



## ANALYSIS OF SCIENTIFIC-THEORETICAL APPROACHES TO THE EVALUATION OF EDUCATIONAL TASKS FOR THE DEVELOPMENT OF TEACHER KNOWLEDGE IN SPECIFIC SUBJECTS

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### ABSTRACT

In this article, a lot of work has been done on a national scale in the field of creating a new generation of textbooks for general secondary schools and educational-methodical complexes corresponding to it. Today, based on the requirements of the competency approach, it is required that the textbooks be compatible with the improved educational programs and express the democratic models that update the educational content and are directed to the student's personality. Because, in the new models of the content of education, the social order set by the state and society for the educational process will be expressed. In the actual educational context of general secondary education, students' knowledge, skills, qualifications, competencies checked and evaluated mainly with the help of test tasks.

### KEYWORDS

Management tools, Control system, Ruler, Traffic light, Ladder, Palm, SES (State Educational Standards), Hand signals, Writing, QR-code, Predictive assessment, education system.

### INTRODUCTION

The updated State educational standard contains not only science requirements for mastering the basic educational program, but also requirements for basic competencies. Currently, there is no unified approach to the problem of formation and evaluation of the

results of competence formation, and experimental studies, diagnostic work have shown a low level of science among students of 5-9 grades, which means that the formation of such skills in schoolchildren means the need for systematic work.



The state educational standard has specific requirements for the evaluation system of achieving the planned results. According to them, an evaluation system needed:

1. Determining the goals of assessment activities:
  - a) Focus on achieving results
    - Spiritual and moral development and upbringing (personal results),
    - Formation of universal educational actions (results of meta-science),
    - Mastering the content of academic subjects (science results);
  - b) To provide a comprehensive approach to the evaluation of all the listed educational results (subject, meta-subject and personal);
  - c) To ensure the possibility of regulating the education system based on the information obtained on the achievement of the planned results; in other words, the opportunity to take pedagogical measures to improve and improve educational processes in each class, school, regional and state education systems.
2. Establishing criteria, procedures, evaluation tools and forms of presentation of its results
3. Setting the terms and limits of the evaluation system.

The evaluation system allows you to determine how successfully a specific SES (State Educational Standards) has formed.

At the same time, the student accepts even the most unsatisfactory results of the intermediate work only as recommendations for improving their results. Criteria evaluation technology is a very time-consuming procedure for professors, because currently there are no tasks for evaluating met subject results with

established criteria and indicators, and a uniform approach to the evaluation of achievements is need for all subjects, because SES formation takes place in every lesson.

Assessment of the achievement of objective results can be carrying out during various procedures. The main procedure for the final evaluation of the achievement of the results of the other subject is the defense of the final individual project.

An additional source of information for reaching individual meta-theme results can be the results of all-disciplinary investigations (usually thematic).

Exact sciences play a special role among all school subjects, because its content implies the existence of situations in which the student makes logical judgments, puts forward hypotheses, uses and changes signs and symbols.

The main object of evaluating the results of science is the formation of regulatory, communicative and cognitive abilities of students.

Control system management methods: control, design and testing.

Management system management forms: individual, group, frontal forms; oral and written request; personalized and non-personalized.

Management tools: SES tasks, observation map, test, monitoring map, self-assessment sheet or diary.

The degree of SES formation can be qualitatively assessed based on the following results:

- Special diagnostic work;
- Practice-oriented tasks of various academic subjects;
- Complex tasks based on meta-science.

At the stage of lesson planning, it is important to carefully understand the tasks proposed by the



authors of textbooks that have passed the examination for compliance with the State Education Standard, because the consistent performance of these tasks leads to the formation of certain skills according to the idea of the compilers. For example, as the results of the planned meta-topic in the topic “Natural numbers” (grade 5), you can see the following: analyze and understand the task text, get the necessary information from the text, create a logical chain, evaluate the result etc. These results based not only on the authors of existing textbooks, but also on the curriculum of 5-6th grade science.

The ability to independently evaluate the results of one's work, to determine the criteria for the performance of a specific task, and to determine the factors that influenced the achievement of the result is an important element of the student's self-evaluation.

You can use the following assessment methods to develop such skills in the lesson:

**Ruler:** students draw a scale on the edges and mark the level where they are with a cross, if the teacher agrees, he will circle the result, if not, and he will make it higher or lower;

**Traffic light:** assess work using a signal card when checking homework or during current work. Green - everything is fine, clear, red - help needed, there are problems.

**Ladder:** students indicate how they learned the lesson material on the ladder. The bottom step is difficult, I don't understand, the middle step needs help, everything is not clear and the top is fine, I can handle it myself.

**Palm:** the guys turn their palms and at the end of the lesson they write what they use for themselves on their little finger, nameless – today's sleeve is an interesting lesson - in the middle – it's hard for me, on the index

finger - what did you wonder and about what. Big - a wish for myself.

**Hand signals:** thumbs - everything is clear, I can explain to others, finger to the side, I don't understand everything, I need help, and open palm - I still don't understand, I'm not sure.

