



PREPARING FUTURE TEACHERS FOR DESIGNING EDUCATIONAL PROCESSES BASED ON THE COGNITIVE APPROACH

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Abstract

The modern teacher must be able to select innovative methods necessary for implementing educational processes and design educational activities aimed at their application. It is crucial that the innovative methods chosen by the teacher align with the goals of educational processes. These methods should contribute to the comprehensive development of students, taking into account their individual characteristics.

This article describes the directions and stages of preparing future teachers for designing educational processes based on a cognitive approach.

Keywords: Cognitive approach, educational process, design, innovative methods, future teachers, educational process design, educational technologies, educational methods.

INTRODUCTION

The process of informatization in society is covering all areas of human activity, with the field of education, particularly the work of teachers, serving as a clear example. Most of the challenges facing education can be resolved by ensuring the professional preparedness of teachers. Therefore, preparing future teachers for designing educational processes is becoming increasingly relevant. This requires not only enriching teachers' fundamental theoretical knowledge but also developing their professional skills.

A modern teacher must be capable of selecting innovative methods necessary for implementing educational processes and designing educational activities directed towards their application. The innovative methods chosen by the teacher must correspond to the objectives of educational processes. These methods should contribute to students' comprehensive development, considering their individual characteristics. Teachers should not only impart knowledge but also educate students in accordance with the requirements of Uzbek society. Future teachers must be able to successfully apply the professional knowledge they acquire in their practical activities.

In this context, future teachers are expected to develop as researchers, creators, experimenters capable of implementing their ideas in practice, and specialists who possess experience in creative pedagogical activities aimed at student development, promote pedagogical ideas, and reflect on their own professional activities. Preparing future teachers for designing educational processes in schools is of utmost necessity. For this, future teachers must have a solid understanding of the historical experience of the Uzbek people. They must be provided with knowledge based on contemporary requirements and developed intellectually and spiritually.



Through an analysis of scientific sources focused on developing future teachers' skills in designing educational processes, we have substantiated that implementing innovations in the educational process requires teachers to choose and design unique methods of activity. The theoretical foundations of preparing future teachers for cognitive activities related to educational process design have been examined in the works of V.A. Slastenin and L.S. Podymova. Several studies have been conducted in this field.

Innovations and their various types play a significant role in developing future teachers' cognitive activities related to designing educational processes. The term "innovation" was first introduced by J. Schumpeter, who also defined its primary function. Interest in innovative pedagogical processes and innovations in higher education is steadily growing. This is also evident in the preparation of future teachers for the innovative activity of designing educational processes, as innovative activity serves as a key source for developing future teachers' professional skills.

There has also been a strong interest in cognitive activity in the fields of pedagogy and psychology. A group of scholars has successfully developed the scientific foundations of the activity-based approach. The research conducted by G.P. Shchedrovitsky and his followers serves as an example. They have successfully analyzed innovative processes as a holistic and integrated phenomenon. The works and monographs of B.V. Sazonov contain extensive analyses of cognitive processes of an innovative nature. Since innovation is a cognitive pedagogical phenomenon, it plays a crucial role in preparing future teachers for designing educational processes.

The French scholar E. Brunswick classifies pedagogical innovations into three types:

1. Emergence of new ideas, research, and actions in education – these always possess a novel character. However, such ideas are often theoretical and are rarely applied in pedagogical practice. Their successful implementation in practice largely depends on the professional skills of the teacher.
2. Modified and improved ideas and actions – these are more often recognized as innovations. Such ideas have the potential to develop pedagogical processes.
3. Pre-existing ideas that gain an innovative character in specific contexts – they acquire a new essence in terms of educational goals. The successful implementation of these ideas is ensured through newly created pedagogical conditions.

UNESCO documents define innovation as follows: "We emphasize that innovations consist of attempts to reform the education system, consciously and systematically transforming the existing system. Innovation is not merely about presenting something new or better."

