

## MODEL FOR DEVELOPING FUTURE TEACHERS' INFORMATION TECHNOLOGY COMPETENCE

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***Abstract .** This in the article future teachers information to technologists related competence develop problems , to him related take visited of scientists research analysis Also , the future teachers information technologies related competence develop model and then use methods cited .*

***Support words :** information technologies , competence , model, vitagen , web-quest , system-activity , platform , cloud service*

Today, in the strategic directions and regulatory documents adopted on educational issues in our country, special attention is paid to the problem of designing and implementing educational platforms for distance learning, cloud technologies, and digital teaching aids for subjects [1]. Therefore, it is necessary to widely and effectively use innovative educational technologies and didactic tools based on information and communication technologies to develop the competence of future teachers in information technologies. Therefore, the object of the proposed study is the development of the competence of future teachers in information technologies. The effective implementation of this study requires the development of new approaches to the formation and development of skills, qualifications, and competence of future teachers in the subject “ Digital and Information Technologies”.

"Digital and Information Technologies" requires the development of a teaching model and methodology based on the mutual integration of

local and foreign information and educational environments, educational portals, educational websites, cloud services, remote services in the LMS system, as well as modern pedagogical technologies and teaching methods, and their implementation in training and independent educational activities of future teachers through experimentation .

Studies on the theory and practice of developing students' competence in information technologies were carried out by such scientists as AAKuznetsova [2], VYNikishina [3], LVOtverchenko [4], ONGriban [5]. In their works, the concept of competence in information technologies and Different opinions have been expressed regarding the development of students' competence.

In particular, according to AAKuznetsova, information technology competence is defined as a person's ability to effectively apply modern computer technical knowledge and skills in life [2]. According to VYNikshina, professional information competence of a specialist is an “integral characteristic of a person” who has knowledge, skills and abilities that allow him to solve various professional problems using modern technologies and computer networks [3]. According to LVOtverchenko, the formation of professional information competence is defined as “the controlled development of students' theoretical concepts and methods of working with relevant information (computer) processes and technologies” [4]. According to O.N. Gribani, information technology competence is a person's ability to use information and communication technologies to solve various problems in order to successfully live and work in an information society [5].

The works of the above-mentioned scientists have discussed the concept of information technology competence and its essence, but the development of future teachers' information technology competence is

not fully scientifically substantiated. Therefore, the proposed research is of urgent importance.

The current research is aimed at solving the above problems, namely, developing the competence of future teachers in information technologies. In this regard, the idea of improving the lecture, practical, laboratory and independent learning of the subject "Digital and Information Technologies" taught in the training of future teachers on the basis of modern educational technologies is proposed.

Therefore, as part of the research, a functional-structural model was developed to improve the effectiveness of teaching the subject "Digital and Information Technologies " and to develop the logical, algorithmic, creative, cognitive thinking of future teachers, as well as their competence in information technologies (see Figure 1).

