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THE USE OF ADAPTIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS

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Abstract: A kind of technology of multilevel education is the technology of adaptive learning, which implies a flexible system of organizing training sessions, taking into account the individual characteristics of students. The central place in this technology is given to the student, his activities, the qualities of his personality. Particular attention is paid to the formation of their educational skills.

Key words: individualization, higher education, problem, approach, system, relation, development, principle.

The functional limitations of persons with musculoskeletal disorders include the difficulty of performing small and precise movements; lack of control and coordination of voluntary movements; limitation of mobility, lack of volume and strength of movements, fatigue.

In order to facilitate the use of the computer for people with limited motor functions, special keyboards were created with an increased size (key width 20-27 mm), with keys located far from each other or with a special pad to avoid pressing several keys at the same time.

Special devices for inputting information and controlling a computer that can be used by people with disabilities. These include pedals (buttons) that replace the

Alt, Shift and Ctrl keys, light pens, pen-shaped mice, and alternative keyboards. In addition, many manufacturers produce switches, which are electronic devices with a small number of keys that can be programmed to perform specific actions. A rollerball or joystick helps you move the mouse pointer more comfortably. Key-type mice replace the standard mouse. The manipulators have eight keys that determine the direction of the cursor movement, the central key is responsible for clicking the left button of a standard mouse, the rest of the keys have the function of switching to the left, right, center mouse buttons, the function of blocking the delay of the left mouse button (for dragging, selecting, etc.), setting the cursor movement speed.

Head-motion head mice are a wireless optical tracker for people who cannot operate with their hands. The device records the movements of the head, using them to directly control the pointing arrow of the mouse on the computer monitor.

Assistant controls for virtual keyboard - toggle buttons and sensors differ in the degree of their design complexity.

If buttons are simple open and close electrical contacts, then sensors are complex devices that require additional signal processing by means of a broadcasting device.

Using adaptive learning technology, the teacher works with the whole class (informs new things, explains, shows, etc.) and individually (manages the independent work of students, exercises control, etc.). The activities of students are carried out jointly with the teacher, individually with the teacher and independently under the guidance of the teacher.

Learning within the framework of the application of adaptive learning technology becomes predominantly an independent activity: reading compulsory and additional literature, abstract work, solving problems of various levels of complexity, performing laboratory and practical work, individual work with a teacher, knowledge control, etc.

The technology of adaptive learning involves the implementation of all types of control: teacher control, self-control, mutual control of students, control using technical means and control programs, etc. In contrast to the traditional single-channel communication (student-teacher), which weakly performs a teaching function, a multi-channel (teacher - student, student - student, teacher - collective of students, student - collective of students), suggesting other forms of relationships between them.

The learning process with this technology can be represented by three stages:

1.explanation of the new teaching material (the teacher teaches all students);

2. individual work of a teacher with students;

3. independent work of students.

Since the priority when using the adaptive learning technology is given to independent work, this requires optimization of the stage of explaining the new educational material. It is necessary to highlight the material that the teacher will teach frontally; divide it into enlarged blocks; throughout the course, plan a system of classes for all students; identify the necessary means of visibility.

The purpose of the second stage is to teach students the techniques of independent work, the search for knowledge, solving problem problems, and creative activity. Beforehand, the teacher creates the necessary emotional atmosphere, conditions for individual work, he sets students up for independent work. Against the background of independently working students, the teacher, according to a special schedule, deals with some of them individually according to adaptive tasks of three levels that require reproductive, partially search and creative activity. Students' independent work, which involves communication "student – student", "student - a group of students", is carried out in paired groups (static, dynamic and variation).

A static pair unites at will two students, who switch roles “teacher-student”. She ensures constant communication with each other. In pair communication, the speech and mental activity of students is activated, everyone has the opportunity to answer questions and ask them, explain, prove, prompt, check, evaluate, correct errors at the time of their occurrence. In a static pair, two weak and two strong students, a weak and a strong one, can practice.

Dynamic pairs are formed within a micro-group of more than two students. The micro group is given one general task, which has several parts for each student. After completing his part of the assignment and control of the completed work by the teacher or self-control, the student discusses the assignment with each partner in the micro group. Moreover, each time he needs to change the logic of presentation, accents, pace, etc., that is, to adapt to the individual characteristics of his comrades.

When working in variation (replacement) pairs, each member of the group receives his task, performs it, analyzes the results together with the teacher. After that, the student can conduct mutual training and mutual control on this issue. At the end of the work, each student assimilates all parts of the content of the study assignment.

Thus, the technology of adaptive learning presupposes a varied, flexible system of organizing training sessions, taking into account the individual characteristics of schoolchildren. Explaining new material can take up all or part of the lesson. The same is true for students' independent work. This technology makes it possible to purposefully vary the duration and sequence of training stages.

The organization of training in variation pairs creates a comfortable environment and a situation of success, which stimulate the cognitive interest of students and contribute to the development of their educational and communication skills and abilities.

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