THE IMPORTANCE OF THE FORMATION OF WEB PROGRAMMING COMPETENCIES IN SCHOOLCHILDREN

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ABSTRACT

The article talks about large-scale reforms carried out in the field of education in Uzbekistan, the principles of the law on education and the national program of Personnel Training. In the study of the subject, the research of Uzbekistan and foreign scientists on competence and competence was studied. For this purpose, special attention was paid to such issues as the stages and purpose of the development of the competence approach, the organization of independent work of students based on the competence approach. Formation, development and diagnostics of professional competence, problems of formation of e-learning environment, possibility of implementation of competency approach tasks were analyzed. The novelty of the competence in principle for pedagogical theory and practice of education, formation of base competences, methodological teaching system, methods and forms of teaching, reproductive methodological system, dogmatic methodological system, development of methodological system, programmed methodological training system, methodological systems based on problematic education were considered. In the field of Web programming, attention was paid to competent, cognitive-operational component, reflex component, formation of personal style, improvement of knowledge, understanding of its role and significance. It was detailed about the basic skills needed in teaching Web programming, flexibility and the role it plays in shaping such abilities as strategic thinking, the creative characteristics of thinking, the ability to predict shortcomings, the logical nature of thinking. An opinion was expressed on the relevance of teaching the basics of Web programming on the basis of aspecti, Bloom taxonomy, taxonomy of educational functions to study the basic concepts and ideas of Web programming.

Keywords: Competence, base competence, purpose of teaching, Web programming, approaches.

INTRODUCTION

International organizations around the world have been recognized as "The main driving force of Education and development and an important activity that brings sustainable development goals" in the new education conception "Education 2030 Incheon declaration: towards inclusive of equal quality education and lifelong learning for all". In this regard, systematic work is carried out on the development of students ' competence in modern web programming and e-learning according to the principle of “distance learning, ICT training, facilitating teaching in the distance learning environment provided with the appropriate technology and necessary infrastructure”.

The teaching of the subject of Informatics and information technology takes into account the priority of the digital economy for further development in scientific and technical terms, serves to develop the competence and culture of students of general secondary educational institutions on digital technologies, as well as critical thinking skills and creative information and

communication competences. With an understanding of natural phenomena and basic physical processes, they also learn to apply Informatics and IT laws in practice in the development of techniques and technologies. In the process of teaching science, students ' logical thinking ability, intellectual development and formation of universal values, thinking about the unique landscape of the universe, Informatics and Information Technology Science, the development of practical applications, and the use of acquired knowledge in everyday life activities, the formation of the beetle is envisaged.

Within the framework of large-scale reforms carried out in the education system in our country, a number of positive changes are also being made in the system of continuous education, in particular, practical work is being carried out on the wide and effective use of digital technologies and communication tools in this system. In this regard, the strategy of Action for the further development of the Republic of Uzbekistan is defined as the priority task of " deepening the study of other important and in-demand subjects such as informatics, mathematics, physics, chemistry, biology" [1]. In the implementation of this task, the development of national programming schools plays an important role in increasing the quantity and content qualities of computer programs in the state language and by promoting competition in the field of Information Technology. In this regard, future specialists are required to develop new methods and game technologies in the formation and strengthening of the system of necessary and sufficient knowledge and skills in the field of Informatics and Information Technology.

One of the principles enshrined in the law"on education" and the National Program of training of Personnel is the identification of talents and talents among young people and ensuring their comprehensive perfection. Development of the creative talents of young people at all stages of the educational systemtirishga great attention should be paid one of the main tasks of teachers is the expression of young people's initiatives from the promotion of innovative ideas and ideas, talents and talents in order to timely see and realize it.

LITERATURE REVIEW

Young people are required to train young people who are leaders of high spirituality through the development of organizational skills and managerial skills, directing them to the development of my country and its prospects. In the scientific works of Uzbek scientists on this topic A.A.Abdikodirov, B.S.Abdullaeva, Q.M.Abdullaeva, N.A.Muslimov, Sh.S.Sharipov, M.B.Urazova, O.A.Kuysinov, B.Z.Turaev [3] and others, "Competence" and "competence" To study and analyze the content of such concepts, the formation, development and diagnosis of professional competence, the problems of shaping the e-learning environment. At each new stage of pedagogical development, methods, forms, revisions, corrections, and new pedagogical decisions are required for the design and independent work of general secondary school students. At the present stage, researchers R.S.Garifullina, T.A.Eremenko, E.N. Trushchenko, G.Tyurikova, N.A.Prokhorova, M.I.Glotova and others are engaged in organizing students' independent work based on a competency-based approach.

