

METHODOLOGICAL FEATURES OF INFORMATICS COMPETENCIES OF PRIMARY SCHOOL TEACHERS FORMATION¹

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The article analyzes the different types of educational software used in the process of training for primary school teachers. The special feature of this software is that they both are the object of study and a tool of professional activity of primary school teachers. That's why computer use in primary schools should be based on teacher's knowledge of methods and techniques of working with educational software.

Keywords: information and communication technology, educational software, informatics competence, future teachers of elementary school

The widespread introduction of ICT into the learning process creates a number of problems relating to the content, methods, organizational forms and means of education, a system of lifelong learning, in particular of self-education and self-improvement of primary school teachers on the basis of which the formation of their informatics competencies could be ensured. Hence there is a need for the development and construction of forming informatics methodological competence of the teacher, which would include the full range of training courses in accordance with the constructed content, a set of methods, organizational forms and methods of training focused on the widespread use of information and communication technologies, and provide methodological, and special methodological training of future teachers with the formation informatics competencies and preparation for the practical use of ICT in their future careers. There is a need to find a list of the required knowledge and skills of teachers in the use of computer-oriented learning tools in professional activities and develop all components of the guidance system for their formation through informatics training of primary school teachers in higher educational institutions. In order to use the computer as a universal means of didactic teaching in high school students should learn the basics needed to accumulate knowledge and personal experience of the practical use of modern information and communications

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technologies, have the pan and methodological training in their use in the educational process (Shiman, 2005).

In the process of informatics competencies of primary school teachers, special attention should be paid to the study of information and communication technologies that are fundamental to future teacher careers. Software, which is both the object of study, and the means of professional activity of primary school teachers should be considered separately.

Educational software tools are distinguished among the variety of software due to their practical importance in the educational process (Morze, 2003). The training of primary school teachers uses different types of educational software: for AJ organization and computer support of students teaching and learning, general purpose software, programs for preparing presentations, diagnostic test programs to evaluate students knowledge and skills, software computer support for different types of game and teaching and learning activities.

For organization and computer support of students learning the following tools are used: electronic books, encyclopedias, reference manuals and dictionaries.

Electronic textbook is electronic educational and methodical complex for organization of students self-learning in the process of their individual educational activity concerning the future specialization, stage of training, curriculum, methods and means of education.

The use of electronic textbooks in the learning process helps to solve the problem of absenteeism of students, can reduce the time to study at a sufficient level of theoretical material at the lessons and pay more attention to their practice.

However, the electronic textbook requires a computer, network communications and materials for connecting the Internet and not only that inferior paper form and data. Another problem of the electronic textbook on CD- ROM is aging data. Therefore, it's important to have access to data on the server which is periodically updated.

Encyclopedias, reference manuals, dictionaries refer to the information and reference sources used to provide general information support of primary school teachers training. These electronic resources are used to solve creative learning tasks, including extra-curricular. Reference sources have basic didactic qualities: automatic and openness of content, possibility of copying of certain pieces of material, supplied in any combination.

Specificity of primary school teachers work with the resources of the Internet is in the process of its implementation the achieving educational goals (expanding and deepening the theoretical knowledge base of students, providing practical significance of the results, their suitability and applicability to the solution of professional problems, differentiation training in accordance with the aptitudes and abilities of students) and research (focus of future teachers on a combination of educational work in schools with scientific inquiry and awareness of teachers work as research activities in school) is carried out. Students learn to search for desired information resources (computer encyclopedias, textbooks, educational and entertaining programs), to analyze and critically evaluate them.

But many online manuals and programs for educational purposes do not fulfill didactic requirements sufficiently adapted to the training of junior school children psychologically and in didactic terms. Choosing the right programs is not easy for primary education teachers (Shiman, 2009).

The result of educational activity in elementary school largely depends on the application of various teaching tools. Therefore, the use of the computer as a tool for automatization the preparation and presentation of traditional

teaching materials should be based on knowledge of methods and techniques teachers work with general purpose software tools (Shiman, 2002:218-224).

