Readiness of students to use digital educational resources in professional activity

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Abstract. In research determination of students readiness to use digital educational resources in professional activity in which the content of their future professional work is reflected is given. Criteria of students readiness to use digital educational resources in professional activity are proved: - requirement to use of digital educational resources in professional activity; - knowledge of digital educational resources and ways of their application in professional activity; abilities of using digital educational resources in professional activity. Levels of students readiness to use digital educational resources in professional activity are proved. The Model of students readiness to use digital educational resources in professional activity is experimentally proved.
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Introduction

It is difficult to present modern educational process without high-quality providing with training electronic materials. Lately their specific structure replenished with such latest pedagogical software, as electronic manuals, means of computer modeling, Internet sites, the exercise machines training programs and other educational resources.

The digital educational resource allows to expand informative interest of students to professional activity. Such type of training with using of digital educational resources allows to improve quality of training, promotes development of informative interest in unlimited number, allows to realize educational process with creativity elements.

Digital educational resources are the photos presented in a digital form, video fragments, static and dynamic models, objects of virtual reality and interactive modeling, cartographic materials, sound recordings, symbolical objects and business graphics, text documents and other training materials necessary for the organization of educational process of students.

In the conditions of informatization of education creation and use of the new tutorials intended for the organization of work of trainees in the uniform educational environment and promoting improvement students training quality is actual. It is possible to carry digital educational resources to such tutorials. Digital educational resources give opportunity of placement of bigger volume of information; fast search and access to necessary information; objective and high-quality examination of students; evident representation of many difficult phenomena and processes; uses of various graphic registration; simultaneous obtaining information.

In this regard the full solution of problems of education informatization demands improvement of students training, training in their methods of work with modern digital educational resources.

The analysis works of Avdeev, S.M. [1, p.12], Wayne Burleson, Aura Ganz and Ian Harris [2, p.21], Derek A. Muller, Manjula D. Sharma and Peter Reimann [3, p.278], Sakenov, D. Zh. [4, p.1431], Efimova, E.A. [5, p.23], Rosina, N.L. [6, p.70], Schantz, E.A. [7, p.383], Magdy F., Iskander [8, p.97], Timothy Ellis [9, p.59], Furs, M.V. [10, p.29], Andersen Bent B., van den Brink [11, p.17], Gorneva, E.A. [12, p.24], Karakozov, S.D. [13, p.288], Sarsenbaeva B.G. [14, p.166] showed that there is a significant amount of the researches devoted to questions of students professional training in the conditions of informatization of process of education.

It should be noted that in specified works of Avdeev, S.M. [1, p.12], Wayne Burleson, Aura Ganz and Ian Harris [2, p.21], Derek A. Muller, Manjula D. Sharma and Peter Reimann [3, p.278], Sakenov, D. Zh. [4, p.1431], Efimova, E.A. [5, p.23], Rosina, N.L. [6, p.70], Schantz, E.A. [7, p.383], Magdy F., Iskander [8, p.97], Timothy Ellis [9, p.59], Furs, M.V. [10, p.29], Andersen Bent B., van den Brink [11, p.17], Gorneva, E.A. [12, p.24], Karakozov, S.D. [13, p.288], Sarsenbaeva B.G. [14, p.166] more attention is paid to theoretical and methodical training of students on use of knowledge of informatics. However in these researches questions of students training to use digital educational resources weren't taken up. Thus,

formation of students readiness to use digital educational resources in professional activity wasn't so far object of studying that allows to speak about relevance of research of this direction.

Relevance of research is defined by a contradiction between need of students readiness formation to use digital educational resources in professional activity and an insufficient readiness of this question in practice of the higher school.

In this regard the problem of research consists in need of disclosure of specifics formation of students readiness to use digital educational resources in professional activity.

Research objective: development and experimental check of a technique of formation of students readiness to use digital educational resources in professional activity.

Methods

In work the complex of methods corresponding to investigation phases is used: 1) the analysis of psychology and pedagogical, scientific, scientific and technical and methodical literature both domestic, and foreign authors on a research problem; 2) analysis of normative documents, including state educational standards of higher education; 3) modeling; 4) pedagogical experiment; 5) questioning, testing, analysis of products of students activity; 6) data processing of experimental work by means of methods of mathematical statistics.

Main part

Readiness of students to use digital educational resources in professional activity is the steady characteristic of the identity of the student, defining ability to solve the main professional pedagogical objectives means of digital educational resources in the conditions of the multisubject multifunctional pedagogical activity which purpose is training, education and development of school students.

Readiness of students to use digital educational resources in professional activity includes the following structural components:

– motivational, presented by the motives expressed by interests and requirements to use digital educational resources in professional activity;

– cognitive, assuming set of subject, methodical knowledge which integrate the general and special knowledge in readiness of students to use digital educational resources in professional activity;

– activity, expressed by a complex of abilities on the training organization with use of digital educational resources.

The technique of formation of students readiness to use digital educational resources in professional activity assumes application of training methods: method of projects, method of the solution of expediently picked up tasks; use of training means: computer, multimedia projector, Internet resources; the organization of process of training on the basis of an optimum combination of collective, group and individual forms of educational activity of students. In the course of development of formation technique of students readiness to use digital educational resources in professional activity specific features of professional activity are considered:

– multiconcreteness to own the theory and a technique of teaching of a number of the subject matters relating to various areas of knowledge;

– functionality, training, education and development of school students;

– accounting of age features of school students.

Levels of readiness formation of students to use digital educational resources in professional activity: I. High; II. Average; III. Low.