The kompetent approach is aimed at the formation of the social, communicative, information, professional and other personal qualities of the educator, and is based on a system of compensations, such as the formation of opportunities for almost complete education and the solution of important practical tasks in modern social economic conditions. [2].

On the basis of a competent approach lies the culture of self-determination (self - development, self-readiness and the formation of capacity). Professional developmenttirib the specialist will have the opportunity to work in his profession with some kind of innovation (innovation), including the creation of new technologies, existing new methods, methods, etc.

The purpose of the kompetent concomitant is to improve the quality of education, improve the educational system. The analysis of the work available on the scale of the people on the problems of improving the educational system shows that the concept of "competence" and "competence" is considered as the main association in updating the content of Education.
The first approach 1960-1970 is characterized by the introduction of the category "competence" into scientific competences, the creation of the necessary conditions for distinguishing the concepts of competence, competence.

The second stage is characterized by the use of the categories of competence in the field of management and management, mainly in the theory and practice of teaching the native language in 1970-1990 years. For different types of activities, foreign and local researchers distinguish different types of compensation. So, J.Raven has allocated 37 compensations, which are in demand in modern society.

The third stage of confirmation of the competence-based approach is characterized by the active use of the category of competences in education in 1990-2001 years. During the conference held in Bern on the program of the Council of Europe on March 27-30, 1996, it was noted that in order to work effectively and continue higher education, it is important to reform education, to specify the base competences (key compitencies), which the educational recipient must possess.

N.A.Muslimov's scientific views, "competency" (visual perception) is the term. "competence" – "ability") - is the effective use of theoretical knowledge in activity, the manifestation of a high level of professional qualification, skill and competence. "Competence" is an integrated integrity of knowledge, skills and skills, which provides professional activity, which states that a person can realize his competence in practiceAccording to A.V.Khutorskoy, "Competence" is a normative requirement for the training of personnel necessary for effective and efficient work in a particular field. "Competence" is a set of personal qualities of a student that are necessary and sufficient to carry out effective activities in relation to a particular object. [14]
Valo Hutmacher's generalized report emphasizes the existence of different approaches identified by researchers as key competencies. [15] There are only two of them: written thinking (writing) and rational thinking), or seven: learning; conducting research (search); thinking; communication; cooperation; doing things; for example, adapt yourself.
A competent approach allows you to perform the following tasks:
- Coordinating educational goals with educators, with students' own goals;
- Facilitate the work of teachers by increasing the responsibility and independence of students in learning;
- Facilitate the work of students by increasing the share of individual independent learning, rather than by mechanically reducing the content of education;O‘quv va tarbiyaviy jarayonlar birligini nazariyotga emas, balki amaliyotda ta’minlash;
The principle novelty of the competency approach for pedagogical theory and educational practice is shown in Figure 1.

