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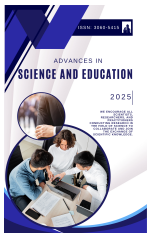

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PAPER

THE IMPORTANCE OF THE HEURISTIC METHOD IN THE FORMATION OF PROFESSIONAL COMPETENCE OF FUTURE PEDAGOGICAL EDUCATORS IN THE CONDITIONS OF THE NEW UZBEKISTAN

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Abstract

This article provides information on the types, structure, pedagogical functions, directions and possibilities of using heuristic tasks to help future teachers develop their professional competences. Specific recommendations are also provided for the use of heuristic tasks, learning materials used in heuristic education, learning process design, reflection and prediction, mental activities, and creative thinking.

Key words: future teacher, heuristic assignments, heuristic education, professional competencies, professional knowledge, pedagogical function, heuristic approach, didactic tools, methods.

Introduction

Heuristic approaches have a special place in the didactics of higher pedagogical education. For many years, pedagogues have approached heuristics as one of the teaching methods. Heuristics is a way of performing tasks with the help of an individual's independent, creative thinking, imagination. One of the characteristic aspects of heuristics is the combination of two components. They are a pedagogical phenomenon consisting of a combination of psychological-subjective and rational-logical, objective parts. Accordingly, within the framework of the concept of heuristics, not only intuitive, but also logical thinking activity of a person is understood.

It is possible to effectively use heuristic conversations and tasks in the process of higher pedagogical education. Heuristic conversations are used when students are given specific tasks. Professors and teachers encourage students to solve heuristic tasks with the help of conversations. In this process, conversations between students and professors are carried out using the

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induction method. The main purpose of heuristic conversations is to provide future teachers with new information on pedagogical content. The questions presented by professors and teachers should consist of open questions that have a logical basis for students. While answering such questions, students enter the process of discovery, in which motives for creating innovations are formed. Today, it is possible to increase the productivity of educational activities by using educational practices in heuristic conversations. Although heuristic conversations ensure the productivity of the educational process, they are not used enough in pedagogical practice. Heuristic conversations and heuristic assignments are important in understanding the essence of new knowledge and mastering it. Most pedagogues try to equate the creative or heuristic nature of educational activity with the reproductive type of activity to a certain extent. It should be emphasized that future teachers' cognitive activity will develop and rise to the level of heuristic activity based on research. In this, mental activities expand and the process of creative thinking begins. Such conclusions help the reproductive activity of future teachers to rise to the level of heuristic activity. Heuristic methods were developed and researched by well-known pedagogues Yu.K.Kulyutkin, V.I.Andreev, A.A.Derkach, V.Ya.Lyaudis, A.V.Khutorskoy, S.F.Shcherbak.

The following are important for students' research-based heuristic activity: in order to clearly understand the content of the tasks presented by professors and teachers, students should ask themselves the following questions: what is unknown? What is given? What are the assignments? Is it possible to fulfill the terms of the assignment? Are the conditions sufficient to identify the unknown? Professors and teachers give clear instructions to students in the process of searching for answers to these questions. For example, express the answers to these questions in drawings, describe the corresponding answer in the form of text, divide the assignment condition into components, and write them down in your notebook.

The search for ideas that lead to solutions and the creation of a plan for the execution of the task are carried out using the following questions: How can we determine the relationship between known and unknown situations? How much do you know about certain types of assignments? Can you use the information you have in the process of completing tasks? Explain your answers. What methods do you use to complete assignments? What additional tools do you use to complete assignments? Can you reframe the task you are given to complete? Justify your opinion. Try to form tasks of a heuristic nature that are convenient for you to perform. In this process, form general, specific, and mutually exclusive heuristic assignments. Is it possible to perform a certain part of the heuristic task to satisfy the condition? Highlight the situations necessary for the successful formation of your professional competences from the assignments you have completed. To what extent do you pay attention to its conditions when performing tasks of a heuristic nature? Do you consider all the concepts expressed in the assignment while completing it?

Students are required to control each action they take in a clear sequence when making a heuristic task execution plan. For this purpose, the following questions are put before them: To what extent do you understand the essence of the actions you are taking while performing heuristic tasks? Describe it. Are you sure that the heuristic assignment is correct? Justify.

The ability of prospective teachers to monitor the exact completion of tasks and the level of self-monitoring of learners in this process is determined by the questions put to them by professors and teachers: Is it possible to check whether the task has been completed? Justify the extent to which you have examined it. Is it possible to check the progress of the task step by step? Take that action. What methods do you use to check the truthfulness and accuracy of the results obtained in the process of performing heuristic tasks? Can you apply the results to other assignments? Show the same methods used in the process of performing heuristic tasks?

Heuristic assignments can be used in a number of learning activities. During the independent work of students, they move away from performing the same type of tasks and begin to perform heuristic tasks of various types. Also, in practical training, laboratory work, and in training outside the auditorium, they perform tasks of a heuristic nature. With the help of heuristic tasks, students acquire the

competence of applying various methods leading to its solution. At the same time, they manage to create new, unique plans for completing tasks. In the process of performing heuristic tasks, students try to find different circuitous methods that lead to specific solutions. Accordingly, heuristics is a didactic phenomenon that allows the search for universal methods and ways of completing educational tasks. The methods of performing heuristic tasks have a metasubject character, and from these methods it is possible to find solutions to the tasks performed during the study of various educational subjects.