According to V.A. Slastenin, innovation is not just about novelty but also involves the process of implementing this novelty. Since innovation is process-oriented, the design of educational processes is directly related to innovative pedagogical activities. Projects allow for the gradual development of ideas and the achievement of guaranteed results. The formation stage of a project is considered its birth phase. In educational processes, these projects are assimilated and integrated into pedagogical activities.

UNESCO's publication "Innovations in Educational Technology" categorizes pedagogical innovations into two types:

1. Global innovations – applicable to all levels of the education system.
2. Partial (localized) innovations – specific to certain types of schools or subjects.

Given the vast scope of education, classifying innovations holds particular importance. Educational innovations can be categorized into the following areas:

1. Organizational innovations
2. Technological innovations
3. Curriculum-related innovations

Designing educational processes encompasses innovations in educational programs and technologies, integrating elements from all three categories.

The preparation of future teachers for innovative pedagogical activities is of paramount importance in higher pedagogical education institutions. One of these innovative pedagogical approaches is training future teachers in the design of educational processes. UNESCO has established the Asia-Pacific Centre for Educational Innovation for Development, which consolidates pedagogical innovations from various developed countries and disseminates them among the global educational community in collaboration with the International Bureau of Education.

The concept of “innovation” was first introduced in the 19th century by cultural scholars and was initially understood as the integration of specific cultural elements into another. By the early 20th century, the term was applied to various fields, including education, with an emphasis on implementing new approaches and technologies. Compared to traditional pedagogy, innovative pedagogy represents a synthesis of advanced ideas and experiences. Today, scientific approaches have emerged concerning innovative pedagogy and the cognitive activity of teachers. The primary goal of cognitive activity is to restructure and continuously develop the existing educational process through new ideas and technologies.

The design of educational processes by future teachers is aimed at effectively solving existing challenges in education. When addressing educational issues, the ability to design educational processes holds significant didactic importance. The process of designing educational activities consists of a set of newly acquired knowledge, methods, and technologies that become part of a teacher’s experience. This process must embody objectivity, goal-orientation, stability, scientific validity, and balance.

Before entering the classroom, a teacher must plan their cognitive activities, analyze them, and predict their outcomes. A teacher’s ability to consider students’ existing knowledge, intellectual development, and level of upbringing serves as a criterion ensuring objectivity in their cognitive activity. Ideological awareness is a crucial aspect of a teacher’s cognitive activity, as it enables them to deeply instill the principles of national identity in students. Education is an intricate pedagogical process whose effectiveness largely depends on the alignment of a teacher’s cognitive activities with the goals of education.

Preparing future teachers for designing educational processes must primarily focus on the development of students' personalities, fostering independent and critical thinking skills, and inspiring their enthusiasm for learning. The purposeful development of students, their formation as well-rounded individuals, career choice, engagement in various activities based on their interests, and their ability to integrate successfully into society largely depend on the effectiveness of teachers' cognitive activities.

A teacher’s professional excellence is reflected in their ability to love and appreciate each student, respect them, and create the necessary pedagogical conditions for their development. A teacher must rely on the principles of humanistic pedagogy, applying all pedagogical



measures to ensure the student's comprehensive development. Humanistic pedagogy embodies the norms of cognitive activity, as it establishes new relationships and collaborations between teachers and students. As a result of cognitive activity, the educational process is restructured using new methods and technologies.

Innovation in Pedagogy: Definitions and Applications

The Pedagogical Encyclopedia defines innovation as follows:

Innovation (from the English "innovation" – introduction of novelty, invention) refers to:

The creation of previously non-existent objects, structures, values, and methods (technologies) of activity; the expression of emerging innovations in signs, images, and symbols; their social assimilation and dissemination, and their application in all areas of society and human life.

The process and activity of implementing renewal and transformation in the education system.