Diagnostics of formation levels of students readiness to use digital educational resources in professional activity is carried out on the basis of the following criteria: I. - requirement to use digital educational resources in professional activity; II. - knowledge of digital educational resources and ways of their application in professional activity; III.-ability to use digital educational resources in professional activity. In the course of students readiness formation to use digital educational resources in professional activity it is necessary to create at them ideas of production phases of digital educational resources (Table 1).

Table 1. Production phases of digital educational resources

Stage	Contain of the stage
Preliminary work	Formulation of initial idea. Assessment of existing elements
Collecting necessary information	Analysis of requirements. Allocation of the main didactic goal. Justification of need and that new that will bring a product in comparison with the usual printing manual
Preparation of contents	Allocation of didactic local goals. Scheduling. Submission of the contents in the form of modules
Design	Development of the general concept. Choice of media (sound, images, video, etc.). Script writing. Detailed design + connection of interactivity.
Production	Programming and contents digitization. Creation of images, sound, etc. Configuration of ready materials in modules.
Testing	Testing and product assessment

In the course of students readiness formation to use digital educational resources in professional activity the training:

• has a message opportunity work at optimum speed for it;

• it is trained in those by a method and at that level of a statement which most corresponds to level of its readiness and psychophysical characteristics;

• has opportunity to return to the material studied earlier, to receive the necessary help, to interrupt training process in any place, and then to return to it;

• can observe dynamics of various processes, interaction of various mechanisms, etc.;

• can operate studied objects, actions, processes and to see results of the influences;

• it is easy to break barriers of psychological character (not courage, indecision, fear of sneers);

• to fulfill necessary skills to readiness degree.

The maintenance of components of students readiness formation to use digital educational resources in professional activity allowed us to design Model of students readiness to use digital educational resources in professional activity which is presented in figure No. 1.

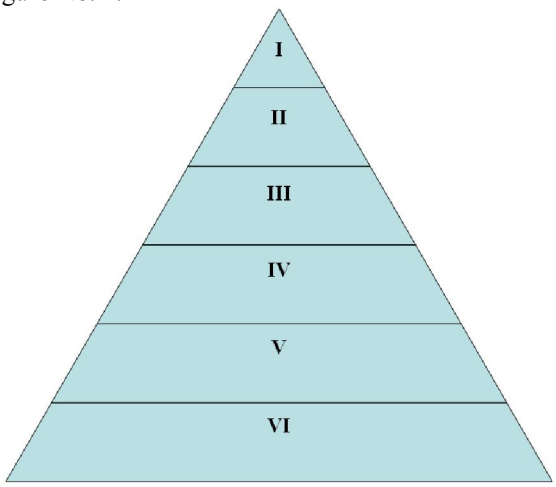

Figure 1. Model of students readiness to use digital educational resources in professional activity

The explanation to figure 1. Model of students readiness to use digital educational resources in professional activity:

I. – Readiness of students to use digital educational resources in professional activity.

II. – Components of students readiness to use digital educational resources in professional activity.

III. – Criteria of students readiness to use digital educational resources in professional activity.

IV. – Levels of students readiness to use digital educational resources in professional activity.

V. – Technique of students readiness formation to use digital educational resources in professional activity.

VI. – Production phases students of digital educational resources in professional activity

Skilled and experimental work was carried out under natural conditions pedagogical process of a higher educational institution.

At a stating stage of experimental work diagnostics was carried out by means of the techniques directed on studying levels of students readiness formation to use digital educational resources in professional activity. The assessment of level of students readiness to use digital educational resources in professional activity was carried out by identification of levels of formation of students readiness components to use of digital educational resources in professional activity.

In the course of experiment methods of projects, a method of the solution of expediently picked up tasks were used; use of tutorials: computers, multimedia projector, Internet resources; the organization of process of training on the basis of an optimum combination of collective, group and individual forms of educational activity of students.

At the students who have made experimental and control groups, initial level of formation of readiness to use digital educational resources in professional activity was revealed. Stating experiment showed that results of distribution on levels of achievement of students readiness to use digital educational resources in professional activity in experimental and control groups differ slightly and correspond generally to low level (65% of students of control group and 66% - experimental).

The purpose of forming experiment was approbation of the developed Model of students readiness to use digital educational resources in professional activity.

At the final stage of experimental work total levels of students readiness formation to use digital educational resources in professional activity were defined.

Comparison of levels of students readiness formation to use digital educational resources in professional activity before carrying out forming experiment showed that in experimental group of 71% of examinees reached high level of readiness whereas in control group of this level reached only 6% of examinees. Thus, realization of the Model of students readiness developed by us to use of digital educational resources in professional activity taking into account specifics of activity of future teacher of school,

allowed to raise considerably level of students readiness to use digital educational resources in professional activity.

Thus, the carried-out experimental work confirmed the put-forward purpose on formation of students readiness to use digital educational resources in professional activity and proved efficiency of the developed Model of students readiness to use digital educational resources in professional activity.

Conclusion

As a result of the conducted research we gave determination of students readiness to use digital educational resources in professional activity, as the steady characteristic of the identity of the student, defining ability to solve the main professional pedagogical objectives means of digital educational resources in the conditions of the multisubject multifunctional pedagogical activity which purpose is training, education and development of school students. Criteria of students readiness to use digital educational resources in professional activity are experimentally proved: - requirement to use digital educational resources in professional activity; - knowledge of digital educational resources and ways of their application in professional activity; abilities on using digital educational resources in professional activity. During the made experiment levels of students readiness to use digital educational resources in professional activity are proved. Efficiency of Model of students readiness to use digital educational resources in professional activity is developed, approved and is experimentally proved. Thus, realization of the developed Model of students readiness to use digital educational resources in professional activity allows to optimize process of professinal training.

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