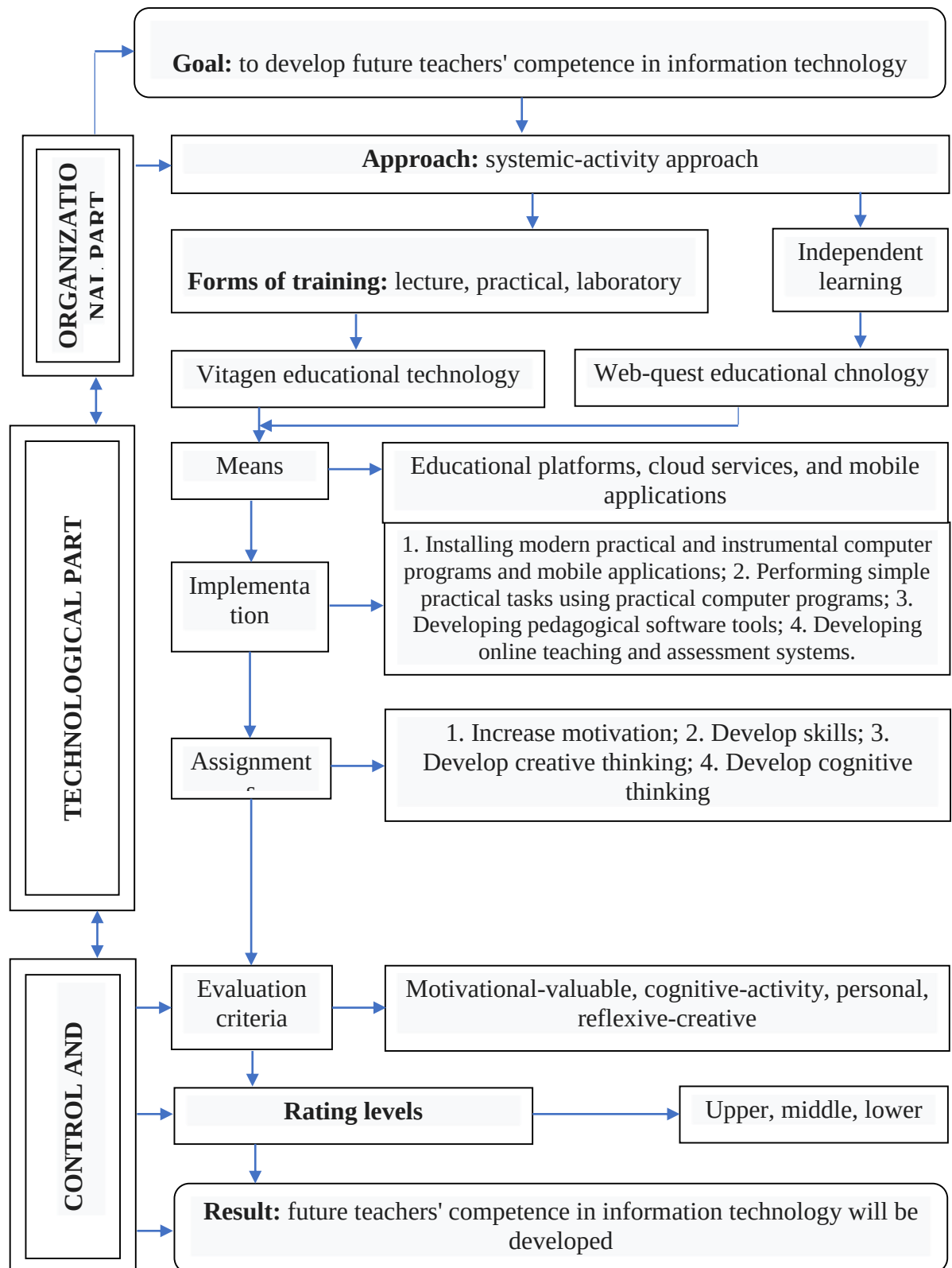


**Figure 1. Future teachers develop information technology competence model**

The proposed model is organizational, technological, and control and analysis. The organizational part is aimed at increasing the efficiency of teaching programming languages in general secondary schools, professional and higher education institutions.

In the technological part of the model, the development of future teachers' competence in information technology. It is proposed to use a systemic-activity approach.

The systematic-activity approach assumes the development of the student's personality based on the development of universal methods of activity as an educational goal.

The activity approach is based on the position that human psychological abilities are transformed into internal mental activity through sequential changes in external objective activity. Thus, the personal, social, cognitive development of students is determined by the organization of their activities, primarily educational activities [6].

According to O.S. Toisteva, the system-activity approach fully describes the main psychological conditions and mechanisms of the educational process today, the structure of students' educational activities, which corresponds to the modern priorities of the modernization of education [7]. Adherence to this theory in the formation of the content of higher education implies, in particular, an analysis of the types of leadership: it emphasizes universal educational activities that form knowledge, skills, abilities and competence (including game, training, communication). At the same time, such approaches as competency-based, personal, etc., which have become popular in education in recent years, not only do not contradict the system-activity

approach to the design, organization and assessment of educational outcomes, but are partially combined with it.