Heuristics includes a number of questions, instructions, advice, analogies, visual aids that serve to develop students' professional competences, eliminates difficulties in the educational process, develops students' creativity, and creates favorable conditions for their micro-development and education. It allows to eliminate difficulties in the educational process, to develop creativity, and to create a favorable environment for professional creative development of students. In a word, heuristics ensures the development of professional creativity and professional competencies in future teachers. In addition, heuristics embody general didactic methods. Heuristics is a set of general didactic methods, which, when used in an appropriate manner, help to form effective search strategies in students and accelerate the process of performing educational research tasks. Heuristic activity of students has been the object of pedagogical and psychological research. The concept of educational and creative situation is also used in relation to such activities of students. Situations, questions and tasks organized in the process of heuristic teaching, first of all, acquire a developmental character in relation to future teachers. In heuristic situations, future teachers are able to construct professional knowledge in the course of their personal activities. In this process, future teachers use all heuristic methods.

In recent years, the scope of pedagogical approaches aimed at forming the experience of creative activity in future teachers has expanded. Experts began to pay special attention to research related to the self-expression of future teachers. At the same time, creative work of future teachers, independent learning processes, increasing the scope and weight of heuristic tasks in independent educational situations are becoming the focus of attention of professors. They are trying to find and apply educational technologies that guide the creativity of the future teacher.

Today, the implementation of research aimed at finding strategies for the rapid development of professional competences, turning the future teacher into a creative person, is gaining special relevance. Because in the traditional content of education, knowledge was presented to students as educational material and it was required to master it. In the process of heuristic education, educational materials are presented to future teachers for completely new purposes. These materials appear for the future teacher as a creative product that ensures his creative activity and develops his professional competences. In the process of heuristic education, the role and essence of historical cultural achievements change, and educational standards gain new importance. Students are able to understand cultural and historical experiences in a suitable way when creating a new creative product. In this process, knowledge provides professional development of future teachers and serves their development.

Heuristic learning methodology relies on heuristic tasks. Any learning element related to the topic being studied can be presented as a heuristic task. Future teachers feel the need to master the knowledge and methods of activity necessary for their professional development. In this process, the development of professional competence and personal activity of future teachers is envisaged. Only after that, future teachers are required to master the methods of cognitive activity and to know the directions of creation of creative products. In this process, future teachers are required to master the cultural and historical experiences of professional development created by mankind and master the methods of their use. For this purpose, future teachers absorb existing knowledge and compare it with their own social experience. Then they strive to develop their professional competences using dialogue and polylogue (group communication) methods.

A system of heuristic tasks is used in the educational process. These types of pedagogical processes include goal-setting situations, heuristic

conversations, inventiveness, metasubject classes, working games, heuristic lectures and seminars, conferences, protection of students' creative projects, reflection-based classes. Creative activities are concentrated activities with a heuristic load. Such activities include scientific creative weeks, heuristic Olympiads and projects aimed at professional creative development of students. Heuristic educational methods serve as a methodical instrument for professors and teachers. Such methods include empathy, hypothesis, norm creativity, symbolic and figurative vision, joint reading and mutual evaluation, concept construction, forecasting, hyperbolization, inversion, brainstorming, and others.

One of the leading methods of heuristic learning is reflection, which allows students to understand the way they work. It also allows to determine its essence, to enrich the activities of professors and teachers. As specific forms of educational reflection, open discussions, written questionnaires, the student's expression of his interests and scope in drawings, the depth and richness of cognitive activity, the productivity of cognitive activity, self-spiritual intellectual feeling, self-expression, etc.

Creativity makes it possible to go beyond the scope of regular activities, to enrich existing knowledge, to develop concepts, to strive to create new content, to master knowledge that is not provided for in the curriculum.

In the process of heuristic education, control does not consist in controlling the levels of mastering of ready-made knowledge of future teachers, but it involves checking the levels of finding knowledge and methods of activity that are necessary for creative activity.

The main criterion for evaluating the results of heuristic activity formed by students is to determine their personal and professional development, the possibilities of comparing them with themselves during a certain period of education. Monitoring and evaluation of students' activities, results related to professional development and heuristic assignments: a) personal and professional development of future teachers; b) creative achievements of future teachers in the process of studying pedagogic subjects; c) refers to mastering educational modules in accordance with qualification requirements and determining the possibilities of advancement in this process.

The scope of application of heuristic teaching in the process of higher pedagogical education depends on the extent to which it is organized by professors and teachers. Prospective teachers take with special satisfaction the opportunity for self-expression given to them. Professors and teachers rely on the legal and regulatory frameworks adopted in this process. Our research and analysis show that it is possible to provide students with any subject provided in the educational programs and educational modules of the pedagogic sciences on the basis of a heuristic approach. Only then, the knowledge of a specific subject acquired by them will serve to form pedagogical competences, ensuring professional and creative activity in future teachers.

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