In the Windows operating system a wide range of tools for working with objects of different types, mechanisms of their combination, movement, group, and others are implemented. During the production of teaching materials for computer students should be clearly aware of these kinds of computer information media or forms of data representation:

The text information environment. Text display of data is characterized by –page, paragraph, string, character structure. The presentation of text data due to their input, editing and formatting.

Specifically, in a word processor Word, besides tools for working with linear text, the powerful tools to create complex documents with complex structures are provided. These documents may contain non-standard characters and symbols, non-linear arrangement of text, tables and various elements of graphic design. Actually the following form and must have visual aids for children – clarity, precision, attractiveness, clarity with adequate number of visual materials.

Spreadsheets – a rectangular matrix table cells, each of which is stored numeric, text value or graphic. The peculiarity of the presentation of tabular data in the computer is the ability to quick edit values, and to change the structure of the table by manipulating its rows and columns.

Graphical environment – graphical representation and data, together with on-screen drawing (through a variety of controls, such as manipulator "mouse") or using a variety of graphics (Shiman, 2009).

Among the programs to prepare presentations that are appropriate to apply in the education of primary school teachers and through which they can create their own multimedia computer software for educational purposes of special note is the program - MS Power Point.

For creation and demonstration of educational materials, entertainment slide films it is convenient to use the MS PowerPoint software tool – the most common tool among multimedia to develop multimedia applications. It is a constituent part of an integrated Microsoft Office system. This tool is quite convenient and designed to work in Windows environment. It uses standard controls, and in the process of preparing presentations the fragments of documents created by other applications (Paint, Word and Excel) can be used. Each presentation consists of basic elements – Slides (Shiman, 2009).

Educational presentation on the script is the traditional presentation with the arbitrary set of slides. It is completed by tools of displaying color graphics and animation for better visualizing of educational materials. Animated text together with animated graphics and illustrations directs students' attention to the main points that promotes better learning.

Stages of multimedia computer projects include: search of the necessary reports and data in the Internet, pictures scanning, photography visual aids, audio editing slide animations and slide-film as a whole.

Diagnostic test programs to evaluate the knowledge and skills of students. For testing the knowledge of primary school teachers you can take any test case which belongs to the software. Let's investigate the possibilities of the program test Test W2, program MS PowerPoint, and tests, included in multimedia curriculum for teaching elementary school pupils. The versatility of all these programs is that they can be used as means of primary school teachers and elementary school pupils training

Software support of various kinds of computer game and educational-cognitive activity. The world of computer games is extremely diverse in both content and appropriate software that by complexity does not yield the most

advanced technologies. Using computer games for educational purposes is one of the areas of computer support training activities.

Psychologically based and pedagogically concerned computer games can be successfully used at the stage of submission of new material, and while solving problems and stages of assimilation material, systematization of the knowledge, generalization. However it is important to be sure, that the game leads to the emergence of so-called game phenomenon, i.e. causes interest, positive emotions, increases the motivation of cognitive activity. Teachers should find a rational relationship between teaching and learning and gaming activities of students (Shiman, 2005).

Nowadays a lot of multimedia educational programs, which are designed for using in the learning process in elementary school are developed. It is necessary to emphasize the need for primary school teachers acquisition with existing multimedia programs for primary school children, acquiring practical skills in the analysis and selection of fragments of programs that are methodologically valid and useful for psychological and cognitive development of primary school pupils (Shiman, 2005) and the harmonic combination of programs to support the training of traditional means of one or more subjects.

The success of the primary school teachers training in computer support for different types of gaming and educational gaming activities provides complex using of multimedia programs, which are close to contemporary methods of teaching in primary school.

Analyzing these applications, we can conclude that after a detailed review of their content by primary school teachers, the programs can be used at the lessons in elementary school at all subjects in the process of explanation of new material involving the most recent demonstration facilities, and during assimilation or thematic repetition. Solving problems in the form of the game allows you to keep a constant interest of students to learning and helps the assimilation of their knowledge and skills.

Thus, the result of educational activity in elementary school largely depends on the conditions of various teaching tools application. Therefore, the use of the computer as a tool for automatization of the preparation and presentation of traditional teaching materials should be based on knowledge of the methods and techniques of teachers work with educational software.

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