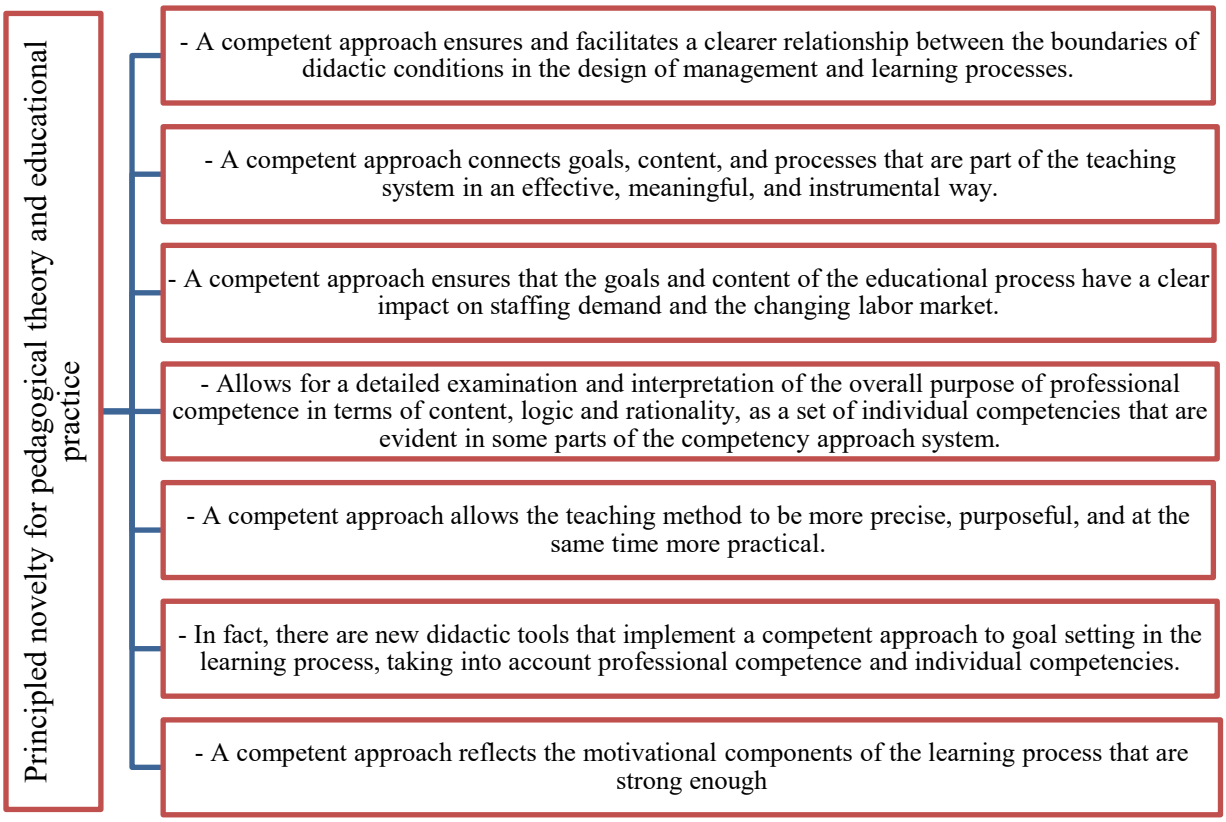

Figure 1. A competent approach is a fundamental novelty for pedagogical theory and educational practice.

Basic competence refers to a new form of education - a holistic system of comprehensive knowledge, skills, abilities, as well as personal responsibility and experience of independent work of the learner. In general, competence is the presentation of a set of knowledge, skills, and abilities. Therefore, they are intended to be used effectively to address a range of issues. A.V.Khutorskoy divides the basic competencies into the following groups [14]:

1. **Holistic-meaningful compensations.** These competencies in the field of worldview are associated with an essential value orientation of the educator, I.e. such competence allows you to see and understand the world around you, navigate in it, be aware of your place and duty, be able to choose purposeful and meaningful guidelines for your activities and behavior, make decisions and at the same time allows the educator to see and understand the world around him, navigate in it, to be aware of your place and provides a mechanism for fixing your position.

2. General cultural competencies. This is a set of questions about the student's attitude to the fact that he has acquired knowledge and experience. It is the spiritual and moral basis of national and universal culture, individual nation, humanity and human life, social events and traditions, social, family culture, the role of science and religion in human life, their impact on the world, domestic and competencies in the field of cultural leisure (e.g., having effective ways of organizing leisure time).

