Section 5. Pedagog

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METHODOLOGICAL FEATURES OF THE DEVELOPMENT AND APPLICATION OF MONITORING AND TESTING PROGRAMS

Abstract. The article discusses a review of the development and application of monitoring and testing programs, the stages of its implementation and the benefits of using these programs in didactic testing, and the elements of activation of the learning process are listed according to the results of the monitoring and testing survey.

Keywords: monitoring and testing program, training motivation, certification, self-certification, learning dynamics, didactic test, input control, current control, mid-term control, final control,

The diagnostic value of the didactic test is determined and ensured by the quality of the test tasks. In the psychological and pedagogical literature there are only unsystematic recommendations on the main aspects of the use and empirical analysis of tests, the formulation of test items, but unfortunately, objective methods for assessing the quality of the test items themselves are not given, and therefore there are no standardized didactic tests [1–4].

With the existing system of teaching chemical disciplines, the teacher spends a significant part of the study time on interviewing students in order to identify their degree of readiness to perform laboratory – practical classes. Therefore, the development of monitoring and testing programs that allow monitoring the student’s knowledge in a few minutes and determining the possibility of their admission to laboratory and practical work is an important component of didactic systems oriented to the use of computers in the educational process [5; 7; 8].

The methodically developed features of controlling and testing programs allow using the didactic capabilities of computers in the formation of training motivation (acquiring knowledge and skills on a computer, certification and self-certification, modeling situational tasks in the context of future professional activities, etc.), increasing the frequency and quality of feedback with the trainee, to register the dynamics of learning and to develop appropriate corrective measures of pedagogical impact.

Controlling and measuring tools in such programs are subject didactic tests of various difficulty levels (mainly I–II level according to V.P. Bepalko), type (normative, criteria-oriented, success or “achievements”, combined, etc.), forms (open, closed, with the substitution of the answer, matching sets, with insufficient or excessive information) and purpose (input, current, foreign and final control) [4; 6; 8].

A common drawback of these control-training and testing programs is the lack of a block for

analyzing student errors, without which the diagnostic value of the tool is reduced. Another characteristic feature is the weak scientific and methodological support, apparently due to the fact that almost all the developers of the “techies” do not have the necessary psychological and pedagogical training.

The following features are characteristic of computer didactic testing:

- high-quality restructuring of the entire system of training and control, strengthening and creative development of the methodological functions of the teacher, aimed at developing, adapting and testing packages of software and pedagogical tools;

- a high degree of automation, intensification and objectivity of the process of control of knowledge, skills of students;

- the didactic process becomes more dynamic as a result of the speed and reliability of feedback, which creates the possibility for the student to self-correct the assimilation of information based on the promptly identified and corrected errors, to strengthen the motivation of learning in general;

- the development of personal computer skills and the gradual increase in the level of computer literacy of teachers and students. In this case, the individualization of the process of assimilation and consolidation of educational material occurs, the process of conscious self-regulation and self-management of cognitive activity is activated;

- an increase in initial training costs (according to the magazines PC World, Bate, IMM, Apple, Dell, Microsort, Microinform, Computer Press and the price catalog of firms manufacturing computer equipment and software, the cost of the computers themselves compared with the cost of their software and methodological support is a small part and tends to decrease);

Based on the authors' data [1,7,9,10] and taking into account the above, we have developed a controlling and testing didactic testing program.

The assimilation of educational material is determined by the results of a test-training test survey,

which contains a number of elements to enhance the learning process:

- accounting of the rational use of control time, accrual of bonus or penalty points;

- the ability to automatically and arbitrarily return at the request of the student to the theoretical (training) part of the program;

- “coercion” – the impossibility of exiting the cycle of monitoring and testing programs until the student scores the minimum passing score – the computer asks to continue working: “Repeat again”;

- Estimated scaling of test tasks by measure of difficulty and the provision of advisory assistance – transition to a control-training system with analysis of mistakes made and a link to the educational literature, indicating the appropriate chapters, pages.

Automatic recording of all information and statistical processing of the parameters of the didactic process allows you to register the dynamics of the learning process, individualize the educational process and adjust the main directions of organization and independent work of students.

As the leading theorists of pedagogical psychology of the CIS (Tikhomirov, O.K., Talyzina N. F., Liaudis V. Ya, Mashbitz S. I., Mikheev V. I., Mikhaylychev E. A., Shmelev A. G. and others note) the effectiveness of computer and computerized training at present (according to V. Ya. Laudis, the third stage of computerization of education, which began in the early 80's) is characterized by an active approach to the cognitive activity of the personality of students (innovative learning) [1; 4; 8].

“The organization of innovative training on the principles of personal-value management greatly enhances the contribution of the communicative functions of computers, thereby increasing their role as intermediaries in the development of new ways of cognitive activity. Actually, this is why only the third stage in the history of computerization of education sets the foundation for innovative teaching with the help of computers that exceeds in terms of effectiveness, machine-less learning, “says

one of the leading theorists in educational psychology, Liaudis V. Ya.

Consequently, the most complete psychological and pedagogical features of the monitoring and testing programs and software and methodological tools (PMS) based on them are identified when testing them in the educational process, and

are mainly associated with the preparation of test tasks in accordance with didactic goals, the optimal selection of color schemes, a musical pause, the amount of one-time information issued and rationally placed on the computer display screen, the duration of the display, the “durability of the interface” [3; 4; 5; 6; 7; 8].

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