**Writing:** after completing independent work, the student can evaluate himself and evaluate himself, after which the teacher already evaluates him.

**QR code:** after the end of the lesson, the guys always follow the link hanging on the stand in the office and tell them what they didn't succeed, what topic they didn't understand, and if everything went well, what else you want to learn in the next lesson.

**Predictive assessment:** fill in the form during the lesson and if everything is clear, put ""+» "- I don't know "?" I doubt it. For example, when studying a topic, you can give a self-assessment form, in which students independently evaluate their knowledge in each section in order to master a new topic and a similar topic in a consolidation lesson. At the same time, the teacher keeps his statement, motivates the students with oral assessment and focuses on his achievements.

You can use the "task line" technique to develop self-control and the ability to plan your activities. For example, the student given several tasks that he must choose for himself and solve several of them, but not less than a predetermined number. A large array can be installed at the same time, for example, out of 10-12 tasks within the studied topic, the student must solve 4 of them, and the rest at his own discretion, in this case it is an incentive can be the student solves the tasks, perhaps such a task will be found in the test paper. In this way, the student learns to organize his activities, because usually such tasks are not given for the next lesson, but for "some time".



At almost all stages of the lesson, it is important to focus not only on self-examination, but also on peer review and evaluation of one's own work. In this way: the skills of evaluating and monitoring your actions and making appropriate adjustments if necessary are developed.

You can use specially designed diagnostic tasks that contribute to the formation of objective results, for example: "trap" tasks, when an incorrect solution method is deliberately offered; comparing this task with another is an indicative basis for the solution.

Normative educational activities provide an opportunity to manage knowledge and educational activities by setting goals, planning, monitoring, correcting one's actions, and evaluating learning success.

Cognitive educational activities include research, search, selection and compilation of necessary information, modeling of the studied content. You can choose the following types of tasks: "finding differences", "redundant search", "labyrinths", "chains", drawing support schemes, working with various tables, constructing and recognizing diagrams. "Guess the phrase".

Purpose: to develop the ability to draw up a plan of action, to consistently perform concrete science operations.

Assignment form: individual work

Description of the task: it performed in the form of a game. The class divided into two groups. Tasks written on the board. Students (one from each group) leave in turn. The result of the solution corresponds to the letter. The letters are on a separate table. The reader finds the received letter, on the back of which is written its serial number in a phrase. This phrase written on the board.

Personal learning activities make learning meaningful by connecting it to real life goals and situations. Personal actions aimed at understanding, researching and accepting life values, allowing you to orient yourself to moral standards and rules, develop your life position in relation to the world.

You can offer the following tasks: participation in projects; completing the lesson; creative tasks with a practical guide; self-evaluation of events.

"Solving problems with complex interest" (seminar lesson)

Purpose: to protect your mini-projects "calculating interest in life situations". Students will listen, discuss, evaluate and choose the best work for the school conference. Demonstrate the ability to present specific content and communicate it in written and oral form, using the tools of speech adequately to argue and argue a position.

It is fashionable to use the scale of self-esteem and the level of claims of T. Dembo (modified by A. M. Parishioners); "methodology of stimulating educational activity. You can use the Phillips school Anxiety test, the "coding" technique to make a diagnosis.

The ability to create educational models in accordance with the state educational standard is one of the results of studying meta-science, because with their help, the text given orally can be translated into the language of concrete sciences, which helps to see the structure of relations of concrete sciences hidden in the text. . The use of the same symbolic tools in the construction of the model helps to form a common method of solving different types of problems, because the model helps to identify the components of the task and helps to find solutions. Forming the ability to work with information is also one of the results of studying meta-science. A method such as "Questions





on B. Bloom" successfully used in exact sciences, which allows you to determine the amount of knowledge you have on the subject, as well as to assess the depth of their assimilation. This method consists in the fact that students independently formulate questions and answers about the topic they have covered, and then they can test their knowledge in pairs or in some other way.

At the stage of strengthening knowledge, you can also use other effective methods of working with information, for example, "fish bone", "mental maps", "Cluster" which help to develop critical thinking as an element of functional literacy. A prerequisite for evaluating the criteria are "social contract" that is understandable to all participants. The rubric should contain a detailed description of the student's achievement levels and the corresponding number of points. Such rubrics created for each type of evaluation work, and the content of the criterion selected depending on the content of the subject. It is important that the rubric describes what the student did, not the student. The presence of a rubric for the teacher simplifies the examination of the work and makes it more objective; the assessment will be reasonable and therefore understandable for the student; methods of adjusting knowledge, skills and abilities will be clear. The student fills out the test form three times. Test sheets in the lesson at the beginning of learning the subject. As they study the topic, they complete the first column of the sheet, demonstrating their initial familiarity with the concept. In the lesson of repeating and summarizing the learned material, students fill in the second column of the sheet using the following symbols: "+" - if the student believes in his knowledge on this issue; «+» - if he knows, but does not eat very clearly; " - " - if he does not know this material at all. The student then takes this sheet home and uses it to prepare for the test at home. The last

third column filled in the lesson one lesson before the test. The teacher because of independent and imaginative works evaluates the «Being able» section.