Innovation is a rapid process of replacing outdated practices with new ones and involves implementing new projects in various educational activities, including educational design. An innovative pedagogical project is an adopted and structured innovative pedagogical idea, while an innovative pedagogical idea consists of systematized pedagogical concepts, the prognosis of educational processes, and relevant data. Clearly, the design of the educational process, as an innovative pedagogical phenomenon, integrates new ideas, concepts, and technologies.

Humanistic Principles in the Design of Educational Processes

When designing the educational process, future teachers must primarily adhere to the principle of humanism. This principle requires embedding and systematizing values and ideas significant to each student's life into educational projects. From a social-pedagogical perspective, the humanistic principle plays a crucial role, as it ensures the continuous development of students as equally entitled, conscious, and socially active individuals. The ultimate goal of education is to cultivate well-rounded individuals, and future teachers are expected to master humanistic-based innovative pedagogical approaches and theories.

A humanistic approach to designing educational processes necessitates creating conditions that foster students' independent development, critical thinking skills, and personal self-expression. When an educational process is designed using innovative technologies, students are given opportunities to:

- Express themselves,
- Realize their natural potential,
- Engage freely in educational activities,
- Develop creative thinking skills.

Thus, the integration of innovative pedagogical approaches and humanistic principles into the design of educational processes is essential for preparing future teachers and ensuring the holistic development of students.

When preparing future teachers for designing educational processes, it is necessary to focus on their mastery of methodologies for humane treatment of students. The cognitive activity of future teachers is manifested in the assimilation of new knowledge and information, the acquisition of skills for the intellectual, physical, and moral development of students, the adoption of theoretical knowledge and social experience in forming independent thinkers, the ability to make important pedagogical decisions in any educational situation, and the selection of necessary didactic tools to guide the educational process effectively.

For future teachers to successfully design educational processes, they must develop essential skills, including establishing genuine, humane relationships with students and gaining experience in creating a developmental learning environment. Preparing future teachers for designing educational processes requires cultivating personal and professional qualities that encourage students to be diligent, observant, responsible, and capable of effectively completing didactic tasks while adopting a necessary life perspective. It is also crucial to create favorable pedagogical conditions for the preparation of future teachers in designing educational processes.

For this reason, the development of cognitive activity among future teachers is one of the primary objectives of higher pedagogical education. To achieve this, future teachers must:

1. Understand the general and specific goals of the educational process, its structural organization, the differentiation of student activities, and the theoretical-methodological foundations of individualized approaches;
2. Be capable of directing educational processes towards the personal development of students;
3. Master methodologies for stimulating students' interests and aspirations;
4. Understand the principles of differentiating didactic tasks and organizing small groups;
5. Be able to create pedagogical conditions that contribute to the effective implementation of the educational process;
6. Learn methods of comprehensive support for students in educational processes and assist them in making responsible decisions;
7. Acquire pedagogical and psychological knowledge on considering each student's potential in the design of educational processes;
8. Understand methods for successfully organizing educational processes;
9. Rely on the principles of developmental and student-centered education when designing educational processes.

In preparing future teachers for designing educational processes, special attention should also be given to familiarizing them with educational work, as well as moral and educational directions and content. Scholars have expressed their views on this issue, emphasizing that a teacher's creativity and reliance on innovative approaches play a significant role in ensuring the effectiveness of the educational process. Identifying the characteristics, content, structure, and classification of innovative pedagogical processes of a cognitive nature requires an in-depth analysis of cognitive activity outcomes.

Currently, there are certain contradictions between the increasing requirements for teachers to engage in cognitively oriented innovative activities and their inability to design educational processes accurately. At the same time, the pedagogical demand for the qualitative organization of educational processes is growing. As a result, concepts such as "educational activity," "educational process," and "content of educational processes," along with the requirements for their design and implementation, are becoming increasingly significant. In the higher pedagogical education system, future teachers first develop knowledge and understanding of the theory of education, the educational process, educational principles, educational laws, educational methods, educational psychology, the educational environment, the level of education, formative education, and the organizational forms of education.

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