METHODOLOGY FOR DEVELOPING INFORMATION-TECHNOLOGICAL READINESS OF THE FUTURE INFORMATION TECHNOLOGY (IT) TEACHER ON THE BASIS OF CLUSTERING FORMS OF EDUCATION

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Abstract. Nowadays the innovative possibilities of teaching informatics in higher educational institutions are increasing more and more, and the integration of the methods of teaching informatics in various fields, the understanding of the content of educational materials, the efficiency of processing, which can be raised to a new level in terms of quality, is of great scientific and practical importance.

The article describes the approaches to the wide range of aspects of professional training considered from the point of view of quality, covering all areas of the educational process, as well as the issues of continuous improvement of ICT competence based on the development of information-technological training of the future informatics teacher.

Keywords: Process, market, activity, management, dialectical, quantitative, management, analysis, factor, method, principle, integration.

Introduction

In the field of world education, scientific research aimed at the development of high technological, educational competences using modern information technologies is being carried out. Despite the fact that teaching computer science is becoming an increasingly important socio-cultural process of reality, its didactic potential is not sufficiently revealed. In this regard, in the cluster environment of modern educational forms of teaching in higher educational institutions, special attention is paid to the scientific basis of the improvement of the methodology of the development of the information-technological training of future informatics teachers and to clarify the ways of effective use of information and communication technologies and organizational forms of innovative education in the educational process.

In recent years in our country, in the current information stage of the improvement of the higher education system, the possibilities of using technologies for teaching computer science are increasing significantly. Based on the practice of educational institutions, it consists of organizing scientific research and development, training, retraining and upgrading of personnel in the field of strategic and project management, management, marketing in the field of information technologies and communications. In this regard, the innovative possibilities of teaching informatics in higher educational institutions are increasing more and more, and the integration of the methods of teaching informatics in various fields: understanding the content of educational materials, processing efficiency with scientific, educational and future professional activities, which can be raised to a new level in terms of quality, is of great scientific and practical importance. is enough.

Analyze of the literature

The Decree of the President of the Republic of Uzbekistan dated July 6, 2022 No. PD-165 "On approval of the innovative development strategy of the Republic of Uzbekistan in 2022 -

2026" based on the clustering of forms of education, the development of information technology training of the future computer science teacher and the tasks defined in other regulatory and legal documents related to this activity implementation issues are covered [1].

A.A. Abdugadirov [2], R.Sh. Akhlidinov [3], M.M. Aripov [5] and others and others in developed countries have conducted research on the theory and practice of introducing information and communication technologies to education and the problems of using distance learning technologies in our country. Research works were carried out by scientists such as R. Bottino [6], R. J. Anderson [4]. There are many scientific developments in the pedagogical literature that reveal some aspects necessary for this research.

Psychological justification of visual perception of information in teaching L.S. Vygotsky [7], R.R. Garifullina [8], A.N. Leontev [9], S.L. Rubinshtein [10], D.B. Elkonin [11]] and others were revealed in scientific research works.

Serious work is being done by a number of researchers to solve the problems of providing the educational system with electronic educational resources. However, the analysis shows that the formation of centralized banks of digital resources in higher education, placement of visual educational materials, methodical support and presentation are not always carried out as intended. This requires improvement of the practical-technological system of teaching informatics based on modern technologies, factors of visual acquisition of educational materials by students, pedagogical-psychological features.

Research methodology

The future informatics teacher should have the professional ability to respond to the status of pedagogically necessary information technologies, which are optimally applied in pedagogical practice, from the entire variety of newly created information and communication tools.

It is assumed that the high quality of information-technological training of future informatics teachers is associated with intensive and dynamic changes, as a result of which the content and forms of this training will be systematically improved in accordance with the pace of development of information technologies.

During the training of future informatics teachers, the emergence of new information technologies depends not only on extensive, but also on intensive factors, among which the factor of continuous change of several generations of hardware and software is in the first place. Accordingly, it is not enough to acquire the basic knowledge and skills defined by the relevant educational standard for the information technology training of the future informatics teacher. The high quality of information-technological training of future informatics teachers can be ensured only on the basis of purposeful management of this special, rapidly developing pedagogical process, which includes all new forms of teaching. Thanks to the specially organized management of the quality of information-technological training, higher education will not only have a socially innovative character aimed at the development of society, but will also maintain the necessary efficiency within the existing socio-economic conditions.

The second factor determining the modern requirements for the information technology training of future informatics teachers is the rapid development of operating systems other than MS Windows, the increase in the size and range of professional software types. Existing methodical literature mostly answers the question of how to get the desired result during computer processing.

As in the scientific and practical field of human knowledge, as a result of the informatization of everyday human life and the rapid development of informatics, social relations in the conditions of dynamic cultural-developed changes, the information and communication requirements of society often exceed the information and technological capabilities of the existing educational standards; but the standards are constantly updated accordingly. Therefore, it is possible to achieve the goal of introducing a quality management system based on an advanced combination of existing social requirements and opportunities, educational standards, by determining the most promising and effective criteria that determine the high quality of information technology training of informatics teachers.

Results of research

The concept of quality, as a clarification of important educational aspects, also requires coverage of all areas of the educational process. The breadth of aspects of vocational training considered from a qualitative perspective dictates many approaches to its evaluation.

The essence of the systematic approach to quality management is based on the methodology of studying the professional training process as a system, in which the main elements, internal and external relations, which are the most important for educational results, are determined; the objectives of each sub-structure forming the educational system are determined according to the single center of the whole system.

According to the process approach, a number of functions that provide management are considered in relation to each other. The process means a system of interrelated actions aimed at labor market research, planning, organization of educational activities, accounting, control, analysis, regulation and optimal stimulation.

