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METHODOLOGICAL APPROACHES TO FUTURE TEACHERS' TRAINING TO DESIGN STUDENTS' EDUCATIONAL ACTIVITIES

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Abstract

The need for future teachers to master the basics of designing educational activities is becoming more and more evident when considering the peculiarities of modern school education. As a cardinal condition for increasing the developing potential of school education, the development and implementation of federal state standards of general education provide for a transition in education to a strategy for designing education processes that provide an atmosphere for the formation of a personality as a subject of one's own life. The designing educational activities technology implementation makes it possible to prepare a future teacher for professional activity in a modern school characterized by a high level of variability and uncertainty. The current situation in higher education gives grounds to assert that the design of educational activities is one of the educational technologies for developing future teachers' competencies. The logic of the methodology reveals the understanding of the essence, content, and design features of younger schoolchildren's educational activities in the framework of the didactic training of the future teacher. The structure of methodological knowledge assumes three levels of developing future teacher's training: general scientific, factual-scientific, and technological. The General scientific level is based on a systematic approach. Specifically, the factual-scientific stage is established on the practical use of the personality-oriented, competence-based, contextual, and activity-based approaches provisions in their interaction during future teacher training. The systematic use of methodological approaches provides methodological synergy, resulting in their interaction efficiency.

Keywords: Educational design, methodological approach, methodological synergy, training

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1. Introduction

The analysis of psychological and pedagogical literature shows that educational design has become a fundamentally new instrument in the context of dynamic social changes. It helps implement modern educational trends, identify mechanisms, and create conditions for its development. Didactics and practical teachers consider project work to be one of the main factors influencing the effectiveness of the pedagogical process in the context of personality-oriented learning (Ilyina & Bazhilina, 2017).

Project work combines pedagogical, scientific, managerial activities and is embodied in a specific project. The project paradigm in education includes pedagogical projecting as the basis for the teaching process, technologies, methods, and tools. It also comprises the psychological and pedagogical designing of education processes that create conditions for personality formation as a subject of one's own life and activity (Zeer et al., 2016).

Therefore, the didactic preparation of the future teacher for designing educational activities is a complex structural category, which has its characteristics, specifics, functioning and development features, component composition, structural elements, and specific types. The functioning of this system is based on the methodological foundations of the didactic preparation of the future teacher for educational project management.

2. Problem Statement

Actualizing the problem of the future teacher to design education, we should note that many scientists consider projecting to be one of the main functions of a modern teacher. It is along with gnostic (content search, methods, and forms of interaction with students), organizational, managerial, and communicative functions (Abuzyarova et al., 2019). According to Kraevsky et al. (1989) and Selevko (2005) pedagogical projecting is an indispensable condition to implement the regulatory function of pedagogy. And it forms a specific type of pedagogical activity. Project work is a purposeful activity of a person or a team to solve problems focused on improving or creating education systems and training processes.

All this, of course, is important when studying methodological approaches, conceptual ideas, practical mechanisms for the introduction and implementation of didactic preparation of the future teacher to realize project-based learning.

3. Research Questions

The methodological approach exists as a problem-semantic field and is formed into a scientific system through an integrative combination of basic categories and concepts. Based on the analysis of scientific literature, scholars identified three levels of the development problems of the future teacher's preparation for the realization of project-based learning in the structure of methodological knowledge: general scientific, specifically scientific, and technological. At the same time, all levels of methodology form a complex system with certain subordination between the components (Asmolov, 2011; Vasilyeva, 2009). The general scientific level is based, in our opinion, on the future teacher training for the design of

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educational activities on a systematic approach. The systematic approach is considered by many scientists as a methodological basis for the development of scientific knowledge, the task of which is to develop methods for the study and construction of complex objects (Lubkov, 2020). It is based on such significant principles as integrity, consistency, and dynamism. It is important to note that the systematic approach is associated with knowledge of the methodological level, which scientists attribute to the level of general scientific principles of research.

We should note that the interpretation of the main aspects and provisions of the system approach is not unambiguous. There are different (even opposite) views on its essence and application methods in scientific research mentioned in the scientific literature. Researchers explain the diversity of these views by different interpretations of the concept of "system" itself. Summarizing the existing definitions in the given research, we understand the system as a multiplicity of interrelated elements constructing integral entities.

