

## IMPROVING THE METHODOLOGICAL TRAINING OF PRIMARY SCHOOL TEACHERS ON THE BASIS OF INNOVATIVE APPROACHES

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### ABSTRACT

The modern education system is characterized by a radical change in all its components, including higher education. According to V.I. Juravleva, the best way to increase the effectiveness of education is innovation, which is the result of scientific research, as well as advanced pedagogical experience of individual teachers and the whole community.

### INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

The concept of "innovation" means new, novelty, change; innovation requires the introduction of an innovation, both as a tool and as a process; in relation to the pedagogical process. It is the introduction of new goals, new content, methods, forms of education and upbringing, a joint activity of educator and learner. The innovation process is the creation of pedagogical innovations, their use in educational practice and its dissemination. Innovative activity is the adoption of innovation by educational institutions, which leads to a change in the state of the education system and the design of the development of the education system.

Thus, an innovative approach to improving education means the introduction and use of pedagogical innovations in the educational process in higher education institutions. Based on the research of scientific and methodological research on the problems of improving the methodological training of primary school teachers in higher education institutions, the following innovative approaches have been identified: integrative, active, differentiated and technological approaches that require the use of computers. The followings are a brief description of them:

**1. Integrative approach in education.** The growing importance of the integrative approach in education is due to the growing weight of the integration of scientific knowledge in education, the leading role of integration processes in science and the formation of modern thinking and worldview in humans. The integration of the sciences is taking place and is intensifying due to the humanization of scientific knowledge and research, theories, mathematics, and pharmacology. The concept of integration is a general concept, the definition of which is "to unite into a whole, to unite some elements, to restore some elements" [10].

It should be noted that the following concepts are closely related to the concept of pedagogical integration: the direction of integration, the composition and structure of the integration process, forms and manifestations of integration, levels, principles and stages of integration.

**2. Active approach to education.** V.V.Davidov [13], N.F.Talizina [21], S.L.Rubinstein and others have shown that educational activity is not through the acquisition of educational content and the development of the learner, the transfer of certain information to the student, and rather it is carried out in the course of his personal activity. It is this situation that forms

the psychological basis of an active approach to education, as well as has a great impact on the development of modern teaching methods and serves as a foundation for pedagogical technologies. According to N.F. Talizina, an active approach to reading has put an end to the problems of the ratio of knowledge, skills and abilities of students and the problem of their development during the learning process. Knowledge is acquired during the activity and is manifested only during the activity, behind the skills and abilities there are always behaviors that have a certain description. According to V.A. Baydak, O.B. Episheva, G.I. Sarantsev and others, the active approach serves to ensure the unity of important principles, theory and practice in pedagogy.

From the students point of view of an active approach, the acquisition of knowledge and methods of activity takes place in the process of perceiving, comprehending, remembering, applying, generalizing and systematizing information (full cycle of learning activities).

The main component of learning activities is the learning task. Learning task is a generalized goal of the activity, which is set before students in the form of a generalized learning task, by solving it, students acquire certain knowledge and skills, develop their personal qualities. An assignment is a synthesis of subject tasks and learning objectives. The solution of learning tasks is formed from the system of learning behaviors, which are focused on achieving the goal. In this case, the degree of formation of learning behaviors may vary.

An active approach is concerned not only with the procedural aspects of education but also with its content. Thus, the content of teaching mathematics should include definitions, theorems, axioms, as well as specific learning problems and methods of learning activities to solve them.

**3. A differentiated approach to education.** Stratification, like integration, is an inevitable trend in the practice and history of human development, and the unity and interaction of stratification and integration is a general law of development. Voluntary integration creates the basis for new stratification, and conversely, the emerging stratification creates the conditions for new integration in the same place. Psychological and pedagogical aspects of stratification are well-known psychologists Z.I. Kalmykova, V.A. Krutetsky, N.A. Menchinskaya and others, teachers Yu.K. Babansky, I.E. Unt and others, methodologists-mathematicians V.A. Gusev, I.M. Smirnova, R.A. Uteeva and others.

The concept of stratification of education is related to: the direction of stratification, the appearance of stratification (primarily internal and external stratification), forms and levels. In this case, a certain level of education corresponds to a certain period of education in higher education. On the other hand, the vocational training system can be shaped within a tiered approach. In this case, taking into account the individual characteristics of each student, it is possible to use their potential.

**4. Technological approach to education.** According to M.V. Clarin, the technological approach to education includes: 1) setting and formulating diagnostic learning goals focused on the planned learning outcomes; 2) organization of education in accordance with the learning objectives; 3) assessment of current results aimed at achieving the set goals and their correction; 4) evaluation of final results. In relation to the teacher's work, this means mastering the method of designing the learning process (primarily the lesson) (based on clearly defined goals).

Using the modular design of the educational process, V.M. Monakhov distinguishes 5 stages of pedagogical technology: 1) goal setting block; 2) diagnostic block; 3) block of logical structure of educational process; 4) correction block; 5) block of extracurricular activities of students.

O.B. Episheva's works show a sequence of actions aimed at achieving guaranteed results by setting diagnostic goals of education: 1) setting diagnostic goals, 2) designing the content of educational material (mathematical content, content of learning activities, teaching methods, mathematical and educational system of issues), 3) design of students' learning activities, 4) design of teacher's management activities, 5) correction and assessment of control, level of knowledge and methods of activity. A.I. Uman means a technological approach to education: in the narrow sense - understands the design of the educational process on the basis of the ordered goals of education; in a broad sense - understands that the learning process is specially organized in the most important case of setting clear goals and actions to achieve them.