In particular, in Finnish schools, student assessment is included in the educational process and used throughout the school year to improve the performance of teachers and students. Thirdly, determining the academic performance of students in the country considered the responsibility of the school, not external evaluators. In general, evaluation is a mechanism, criteria and procedures for determining the level of acquisition of qualification requirements specified in the State Education Standards and Curriculum during the education process of students in general secondary education. Pedagogical control performs several tasks and functions in the educational process. According to scientific literature, pedagogical control has the following tasks:

Based on these, the main tasks of the evaluation system in the educational process can be specified as follows:

- Determining the mastery level;
- Stimulate interest in learning;
- Show the error in the student's answer;
- Ensuring strengthening of knowledge, skills and qualifications;
- To ensure that the student always comes to class ready;
- Mutual comparison of the student's knowledge, skills and qualifications;
- Formation of qualities such as academic skills in the student, working with information, moral maturity, literacy in specific subjects; creating an atmosphere of mutual friendly competition among students during the educational process;



Identify possible gaps in knowledge, skills and competence formation and gradually eliminate them;

Constantly analyze the development of knowledge, skills and qualifications;

To achieve the creation of a favorable pedagogical and psychological environment for the student to gain full knowledge;

Achieving objectivity in the assessment of the student's knowledge, skills and qualifications;

Achieve the assessment of the student's significant, practical knowledge, skills and competence;

Achieve the use of a convenient method in student assessment;

Sorting the student according to the level of knowledge, skills and qualifications;

Preparing the student for the next stage of education;

Monitoring the fulfillment of qualification requirements set by the state educational standard.

The evaluation process carried out with a specific goal in mind. In accordance with this goal, the number and methodology of the domain, sub-domain, constructs and tasks to be checked and the evaluation criteria are determined in the evaluation process. Therefore, first, it is necessary to determine the purpose of the assessment and design the assessment accordingly.

After all, as President Shavkat Mirziyoyev noted, "It is necessary to fundamentally revise the curriculum and programs, involving experienced pedagogues and specialists. We have complex tasks ahead of us in terms of education of young people, training and retraining of personnel in psychology and various other fields.

Because of the rapid development of the society, the information environment and the situation in the labor market, the reproductive education system of specific

sciences remains ineffective. Therefore, in order to prepare students for the future life, it is necessary to develop new approaches to teaching specific subjects.

TIMSS - (Trends in International Mathematics and Science Study) is an international monitoring of the quality of science and mathematics education at school, organized by the International Association for the Evaluation of Educational Achievements (IEA). This program helps to compare the level and quality of the knowledge acquired by students of the 4th grade in specific sciences and natural sciences, and to identify differences in the national education system. The uniqueness of this program is that it related to the educational content, educational process, facilities of the educational institution, the level of knowledge of the teachers, and the family environment of the students. The indicated factors serve as a basis for showing the mastery of specific subjects.

In scientific literature, evaluation (pedagogical control) divided into types such as final state certification, internal control, collective control and external control, depending on who conducts it. At the same time, assessment of students' mastery in each subject divided into current, intermediate and final control types according to the scope of topics. In the world experience, the theory of evaluation separated as an independent science; several types of evaluation used in the educational process. In particular, formative, diagnostic, dynamic, synoptic, complex, norm-based, criteria-based, and summative types of assessment distinguished in the studies of the pedagogical dimension.

Summative assessment is the process of checking and evaluating the skills and competencies acquired by students in a specific subject or subjects during the academic term, or during a specific academic year, or during the entire general secondary education. This



includes quarterly assessment tests, annual performance tests, final state certification tests, and higher education entrance exams. The purpose of conducting such tests is to test, summarize and sort the knowledge, skills, and abilities of students, and to serve as a selection for moving to the next level of education. Therefore, the impact of such tests on education is significant.

It is necessary to enrich the textbooks even more with pictures, schemes, diagrams and graphs that make it easier for students to master the learning tasks. This leads to an increase in the size of the textbook and the amount spent on it. In this case, it is necessary to publish textbooks in two or to create alternative textbooks. Because the more diverse the educational materials in the textbooks are and the more systematically they are used in the educational process, the more students' interest in science increases. It will also be convenient for evaluation.

In recent years, great work has been done on a national scale in the field of creating a new generation of textbooks for general secondary schools and educational-methodical complexes corresponding to it. Today, based on the requirements of the competency approach, it is required that the textbooks be compatible with the improved educational programs and express the democratic models that update the educational content and are directed to the student's personality. Because, in the new models of the content of education, the social order set by the state and society for the educational process will be expressed.

Over the years, this has led to the accumulation of problems regarding the examination of the skills and

qualifications of the graduating classes. Along with the renewal of the state management system, reforms are underway in all areas.

## CONCLUSION

In conclusion, it can be said that the application of the experience of foreign countries, especially Finland, in the development and assessment of mathematical literacy give effective results. The experience, it is possible to open up the individual possibilities of students, and to evaluate them objectively and fairly.

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