Scientists also note the need to comply with a definite scheme when conducting systematic research in any field, in education, particular. The type identification of the system under study is one of the fundamental stages of system research (Petrova, 2012).

4. Purpose of the Study

The purpose of the paper is to consider methodological and scientific approaches to the didactic training of the future primary school teacher to implement the pedagogical design of students' activities.

5. Research Methods

Among the most common typologies of systems based on various bases, it is necessary to distinguish their distribution by the degree of complexity. In ontological terms, complex systems (as opposed to simple ones) are integral formations characterized by a significant component composition, numerous connections, and the simultaneous impact of many heterogeneous factors (Rabinovich & Bagramyan, 2015).

Among the systems, scholars distinguish static system formations that remain unchanged throughout their existence and dynamic system formations that change over time (Zinchenko et al., 2020).

Analyzing the essence, components, and logic of future teachers' training, we should point out the features of the process. The pedagogical design is a process, type, and component of educational activity, which is multi-component composition, a complex structure with the need to consider numerous connections, dependence on the influence of many factors (complexity aspect), and the need to flow over time (dynamism aspect).

These features allow characterizing the future teacher's training for the design of educational activities of younger schoolchildren as a complex dynamic system from the systematic approach standpoint.

The systematic approach involves clarifying the contribution of individual components of personality development as a systemic whole. This characteristic feature is closely related to the person-

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oriented technique, which is part of the definite scientific level of methodology alongside the competence-based, contextual and activity-based approaches.

The person-oriented approach is widespread in modern education. In the works, Asmolov (2011), Baidenko (2006), Selevko (2005) highlighted the main provisions of the person-oriented approach in future teachers' training. They indicate that the person-oriented method is a methodological framework of the pedagogical activity. It makes it possible to ensure and support the processes of an individual's self-study, self-growth, and self-realization. The methodical basis of future teachers' training for designing the educational activities of younger schoolchildren will be more effective if teachers consider their characteristics, interests, and needs in the education process. According to the person-oriented approach, the student is recognized as the key personality in the education process, creating conditions in which he would act as a full participant and activity subject. The essence of the person-oriented approach is to focus during the pedagogical process on the personality as a goal, subject, result, and the main criterion of its effectiveness; recognition of the individual's uniqueness, intellectual and moral freedom, the right to respect (Baidenko, 2006). A person-oriented approach involves the creation of appropriate conditions for the self-development of the inclinations, abilities, and individual's creative potential. Studies by Verbitsky and Dubovitskaya (2003), and others give grounds to assert that at the present stage of education development, a person-oriented approach is within the competence approach, concretizing, deepening, and supplementing it.

Kraevsky et al. (1989) studied the problem of the competence approach in education. The main idea of the competence approach is that the education result is not personal knowledge, skills, and abilities but competencies. With this approach, the essence of teacher training is not to enrich students with a certain amount of information but to develop the ability to operate it, design and model their future professional activities, and creatively apply the knowledge and experience gained in practice. According to the competence approach, the content of higher education and teaching methods should be focused on the professional training of a competent specialist, with an important aspect being the formation of methodological competence. In this context, the importance of students' independent work, the fulfilment of individual educational and research tasks, the effective use of innovative educational technologies, in particular, the project method, training, role-playing, and business games, as well as solving methodological problems and situations, the creation of a student's methodological portfolio (Yasvin, 2001), significantly increases.

The contextual approach is closely related to the competence approach, studied by Verbitsky and Dubovitskaya (2003) and representatives of his scientific school. The essence of the contextual approach is active learning, which is aimed at implementing the systematic use of the professional context, that is, the gradual saturation of the educational process with elements of professional activity. According to the contextual approach, the specialists' training is marked by the maximum approximation of the content and forms of teacher's training to the professional activity. Natural connections and relationships are reproduced during the educational process, and specific professional tasks are solved. Verbitsky and Dubovitskaya (2003) asserts that the contextual approach to teaching ensures the integration of theoretical and practical future teacher's training and the organic connection of the acquired knowledge with future professional activity. According to the scientist, in contrast to "mono approaches," pedagogical

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technologies from any theories and approaches - traditional and new - can find their organic place in the contextual learning, providing proper scientific and methodological justification of their capabilities in achieving specific educational tasks (Verbitsky & Dubovitskaya, 2003).

The activity approach as a system of certain interrelated principles allowed us to determine which characteristics of the future teachers' training for educational design as an activity are fundamental for specifying the characteristic features of this category.

