the goal of which is the formation of problem-solving skills in primary school students based on international assessment programs. The implementation of this goal certainly has its own regulatory and legal basis, and the necessary tasks are carried out within the framework of the tasks defined in the regulatory and legal documents. In the target component, based on the regulatory and legal frameworks defined as social necessity, it is directed to the formation of problem-solving skills in primary school students on the basis of international assessment programs.

The content component includes the stages of forming problem-solving skills in primary school students based on international assessment programs.

Stages of formation of problem-solving skills in primary school students based on international evaluation programs

	Stage	Content	Actions to be taken
1	Fundamental	Studying and analyzing the literature base on the international study of TIMSS, and decisions and orders on international assessment programs	Providing literature on TIMSS international assessment program, TIMSS encyclopedia, TIMSS questionnaires, TIMSS trends, Decrees on International Studies, National Curriculum and International Curriculum Differences analysis to improve educational effectiveness.
2	Motivational	Development of interest and needs for problem solving in elementary school students based on international assessment programs	Providing the educational process with the necessary information related to the TIMSS international assessment program, developing the interest and needs of students on the basis of explaining the importance of mastering educational information in educational and life activities, evaluating the content of information provided as educational materials based on the analysis of the results of international research in the field of educational quality improvement.
3	Cognitive	Improving skills and competencies related to the content and cognitive domains of TIMSS tasks	Improving TIMSS task types, test formats, TIMSS content areas, and skills and competencies for solving tasks related to cognitive areas using multimedia e-learning resources related to international assessment programs
4	Creative	Determining the method of organizing students' creative approach while working with TIMSS assignments	In order to be able to apply the acquired knowledge in standard and non-standard situations in the field of mathematics in elementary school, to be able to evaluate situations, to advance the necessary hypotheses, to improve the factors that create a creative approach in the process of working with TIMSS tasks of students
5	Procedural	Students' ability to consciously apply knowledge acquired during life and educational activities	To ensure the activity of teachers in the process of applying the knowledge acquired during life and educational activities according to the requirements of the information society, to be able to evaluate their own activities and teach them to master the essence of TIMSS assignments.

Fundamental stage. At this stage, study the decisions and orders related to international assessment programs, familiarize yourself with the content of the decision "On measures to organize international research in the field of education quality assessment in the public education system", TIMSS encyclopedia, analysis of TIMSS international research results and TIMSS questionnaires. it is necessary to form and develop concepts related to.

Motivational stage. The purpose of the motivational stage in the development of students' skills in the methodology of solving TIMSS tasks is to develop interest and desire to solve TIMSS tests during educational activities. The realization of this goal requires solving the following tasks:

- to show the practical relevance of TIMSS tasks as educational materials for students based on their understanding of the importance of mastering them in educational activities and life activities.

- improvement of the content of TIMSS tasks presented as educational materials based on the results of international studies in the field of educational quality assessment and development of methodological support.

At this stage, in order for students to understand the content and importance of TIMSS tasks during life activities, tasks were developed based on the effectiveness of the information given on the basis of images and the importance of visuality in the selection or preparation of educational material.

At the motivational stage, students participate in the learning activity based on their understanding and adapt to the new conditions of education based on the approach of international studies.

Cognitive. At this stage, it is important to ensure that the education of students based on international research is consistent with the level of constant modern requirements. In order for students to master the methodology of teaching the cognitive areas of the TIMSS international assessment program, i.e., knowledge, application and reasoning skills, in mathematics classes, they need to understand the content and essence of theoretical knowledge and necessary basic concepts, international monitoring of the quality of school mathematics in the process of primary education (TIMSS) to get acquainted with the content of assignments and to teach them to work on assignments, to study the structures of assignments of the TIMSS international assessment program and to ensure the successful adaptation of students in the information society.

Creative stage. Being able to apply the knowledge acquired in the lessons in the relevant fields of science, solving problems, evaluating situations and putting forward the necessary hypotheses requires creativity from the learners. Factors that create a creative approach of students in the process of teaching them to complete tasks of the TIMSS international assessment program[2]:

1. Individual characteristics of a person: the ability to assess unusual (non-standard) and uncertain situations, to be able to adapt and to choose the best options; ability to find unusual or unusual solutions to problems; diversity of opinions expressed; being able to "break out of his shell" frequently or occasionally.

2. Creativity environment: the creativity environment and various factors influencing it, the interactive nature of the TIMSS tasks and the reflective aspects of the tasks require students to be creative

Content stage. The main goal of the educational process based on preparation for international studies is to prepare students to be able to consciously apply the cognitive areas they

have mastered in accordance with the requirements of the international assessment program in their life activities.[1] This stage reflects the stable results achieved based on the stages of improving the methodological preparation of primary school students for teaching based on the TIMSS international assessment program. Provides information that characterizes the implementation of the specified tasks of the improvement stages.

REFERENCES

1. Pirimov G.A. World-wide results of TIMSS international studies on the assessment of the quality of education and foreign experiences. A collection of articles of the international scientific and practical conference on the topic "The role of international research in education in the development of New Uzbekistan" - Tashkent: National Center for the Implementation of International Research on the Evaluation of the Quality of Education, 2022. - 274 p.
2. Kayumova Sh. Improving the methodological preparation of future primary school teachers for teaching based on the timss international evaluation program. Dissertation written for the degree of Doctor of Philosophy (PhD) in Pedagogical Sciences. Gulistan - 2022.
3. Dakhin A.N. Pedagogical modeling and competence of students in education // Shkolnye tekhnologii. - Moscow, 2007. - No. 6. - S. 64-73.