METHODOLOGICAL MODEL FOR THE DEVELOPMENT OF PROFESSIONAL TRAINING OF INFORMATICS TEACHERS

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Abstract

Pedagogical-psychological, organizational-pedagogical, methodological didactic conditions for the development of the professional training of computer science teachers of general secondary schools in the process of professional development based on the content development of didactic support in the visual capabilities of digital technologies and giving priority to software packages (AutoCAD) improvement revealed.

Keywords: Object, Continuous Education, Modeling, Experience, Case Study, Efficiency, Bascet, Target Component, Motivational, Cognitive.

INTRODUCTION

A number of targeted programs aimed at the large-scale implementation of the concept of development of the higher education system in our republic until 2030 have been developed, significant work is being carried out on connecting educational institutions to the global Internet network, improving educational sites of educational institutions. In the strategy of Action for the further development of the Republic of Uzbekistan, the priority task is to "further improve the system of Continuing Education, increase the possibilities of quality education services, continue the policy of training highly qualified personnel in accordance with the modern needs of the labor market." Therefore, the development of professional training of Informatics teachers and the selection of optimal options for comparative comparison, critical analysis, generalization and teaching methods of pedagogical problems are considered from current pedagogical tasks.

LITERATURE ANALYSIS AND METHODOLOGY

The purpose, content, approach and interdependent components of the organization of the process of professional development of teachers of informatics as internal elements in the construction of a model of development of professional training, such as assessment of educational forms, methods and educational results are included. In addition, we carry out modeling based on the characteristics of andragogical education, in which the listener plays a leading role at all stages of the educational process. N. K. Zotova argues that modeling is the process of replacing a real object under study with a similar ideal, which in one way or another is similar to a primary object. The first object is called the original, and the second is called the model. In the process of modeling, conditions, assumptions are determined that simplify some initial analysis. Also, when creating a model, the basic principles of modeling theory are taken into account: purposefulness, similarity of object and model, systemicity of Model, unity of

objective and subjectivity in modeling, cognitive and formative modeling functions a. I. Vatulin States in his research that "modeling is an indirect practical or theoretical study method of an object, in which it is not the object being studied, but an auxiliary artificial or natural system that can replace it at certain stages of the study, which is in certain objective coordination with the object being studied and provides information about the object being modeled in the final analysis". Thanks to modeling, the pedagogical process develops technologically. In this, the purpose of modeling is seen in the schematic representation of the pedagogical, conceptual systems under study.

N.A. Muslimov gives a definition to the concept of the specialist model as follows: the specialist model is a template that ensures the successful resolution of problem situations arising in the field of production, describes certain qualities and reflects the independent knowledge and self - development of the professional.

In pedagogy, it is almost impossible to create a clear, statistical model, the reason for which pedagogical activity is a creative process that expresses the interaction between people, and each person is a person who requires individual specific approaches and methods of interaction. The Model should have the following characteristics: simplicity of application, simplicity, clarity of statement, coverage of the most important characteristics with expressiveness. It can be seen that pedagogical models can cover the maximum number of didactic objects and make it possible to describe the conditions, methods of content, forms of teaching.

First of all, we define the boundaries of the organizational system and a number of hypotheses for the construction of the model.

The first hypothesis is understood by the teacher as a specially organized educational system, which includes elements such as goals, tasks, content, form, method, result and evaluation criteria. Also, Skill Development-provides for the acquisition of theoretical and practical knowledge and skills of Informatics teachers as a result of the increased requirements for the qualification level.

The second hypothesis is the emergence of needs and other factors on the basis of the subject's perception of the surrounding world and the possible changes in their consciousness in interaction. Because it is precisely in educational and educational activities that it is envisaged to model two (educational and educational) subjects that are complex and interconnected. All external factors affecting the final results to a certain extent: physiological specificity, age and management experience of the listener, specialty, relationship with their employees, image of an educational institution and similar reasons were not taken into account.