A complex approach includes a comprehensive comparison of various aspects of professional training included in the "internal" quality management system of higher education and its external environment. Based on a comprehensive study of the quality management system, its status can be assessed with a certain set of values.

Quantitative and qualitative approaches are based on dialectical, mutual exclusion of quantitative and qualitative changes and other laws. The removal of one change by another is determined by various methods of qualitative and quantitative analysis when evaluating the performance of any part of the quality management system.

The structural approach consists in determining priorities in order to rationally allocate resources among factors, methods, principles and other tools. The implementation of the structural approach includes the initial systematization of the rating factors, as well as the research object and management functions.

The quality management system of information-technological training is integrated into the single pedagogical process of the higher education institution. The high quality of the educational process is determined by the content and availability of the necessary personnel, material and equipment, information and other resources.

The comprehensively assessed quality of the information-technological readiness of the future informatics teacher is a complex, detailed structure of interrelated components.

The axiological component is related to the recognition of the need for information and computer literacy of modern specialists and public awareness of the importance and role of informatics in modern society.

The gnostic component is characterized by the level of mastering actual and content-required methods of mutual educational relations based on information and communication technologies, as well as the mastery of information technologies in the field of professional activity of teachers.

The quick-process component is defined as the readiness and ability to quickly and sufficiently adapt to the dynamic conditions of the specialist's practical activity based on mastering information modeling technologies and skills in the process of solving various professional tasks.

One of the main competencies that characterizes the quality of teaching of a future informatics teacher is his information-technological readiness, which is manifested as the teacher's ability to work with information resources in a socially necessary way and with various information sources, using the latest technologies to solve pedagogical problems. That is why, as in the current practice of training future informatics teachers, the most important task in conducting research on these training sessions is the formation and development of students' information-technological competence.

The detailed characteristics of the future informatics teacher's computer-based professionalism and, accordingly, the structure of his information-technological competence are shown on the basis of the qualification of modern pedagogical practice he received at the higher educational institution and the generalization of his professional activity in the field of information provision in the process of teaching students.

Informatization of education leads to the constant change of the educational environment and the need for the continuous development of new, information-rich activities by all participants of the educational process, therefore, the requirements for training future teachers are constantly changing and become a necessary element of the profession. Information technology training of the future teacher should be designed for life conditions in the post-industrial society, where information, scientific knowledge and innovation play an important role.

Conclusion and suggestions

When evaluating the professional training of any modern specialist, it is necessary to define components based on common criteria:

- standard component;
- regional component;
-higher education component.

All these components determine the quality of general professional training as a specific set of its important features. The following approaches were implemented in the development of information technology training of the future computer science teacher: systematic approach, processual, functional, complex, quantitative and qualitative. Approaches to quality assessment vary depending on the objectives and aspects considered.

The comprehensively evaluated quality of the information technology readiness of the future informatics teacher consists of interrelated components:

- The axiological component is related to public awareness of the importance and role of informatics.

- The Gnostic component is characterized by mastering information technologies in the field of professional activity of future teachers.

- The quick-process component is defined as the readiness and ability of the specialist to quickly and sufficiently adapt to the dynamic conditions of his professional activity.

Creation and practical implementation of modern software tools within the framework of improving the methodology of developing the information-technological readiness of the future informatics teacher based on the clustering of educational forms, continuous improvement of ICT competence based on the development of the information-technological readiness of the future informatics teacher, and the information-technological development of the future informatics teacher based on the clustering of educational forms. The methodical model of development of readiness can give effective results not only as an effective didactic tool used by the teacher, but also in the form of skills to be formed.

REFERENCES

1. Decree of the President of the Republic of Uzbekistan. On approval of the innovative development strategy of the Republic of Uzbekistan in 2022 - 2026. Tashkent sh. July 6, 2022, PF-165 - no.
2. Abdukadirov A.A. Distance learning models and their classes. // J. Physics, mathematics and computer science. - Tashkent, 2004. - No. 5. -B. 50-56.Ахлидинов Р.Ш. Социально-педагогические основы совершенствования общего среднего образования (аспекты управления): Автореф. дисс. ... канд. пед. наук. –Ташкент, 1998.– 21 с.
3. Anderson, R.J., Anderson, R., Vandegrift, T., Wolfman, S., Yasuha- ra, K. Promoting interaction in large classes with computer-mediated feedback. In Designing for change in networked learning environments (pp. 119-123). Proceed¬ings of CSCL, Bergen, 2003.
4. Арипов М. Internet ва электрон алоқа асослари. –Тошкент: Университет, 2000. – 132 б.
5. Bottino, R., Kynigos, C. Mathematics education & digital technolo¬gies: Facing the challenge of networking European research teams. Internation¬al Journal of Computers for Mathematical Learning, 14 (3), 203-215. 2009.
6. Выготский, Л.С. Педагогическая психология [Текст] / Л.С. Выготский. — М.: Педагогика, 1991. — 195 с.
7. Гарифуллина, Р.Р. Научно-методическая компетентность преподавателя технического вуза в современных условиях реформирования высшей школы / Р.Р. Гарифуллина // Вестник Казанского государственного энергетического университета. - 2014. - № 3 (23). - С. 157-167.
8. Леонтьев, Д.А Ценность как междисциплинарное понятие: опыт многомерной реконструкции. [Текст] / Д.А. Леонтьев // Вопросы философии. — 1996. — №4. — С.15-26.
9. Рубинштейн, С.Л. Основы общей психологии [Текст] / С.Л. Рубинштейн. - Санкт-Петербург: Изд-во Питер, 1999. – 720 с.
10. Эльконин, Д.Б. Психология игры [Текст] / Д.Б. Эльконин. — М.: Владос, 1999. —359 с.