In the works of N.O. Eshpulatov and I.Ya. Rakhimov an attempt was made to solve the problems of formation of methodical training of future primary school teachers on the basis of innovative approaches. A characteristic feature of this manual is that the improvement of methodological training of future mathematics teachers has been studied in the example of teaching the topic "Vectors".

It should be noted that it is absolutely wrong to contrast the technological approach with traditional education, as is sometimes the case. The technological approach can only be developed on the basis of traditional education. If the traditional methodology is "Why to teach?", "What should be taught?" and "How to teach?" pedagogical technology adds an additional "How to teach effectively?".

The diagnostic goal is the most important component of pedagogical technology, so the design of diagnostic goals of education is of particular importance in technologicalization (V.P.Bespalko, O.B.Episheva, M.V.Klarin, V.M.Monakhov and others). Learning objectives are transferred to the learning tasks (issues) in the learning process, presented to students in the form of learning assignments. A.I. Uman revisits the role of learning issues in education and identifies three approaches to the use of learning issues: 1) as educational tools; 2) as a form embedded in the content of the material; 3) as one of the key elements of the educational process.

Among modern pedagogical technologies, information technology plays a key role. Due to their application in the process of pedagogical education, new factors and opportunities for the formation of professional skills in students have emerged. I.V. Robert outlines the methodological objectives of the use of computers as a means of education: individualization and stratification of education; control through the implementation of feedback; self-monitoring and inspection; providing training facilities; visual demonstration and visualization of the dynamics of the studied processes; tracking their developmental movements in time and space; increasing the motivation of education; graphical representation of the studied laws; modeling and simulating the processes and events being studied, etc. R.T.Gardiev and A.V.Yurasov indicated three levels of computerization of the educational process: *Level 1* - the creation of an educational space through global and regional computer systems; *Level 2* - creating a learning environment based on local computer systems; *Level 3* - the addition of computer technology to the set of didactic tools that activate the learning activities of students, providing the educational process.

In psychological and pedagogical research (V.P. Bepalko, V.M. Monakhov, I.V. Robert, A.A. Abdukadirov, M.Aripov, A.Aripov, etc.) the conceptual basis of information technology and the process of computer training the basic didactic conditions of use are developed. However, N. Rozov noted that there are no real computer tools yet, there are only attempts to transfer traditional methods to the computer, in his opinion, it is time to develop principles for the use of computer products in the educational process. Computerization should start with employees who come to school tomorrow, not with employees who are not yet ready. The computerization of education places new demands on the training of future teachers. The most important task of primary education teacher training is not only to equip students with computer technology, but also to teach them to use computers in teaching primary education in school within a certain methodological system.

### **Requirements for the implementation of innovative approaches**

Methodological training of a future primary education teacher should be carried out within the framework of the formation of his future professional activity in the educational process. Methodological training is the most basic system-forming component of vocational training. The special didactic activity of a primary school teacher (covering mathematical and methodological activities) is the most important component of professional and pedagogical activity, which in turn has a certain structure. The main purpose (result) of methodical training of the teacher of primary education is acquisition of its integrated methodical and mathematical knowledge and skills:

1. Methods of teaching elementary mathematics and mathematics, practical problem-solving courses should be a means of improving the professional training of future primary school teachers.

2. The professionalism (skill) of the teacher is determined by the level of his professional activity, so the psychological basis for improving the professional training of future mathematics teachers is an active approach to education, which should reflect the separation of teacher and student activities. An active character should express educational goals (in the behavior of students), as well as in the content of education and the learning process. The activities carried out should adequately reflect the structure of professional pedagogical activity.

3. The formation of the teacher is determined by the increase of his professional level, so it is necessary to use the elements of a differentiated approach to education in the implementation of methodological training of students. The level of education should correspond to the level of mastery: *Level 1* (understood, remembered, told back) - minimum, *Level 2* (can apply the mastered in a standard situation) - compulsory, *Level 3* (can apply the mastered in non-standard situations) - opportunities degree. These levels correspond to the levels of professional activity: *Level 1* represents professional literacy, *Level 2* represents professional competence, *Levels 3 and 4* represent creative-professional culture (in this case we can talk about methodical literacy, methodical competence and methodical culture). The implementation of a differentiated approach should be reflected in the design of differentiated learning objectives.

4. The above requirements, by their nature, reflect the requirements of the technological approach to education. If the chosen approach to education meets the following conditions:

- the design of differentiated goals, expressing the student's behavior: the student ... knows, the student ... understands, the student ... can perform, etc., ensures their diagnosticity;
- the content of education is expressed in terms of educational tasks, categorized by level, aimed at achieving the goals, appropriate to the mathematical and methodological activities;
- Different organizational forms of training: the use of a combination of frontal, group, group and individual forms of activity in accordance with certain pedagogical technologies;

- control of the acquisition of knowledge and methods of activity in three ways: inbound control - to determine the information about the level of readiness of students for work and, if necessary, to correct this level; current control and correction after the study of each topic; final control, if it is possible to assess the degree of possession of the expected result;

- tests and various levels of control are used to assess the level of knowledge and methods of work inherent in pedagogical technologies.

5. In order to improve the methodological training of future primary school teachers on the basis of innovative approaches to education, it is necessary to:

- educational goals are integrated, and cover the formation of mathematical and methodological knowledge and skills;

- be differentiated according to the forms of activity (through the behavior of students) and the level of occupation;

- the content of education is integrated, and it covers mathematical and methodological material (elementary mathematics, methods of teaching mathematics and problem-solving practicum) and is presented in an active form (in the form of differentiated learning tasks);

- the use of an integrated approach to the organization of the educational process (integrated lessons), the use of differentiated forms of learning by students, the use of computers, among other means, differentiated control and assessment of learning outcomes;

- implement a technological approach to education as a combination of active and differentiated approaches.

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