The implementation of the systemic-activity approach leads to the development of professional competence of future teachers with a sense of independent search, success and confidence in their work [8]. The presented experience in implementing the systemic-activity approach in education serves as an effective approach to developing the competence of future teachers in information technologies. The systemic-activity approach, as a defining and strategically important methodological basis for the training of teachers in higher educational institutions, implies the systematic organization of a holistic educational process as a unity of various types of their activities (educational, training and professional, scientific). The systemic-activity approach allows future students to form an idea of the professional activity being mastered within the framework of the "Education for Success" strategy as a means of achieving life success and personal self-realization.

Taking into account the advantages of the systematic-activity approach, it is proposed to use the subject " Digital and Information Technologies " taught in the training of future teachers in lectures, practical, laboratory classes and independent learning. This involves the use of vitagen educational technology in lectures, practical, laboratory classes and web-quest educational technology in the independent learning of future teachers.

If we turn to Vitagenic educational technology, Vitagenic life experience is the result of the process of accumulating life experience that is personally significant for a person. Vitagenic experience has social significance and allows predicting and designing the future. Its basis is

information that is strictly individual for each subject in terms of content and volume. Vitagenic education is a study based on the realization of life experience, personality, its intellectual and psychological potential for educational purposes. A logical continuation of the theory of vitagenic education is the holographic approach proposed by Belkin. The holographic approach implies a system of educational methods and technologies aimed at three-dimensional, multidimensional perception and assimilation of knowledge [ 14 ]. The essence of Vitagen education is "education "The idea of connecting the knowledge and skills students acquire during their studies with their life experiences" That is, life experience as the basic concepts of the theory of vitagenic education, interpreted as vitagen education. Vitagen is considered effective for organizing the collaborative activities of subjects in the process of ensuring the harmony of theory and practice in teaching subjects related to information technologies, in which the audience and independent learning are summarized. The holographic approach to subject-object relations is the implementation of vitagen education based on the mastery of a large amount of material.

Taking into account the capabilities of Vitagen educational technology, it can be concluded that the subject of " Digital and Information Technologies " , which is being taught in the training of future teachers , should be used on the basis of integrating educational environments in lectures, practical, and laboratory classes.

At the same time, special attention should be paid to independent learning in strengthening the skills and qualifications of future teachers in the subject of " Digital and Information Technologies " acquired in the classroom. Therefore, the model proposed within the framework of the

study proposes the idea of using web-quest educational technology in the independent learning of future teachers.

Web-quest educational technology combines active teaching methods with the advantages of interactive technologies by searching for the necessary educational information using the global network. As is known, web-quest educational technology is a process based on a system of rules for organizing the interaction between a teacher and students, which guarantees effective pedagogical cognitive communication [9]. As a result, situations are created for students to succeed in education and develop their activity and professional competence [10]. At the same time, web-quest technology represents problem tasks-projects with role-playing elements, for which it combines active teaching methods with the advantages of information and interactive technologies by searching for the necessary educational information using the global network [11, 12, 13].

In this , initially , the future teachers information to technologies related motivation increase in mind caught . That's why for future teachers your motivation increase for modern pedagogical software tools to design related computer modern practical and instrumental programs and mobile applications installation and adjustment offer This is being done . in process future teachers contemporary programs and mobile applications search and analysis to grow through information technologies to the field related motivation to increase is achieved .

This from the process then , future teachers computer practical and instrumental programs and mobile from applications using projects to prepare related skills to develop requirement will reach . That's why for

, future to teachers simple practical programs and projects to perform assignment as is given .

Future teachers computer practical , instrumental programs and mobile from applications to use related skills from developing then , develop their creative thinking It is necessary . Therefore for future to teachers pedagogical software tools working exit assignment as to give recommendation is being done .

This processes done to the top future teachers information technologies in the field enough at the level to qualifications has It will be . then , future teachers information to technologies related develop cognitive thinking It is necessary . online teaching and assessment systems working exit independent education assignment as to give based on achieve possible .

Future teachers above cited the results summarize , information to technologies related competence development degrees in determining motivational - valued , cognitive-activity , personal , reflexive-creative from the criteria use offer is being done .

So doing research within offer being done from the model future teachers information technologies to the field related creative , cognitive thinking and competence in development use recommendation Because offer being done in the model future to teachers computer modern practical and instrumental programs and educational mobile from applications using different pedagogical software tools , online teaching and to evaluate intended systems working to go out is achieved .

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