3. Educational and cognitive competencies. Logical methodology is a set of competences of the educational recipient in the field of independent cognitive activity, which includes the components of general educational activity, which includes the methods of designing, analyzing, external influenceirga response, organization of self-assessment. In relation to the object under study, the reader acquires creative skills: being able to distinguish the necessary

knowledge directly from the surrounding realities, being able to accept solutions to educational and cognitive problems, belonging to the characteristics of moving in non-standard situations.
4. In information compensations. With the help of Real objects (television, tape recorder, telephone, fax, computer, printer, modem) and Information Technology (audio-video Recording, e-mail, media, Internet), skills of independently sorting, analyzing, sorting, changing, storing and transmitting the necessary information are formed. These compensations ensure the functioning skills of the educator in accordance with the content of the fields of education and Educational Sciences, as well as the environment that surrounds it.
5. Communicative competences. It manifests itself in such aspects as knowledge of the necessary languages, surrounding and distant phenomena and ways of interacting with individuals, skills of working in a group, having different social positions in a team. The educator must be able to manifest himself, conduct negotiations and so on.
6. Social-labor compensation. Activities in the field of civil society (citizenship, observation, elections, representation), in the field of social work (the right of the consumer, buyer, customer, producer), in the field of family relations and status determination (analysis of the functions of the labor market, personal and act in the public interest, have a work and civic ethic, and b.) have knowledge and experience.
7. Self-improvement competencies. Focuses on physical, spiritual, and intellectual self-improvement, emotional self-motivation, and self-regulation. There are many types of study courses available. [21] The same tool can be used in many different ways and forms of teaching. Examples of these systems are:
8. Reproductive methodological system. This happened during the formation of the society, when education was chaotic, inconsistent and unsystematic. The system was based on the use of copying and teaching methods and was aimed at teaching the basic skills necessary for modern life. The children observed the adult's behavior, copied it, and developed certain habits.
9. Dogmatic methodological system. The existence of this system was relevant in the Middle Ages, when education focused on the study of truths and theories through a religious prism. Education was influenced by the church and had no other direction. Oral teaching methods were used at that time. Used in simple reading and memorization, and in concrete form, with theory, dates, events, and facts repeated later. Nowadays, education is focused on imparting ready-made knowledge. This includes a variety of oral teaching methods, storytelling, lectures, reading texts, demonstrations, problems and exercises. In this way, there was an exchange of scientific experience accumulated throughout human history. Informational learning has a positive effect on the development of thinking processes, memory, imagination.
10. Development of methodological system. This system is aimed at developing the creative side of the individual. Helps to shape abstract thinking. There are two main types of developmental education systems: Zankov and Elkonin-Davydova. They are based on the development of skills in the application, analysis and reflection of deductive methods.
11. Programmed methodical training system. These include computer-based or paper-based textbooks, maps, diagrams, and more. It makes sense to do this kind of exercise. Learning materials are provided in a dimensional volume and based on a specific algorithm for its transmission, consolidation and assimilation control.
12. Methodological systems based on problem-based learning. In this case, the lesson is done by the teacher and the students by asking them to solve the problem independently. All learning materials are presented in a problematic way. Teaching methods can include discussions, role-playing and business games, and more.

The cognitive-operational component of Web programming competence reflects the level of mastery of Web programming theory and the ability to apply this knowledge in professional activities. The level of component formation is determined by features such as the consistency

of knowledge of general secondary school students in the field of Web programming. This component has features such as stability, efficiency, knowledge mobility, the ability to master knowledge in the field of Web programming, the use of this knowledge in solving professional problems. The main task of this component is to create the conditions for professional solution of problems in the field of Web programming. [29]

The reflex component of web programming competence is that general secondary school students have a unique style, the ability to evaluate their own activities and outcomes, improve their knowledge of modern Web programming, understand their importance in the community, as well as , to manifest itself in professional activities, modern information technology. This component is characterized by the depth and consistency of the analysis of existing experience and knowledge, and the ability to make decisions to adjust their activities to eliminate mistakes and develop strategies to improve their skills. The task of the component is to create conditions for professional growth, to form a personal style, to improve knowledge, to understand its role and importance, and to activate the internal mechanisms of professional development in terms of developing computer Web applications in general [27].
S.Tursunov, E.Dijkstra states that a Web programmer should have specific features that are directly related to the creation of the software product. [28]:
- Ability to define the architecture of web programming (dividing a complex task into elementary parts and defining options for combining them);
- the ability to see the task at different levels of detail at the same time (free transition from the described task to the essence of the lower level behind these concepts in general);
-the ability to express a process developed in dynamics, because the data processed at the same time may have the same values and relationships, and some of them may change in the next minute;
- Ability to see outside of currently being developed applications (taking into account the wide range of this part of the task and the ability to integrate it into a part of the overall system);
- Ability to generalize common situations (find ideologically similar places in Web programming);
- ability to apply and integrate well-known programming techniques and standard algorithms.
- Ability to modify web applications (success in solving modification problems can be considered one of the criteria for understanding applications);
- Ability to memorize and repeat the text of web applications.
According to M.L.Smulson's research, the main qualities that a Web programmer should have:
- flexibility and strategic thinking;
- creative features of thinking;
- caution in the ability to predict shortcomings;
- the logical nature of thinking [22].