The third hypothesis is that we believe that all professors who belong to the educational subject and make up the pedagogical process in his system have sufficient professional training to implement his methodological approach and achieve the goal. The addition of new knowledge to the existing knowledge of Informatics teachers is carried out. The differentiation between teachers is explained by the fact that this knowledge is organized to some extent in order to make effective decisions in different situations, not limited only to knowledge ownership. Experience is also important in skill development processes. The relationship of the concepts

presented-determines the initial level of professional training of the computer science teacher, his ability to increase his readiness. The discrepancy between the concepts mentioned above (between needs and rules, needs and abilities, rules and experiences) creates problematic conflicts in the development of professional training of computer science teachers. The development of professional training of teachers of Informatics positively changes under the influence of external (educational process, environment in the system of professional development) and internal (experience, reflection) circumstances.

Modern requirements for an informatics teacher are established as a social order, and these requirements are determined by society on the basis of social professional development. Its components are the requirements of Informatics teachers for knowledge, skills, qualifications and personal qualities. In the educational process, it is effective to develop professional training when the teacher is organized on the basis of problems in work activities. This is expressed in the fact that the teacher is aware of the goals of Education, realizes his mistakes and learns new skills. Education the system uses the terms "tool" along with teaching methods. Auxiliary teaching materials necessary for the implementation of motor teaching methods are electronic educational resources, educational, methodological manuals, Presentation Materials, Handouts, technical equipment necessary for modular teaching processes and their use. The interaction of the subjects of the qualification process is carried out using a modular system of andragogical education. The content of the module can be modified and supplemented taking into account the goals of the educational process. The smallest unit of modular educational content can be a specific topic of a particular course or a fragment of a topic that meets a specific didactic goal. Modular teaching is based on the following principles:

- Modularity, that is, the integration of the content of modules aimed at achieving the intended goal, the completeness of each block of the module in order to build the educational material according to the specified didactic goals and achieve their assimilation by each listener, the construction of a single educational content;

- Integrity, that is, the consideration of the training material within the module as a single integrated system aimed at solving a holistic didactic goal-the structure of private goals, highlighting the likes of their implementation;

- Ensuring a free change in the content of modules, taking into account the social order;

- The effectiveness of knowledge and its system, that is, the purposefulness of education, helps to form the motivation for obtaining education;

- Flexibility, that is, to adapt the content of training and ways of mastering it to the individual needs of the audience;

- Implementation of the advisory and coordinating function by the educator.

Module-based teaching changes the educational process in such a way that the target learns according to the individualized program, based on the active approach of modular teaching, only when the educational content is consciously mastered, becomes the content of the active actions of the listener. Therefore, in the development of tasks, the educator relies on the content

of the teaching, that is, the content of the teaching, determines the system of self-control and self-assessment, thus ensuring the process of reflexive education. The module is usually defined by competencies that the listener must master, respectively, by incorporating a number of interrelated themes. The advantages of such an educational program are as follows:

- Flexibility of modular educational structure;

- To be able to redistribute training time in order to adapt to the requirements of professional development based on the capabilities and needs of the audience;

- To create a positive psychological environment by removing a significant part of stressful situations.

The structure of training modules presented in the model for the development of professional training of Informatics teachers consists of lecture, practical training, portable training and forms of independent training. Theoretical classes are organized in the form of a" Problem lecture " - a problem lecture. In adult education, the transformation of an educator into a passive participant makes the audience bored. Also, in terms of the availability of the opportunity to use the knowledge acquired in adult education in a "delayed" way, that is, not later, in rapid practice, the level of attention to education in the audience changes and, accordingly, directs the subject from learning as a subject to learning in a problem-oriented way of Education. The problematic lecture, combined with the fact that it is a convenient means of providing educational material, allows you to give a lot of new information in one lesson. In a problematic lecture, listeners take creative initiative in finding a solution to a problematic situation, not to receive ready-made information. In this, the educator performs tasks such as ensuring the participation of the audience in the analysis of the problem situation, involving them in solving problem situations. A problematic report requires the formation of a question, the solution of which must be found during the presentation of educational material. However, a problem lecture does not have a ready-made solution, unlike a problem question. Questions posed by the educator should generate mental thinking in the audience and require targeted mental seeking. When creating a problem situation, the following methods are proposed:

- Direct statement of the problem;

- Problematic task in the form of a question;

- Comparison of practical facts to scientific facts;

- Dialogue of opposing opinions on any issue;

- After listening to part of the lecture, specify the question that the listener must answer and draw conclusions.