Scientists consider the activity approach as a system of principles, the interdependence of consciousness and activity, development, historicism, activeness, system analysis of the psyche, and the like.

According to the first principle, it is the activity that determines all mental processes and consciousness formation in a person. In turn, being the activity regulator is a condition for further improvement. Consequently, the subject's involvement in educational design as a type of activity leads to the unification of its various components into the activity's practical psychological system (Prikot, 2019). These make it necessary to consider such characteristics for educational design training as creative nature, purposefulness, connection with other activities (scientific research, forecasting, planning, modeling, programming, social management, and the like).

According to the principles of development, historicism, and activeness, when analyzing future teachers' training as an ability to implement pedagogical design from the activity approach standpoint, we should highlight its characteristics. They are teacher's future activity detailed development; the need to solve an urgent problem, a new solution, which underlies the project work; testing various solution options and choosing the best option according to specific criteria. They also include object development in design, numerous design stages, and relationships, the need to consider their hierarchy and subordination.

We should note that when preparing a future teacher for designing the educational activities of younger schoolchildren, the principles of projecting and organizing the educational process based on a technological approach are justified.

The peculiarities of scientific research in the pedagogical field from the technological approach are manifested in the fact that the pedagogical process under study is considered a specialized process. Thanks to a clearly defined sequence of steps aimed at achieving the intended goal, it allows achieving results with predetermined quantitative and qualitative indicators and corresponding to the criteria of technological effectiveness (Zinchenko et al., 2020).

In pedagogy, scholars understand technological effectiveness (as a system of initial provisions to design and implement any pedagogical technology. Scientific works of A. A. Verbitsky, M. A. Petrov, E.F. Zeer, G. Selevko reflect this point of view (as cited in Petrova, 2012).

The initial provisions that we should consider during developing and implementing any pedagogical technology include the principles of intensity; pedagogical orientation to the relationship between teachers and students; the student's development level, training, and upbringing; measures; dynamism; originality and novelty of pedagogical influences; professional analogies and borrowings. These principles implementation is possible only in the system, since they, forming a kind of the core of pedagogical technology, form the conceptual basis of the technological approach.

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Another approach to determining the initial provisions of designing and implementing pedagogical technology is technological effectiveness. We find these criteria in Selevko's (2005) works and other scholars. These scientists include the following requirements: the technology development within a specific pedagogical concept (the criterion of conceptuality) as a system-forming technology component and goals should be considered determining all its other elements (the paradigm of purposefulness), the technology should contain diagnostic procedures, with the help of which it is possible to decide the degree of achievement of planned goals in any period (diagnostic criterion), the organizational component of the technology must correspond to its target component (optimality criterion), the introduction of technology should ensure the achievement of planned results by all participants in the education process (reliability criterion) (Selevko, 2005).

6. Findings

In our opinion, the last of the above approaches to determining technological effectiveness makes it possible to design and implement any pedagogical technology on systemic principles.

According to the above, pedagogical research carried out in the context of a technological approach has the following features in comparison with traditional pedagogical research: the subject of research is a definite pedagogical technology (educational, didactic, educational, and the like); the components of pedagogical technology are determined according to the criteria of technological effectiveness.

The technological approach proves to be adequate to conduct scientific research contributing to efficiency, accuracy, stability of results due to the scientific justification of goals and their diagnostic formulation. It also helps design the pedagogical process following conceptuality, optimality, and reliability (Selevko, 2005).

7. Conclusion

Thus, the research results allowed us to identify those methodological approaches that most correspond to the future teachers' training for the younger schoolchildren's educational activities design. Among them are systemic, person-oriented, competence-based, activity-based, contextual, and technological. These approaches do not contradict but, on the contrary, complement each other, ensuring the choice of tactics of scientific research, appropriate forms, methods, and teaching tools, as well as the content of future teachers' training. Together, these approaches form a "methodological synergy," enriching and mutually complementing each other. They create a new philosophy of education, actively influencing the nature of the future teachers' training system to implement younger schoolchildren's educational activities design. The systematic use of "methodological approaches" provides a methodological synergy that increases their effectiveness due to their interaction with others.

The prospects for further scientific research may be the study of other methodological approaches applicable to future teachers' methodological training. They are axiological, informational, synergetic, personalized, and the like.

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