DISCUSSION

It should be noted that such teaching should be directed towards the formation of certain knowledge, skills and experience in the activities of school Informatics students in general secondary education, while the study of basic concepts and ideas of Web programming determines the content of teaching in aspect. [30].

Thus, relying on this position, we will also demonstrate that the component we are considering is based on a statement that the discipline of access to web programming must be related, as a result of mastering the organizational component of the competences in the field of web programming. Web programming school students [28-29]:

1) Knowledge of the content of basic concepts in the field of Web programming;
2) To understand the basic principles of Web programming, to know the terminology of this paradigm;
2) Knowledge of operators and management structures of HTML and CSS, Web programming tools used in this environment;
4) to draw up an algorithm for solving a problem at the appropriate level;
5) Python having experience in developing, modifying, testing and using Web applications using a visual environment.
Thus, based on the analysis of international standards, taking into account the choice of Python language from modern programming languages as a subject to be studied in secondary schools, school students as a result of mastering the cognitive-operational component of the competence in the field of Web programming [28]:
1) knowledge of the concept of the algorithm and its properties, various forms of writing the algorithm;
2) Python knowledge of programming language operators and management guidelines;
3) Python to know Web Programming Tools, class definition rules, their purpose and use when using the programming language;
4) Knowledge of web application oriented analysis and Web application design techniques;
5) development of algorithms to solve the problem at the appropriate level;
6) to be able to use the corrector to find logical errors;
7) Python have Web programming skills using the programming language.

Considering the role of Web programming in the teaching of Graduate School students in general secondary education, we will examine the components of teaching methodology based on the analysis of the purposeful and meaningful characteristics of teaching in the field of Web programming.

Accordingly, in the process of teaching the basics of Web programming, all tasks should include a variety of tasks that fully reveal the content of the subject under study and correspond to the individual abilities of the students.

Based on Bloom's goal taxonomy, as well as the taxonomy of learning tasks given by D.Tollingerova, we distinguish the following learning tasks for teaching the basics of Web programming. [23]
1) exercises to ensure the mastery of the learning material and the formation of ways of working at the level of comprehension, comprehension and memorization;
2) Tasks of mastering activities aimed at ensuring the mastery of teaching materials and methods of work in a familiar situation, at the level of application in accordance with the model;
3) Assignments for the preparation of test questions on a specific topic of the course material, aimed at the qualitative study of the course material, the formation of such qualities as clarity and clarity of expression, responsibility for the results of the work;
4) research tasks aimed at developing students' skills in working with textbooks, scientific literature and periodicals in order to complete the learning tasks and find the information needed to assess the importance of the information found;
5) Assignments to develop software products that help students develop skills and experience in producing real Web software products using Web design technologies, as well as develop students 'creative abilities. [27].

CONCLUSIONS

Tasks are designed to integrate new learning material into practical work or after class, as well as in independent assignments, once students have mastered the new learning material. In addition, through exercises, the teacher can monitor knowledge and determine the level of students' mastery of learning materials during practical work, supervision work, colloquium, etc. [26].

Assignments for learning material are one of the most important tasks in the process of teaching the basics of Web programming, which allows general secondary students to form a system of knowledge, skills and abilities. When completing these tasks, students will:

- acquire knowledge of data creation and implementation of simple Web applications, application of algorithms for solving a number of typical problems;
- learn how to choose the most effective way to solve a problem;
- to get acquainted with different ways of implementing the program.

These tasks include writing Web applications, customizing them, documenting application text, and analyzing the results of its implementation. Assignments require more intellectual effort and time than practice. It is recommended to use tasks in practical work, organization of independent work and control.

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