Also, problematic teaching technologies such as controversy in theoretical training, mental attack were partially considered in our study. In practical classes, the development of professional training of Informatics teachers in the process of professional development is covered by the methodology of integrated application with methods such as Case study, Bascet, Budding. Case study (method of specific situations). This method is very effective for

professional training, and is not just a description of real phenomena, but an information structure built to solve certain tasks, various business situations, designed to develop various skills and rules of behavior. The essence of this technology is that educational material is presented to learners in the form of a micro-problem, and knowledge is obtained as a result of their active knowledge and creative activities in the development of solutions.

Bascet (basket) is a method of assessment and teaching based on simulation situations that are often found in practical activities. This method assesses and develops the ability to analyze, classify, select the most important factors and systematize them, form ways to solve problems, taking into account their importance and relevance. In certain situations, the bascet method approaches the case-test structure. As soon as the analysis of documents on professional activity covers the essence of various problems, not only skills and abilities develop, but also a project in which several important and immediate procedures, instructions and correct decisions must be made at the same time. Document analysis using the Bascet method is usually carried out on the basis of two restrictions: the work is performed alone (training in the method of document analysis can be carried out in groups), and the timing of its implementation is limited. The peculiarity of the method is that the audience receives the entire volume of documents that are systematized or irregularly structured at the same time, and the colleague is forced to communicate with the audience in order to collect the necessary information for making a decision. Based on the above, based on the professional competencies (algorithmization, design, programming)that Informatics teachers should occupy in the conditions of market relations for the analysis of scientific sources and the organization of educational services, the model for the development of professional training of Informatics teachers in the process of professional development by designing the training module based on a The technological-process component includes modern information and communication technologies and leading pedagogical technologies and tools. In addition, students are included competencies that are formed on the basis of the development of fundamental knowledge and skills;

The evaluator-the resulting component-consists of pedagogical experiment-test sites, criteria and levels for assessing the level of development of professional training of Informatics teachers, and the result. As a result, the training of an informatics teacher with advanced professional training is achieved. To give a description of the methodical model, we imagine its general components:

The target component is to identify the tasks and goals of the development of professional training of Informatics teachers;

The methodological component-the definition of approaches and principles-consists in providing pedagogical conditions in the framework;

The technological and process component includes modern information and communication technologies and leading pedagogical technologies and tools applied to the process of professional development. In addition, students are included competencies that are formed on the basis of the development of fundamental knowledge and skills;

The evaluator-the resulting component-consists of pedagogical experiment-test sites, criteria and levels for assessing the level of development of professional training of Informatics teachers, and the result. As a result, the training of an informatics teacher with advanced professional training is achieved. The Model inseparably reflects the process under study on the completeness and interdependence of components: purposeful, meaningful, technological-process, evaluative-consequential. The integrativity of this model is manifested in the interconnection and interaction of all its main components, in the integration of goals, content, organizational forms and methods for the development of professional training of teachers of Informatics.

CONCLUSION

The model developed by us is integrity (interdependence and interaction of all its components, goals, content, dependence of organizational forms and methods), manageability (sensitivity to influences from a professor), variability, professional activity (development of professional training of computer science teachers, taking into account the professional requirements and needs of society). During the study, a model of the methodological system of practical implementation of the theoretical results obtained was developed. The developed methodological model consists of the components" target"," meaningful"," technological-process "and" result–assessment " and includes such elements as purpose, approaches, principles, stages, didactic conditions. Thus, in accordance with the selected approaches and principles, on the basis of the model for the development of professional training of teachers of Informatics, we understand the model that embodied the purposeful, meaningful, technological-process and evaluative-consequential components within itself.

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