

METHODOLOGY FOR APPLYING MODERN TECHNOLOGIES FOR ASSESSING THE QUALITY OF EDUCATION IN MATH

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Abstract

This article considered about testing, a rating system and educational portfolios, which can be used as innovative tools in assessing the quality of educational results and it is discussed about their pluses and drawbacks.

Keywords: system, knowledge, process, quality, education, learners, teacher, result, test, skills, competencies.

Introduction

The traditional system of assessing students' knowledge, which was formed during the Soviet school period and has extensive experience in monitoring learning outcomes, due to its organizational and technological characteristics, cannot meet these needs of society. Its results cannot be used to obtain objective quantitative and qualitative indicators that allow you to manage the quality of education.

Every teacher should have their own system of assessment, it should include a variety of tools and methods of work so that students understand that the teacher is constantly monitoring their progress, the level and quality of knowledge acquisition.

The main control functions include:

- 1) verification – consists in identifying the degree to which the child has mastered the material, skills and abilities, and their compliance with the educational standard;
- 2) educational – involves generalization, systematization, application in a new situation;
- 3) developing – implies the formation of creative abilities, development of speech, memory, attention, imagination, will, thinking;
- 4) social – designed to orient the child in the learning process to achieve a certain goal;
- 5) axiological – serves to foster responsibility, the formation of conscious choice;
- 6) diagnostic – provides information about gaps in the student's knowledge and the causes that give rise to them;
- 7) predictive – helps to create a model for further development.

Today, testing, a rating system for assessing the quality of knowledge, and educational portfolios are used as innovative tools in assessing the quality of educational results. These assessment systems are developed at the technology level.

It is now known that tests of 100-200 questions have been used to test the knowledge of educators. This is a serious examination that requires a good level of preparation. Of course,



the test method, despite being Common, also has its drawbacks. One of these is the possibility of hypothesis, as well as the fact that the trainees only indicate the key or number of answers, in which the solution or solution process, as well as the level of knowledge, are not visible. At the same time, in the construction of the test, the elementary psychological function is aimed at acquaintance, which is much simpler than the execution function [1].

Taking into account the points, we can use the control of knowledge, skills and competencies of the test learners in the current control assessment, that is, if we look into the collaboration of the rating and the test system, we will be able to cite the following points [2].

Here, in 2 variants (look into the table 1), 5 questions-answers logic tests are given (DE is the differential equation), with two columns for each variant, to leaving the learner 0 or 1 sign on the empty column (with 0-false, 1-true meanings). This kind of so-called test helps to increase learners' mental thinking, their interest to math, to find common things with math and IT, to work faster and to achieve good results in a little bit of time.

Table 1

Variant №1	Variant №2
1. $2y - x = 1 \rightarrow$ DE	1. $y' = 3x \rightarrow$ DE
2. $3dy = 2xdx \rightarrow$ THE FIRST-ORDER DE	2. $3y'' = 5x^2 \rightarrow$ THE FIRST-ORDER DE
3. $y' + 1 = \frac{y}{x}$ EQUATION \rightarrow LINEAR DE OF THE FIRST ORDER	3. $(2x + y)dx - 2xdy = 0$ EQUATION \rightarrow HOMOGENEOUS DE OF THE FIRST ORDER
4. $2xdy = ydx \rightarrow$ A FIRST-ORDER DE WITH SEPARATED VARIABLES	4. $2dx = ydy \rightarrow$ A FIRST-ORDER DE WITH SEPARABLE VARIABLES
5. WHAT IS CALLED AN INVERSE PROCESS TO DIFFERENTIATION? (INTEGRATION)	5. WHAT IS CALLED AN INVERSE PROCESS TO INTEGRATION? (DIFFERENTIATION)

Again to progressive methods-we have listed above the rating method of assessing knowledge, skills and qualifications. Rating implementation is a system that organizes the educational process and affects its effectiveness. The rating system of knowledge assessment is one of the significant methods that affects the formation of students' interest in the level of assimilation, the educational process and its results; expands the boundaries of points, increasing its importance; involves the active participation of learners in increasing their average score and rating themselves [8]. Below (in table 2) is an example of a method that can be applied for evaluation in a rating system:



Table 2

Venn diagram

A FIRST-ORDER DE		A SECOND-ORDER DE
↓	COMMON	↓

This is a method of Frame technology [3], when filling empty cells, the learner goes through all stages of Blum taxonomy and his vision of logical thinking, creative approach and clear understanding increases [4].

Another widespread educational technology is called "Portfolio". "Portfolio" technology is a method of determining, collecting and evaluating the individual educational results of an educational person in a certain period of Education. "Portfolio" provides an opportunity to take into account the results in various forms of activity: educational, creative, social, communicative. The relevance of the use of this technology is that "Portfolio" materials are collected not for a year, but for the entire period of Education. It is calculated from the forms of assessment of educational results according to the product created by the educational, creative, social and other activities of the learner. Therefore, the "Portfolio" technology corresponds to the purpose, task and idea of competency-oriented education [5, p. 32-35].

According to reports [6], portfolio was very popular in the West, and the word "portfolio" itself arose during the Renaissance: Italian architects named the folders that they brought to the court of the customer, consisting of construction projects. Taking a look at our era, we understand by portfolio an album of images that show the ingenuity of a photographer or the model. And from the 60s, the folder of individual educational achievements of educators in American pedagogy began to be understood as a portfolio. It can include abstracts, essays, solutions of issues – all works that indicate the degree of mental and mental development of the learner.

In the opinion of Portfolio supporters, it should be a relatively larger work, not just an assessment tool or a summary of the educational work of the learner. It is a new approach to education, a means of working in a new way, representing the process of teaching and reading, a modern understanding of its culture. The idea of a portfolio in such a concept implies the formation of a learning process around a portfolio in which the interaction of a teacher and a student has radically changed, new goals and methods of achieving old educational goals are born.

The reason why portfolio is prominent in the West is because many educators have a negative attitude towards the practice of testing traditional computational knowledge and skills verification control in the Western education system using testing. According to the teachers,



the tests do not give an adequate conclusion about the skills of the learners and do not give the opportunity to judge about the professional level of the future specialist. Tests (even if they are given with additional creative tasks) are not exactly correct for checking competency, solving real-life problems, demonstrating an unusual ability to think, an original creative approach.

Portfolio, on the other hand, leads not only the learner to find out what he knows, but also how he came to this thing, leading the teacher and the learner to engage in dialogue. At the same time, it is important that the learner decides for himself what he will include in his portfolio, that is, he acquires the qualification of assessing his achievements. In some schools in the United States, even exams are held as a way to present a portfolio to the commission and answer the questions that have arisen.

To sum up all considered, we can't say that tests have a list of drawbacks, as rating system, because of portfolio's advantages. It will be a big mistake, so we should try to sort all pluses and minuses of all three types of modern technology and apply it into Math discipline to reach the best results about knowledge's quality from learners [7,8].

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