Psychological and Pedagogical Basis of Adaptive Teaching of Orthography

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Abstract

At the present stage of development of education, the concept of educational module is gaining methodological significance. The modularity principle defines the dynamics and mobility of system performance, along with an important principle such as the development principle of the system approach. In this case, the system itself is considered as a set of modules or as a general module.

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The President of the Republic of Uzbekistan Sh. M. Mirziyoev said: "We mobilize all the forces and capabilities of our state and society for the development and happiness of our young people as independent thinkers, with high intellectual and spiritual potential, who will not be idle to their peers in any field around the world, this puts pressure to primary education thus, primary education has the important task of educating the youth of our country as independent thinkers who are able to express themselves freely and competently, both orally and in writing[1].

Improving the orthographical literacy of primary school students is one of the important conditions for achieving educational effectiveness in the later stages of the system of continuing education is mastering grammatical and orthographic knowledge of the native language as control, repetition, and practice in the acquisition of skills and competencies. Accordingly, the following issues are considered in the adaptive teaching of orthographic through information technology:

✓ selection of a leading idea for pedagogical technology;
✓ identification of computer-assisted learning technologies;
✓ development of a targeted concept of technology (adaptive-personal learning) and hierarchical systematization of learning objectives, design of educational content;
✓ integration of educational content, methods and tools;
✓ creating tools to implement technology in the educational process.

The leading concept in the creation of a system of teaching orthography on the computer is the correct orientation of the achievements of teaching theory, didactic units, the formation of a system of knowledge.

"The concept of knowledge is the field of artificial intelligence, which includes the statement of knowledge, methods of generalization, their correctness and consistency, and, finally, the use of practical systems for the storage and development of knowledge" and information technology is the basis for the organization of the system-modular learning process of spelling [2; 11].

The essence of modular training is as follows: an individual curriculum, which includes a student-presented and action-oriented program, an information bank and a methodological guide to achieving the set didactic goals can work independently with. In this case, the role of the teacher ranges from information control to consultation.

The main characteristic of information technology aimed at systematic modular learning is flexibility, which is the basis of a high-tech approach.

Systemic flexibility is the mobility of the computer module structure is characterized by the hierarchy of modular applications and software packages.

Flexibility of content is primarily in the stratification and integration of educational content.

Technological flexibility is providing a specific direction of computer-based problem-based learning, which includes different methods of teaching, flexibility of the control and assessment system, individualization of students' learning activities.

Organization of the educational process on a system-modular basis:

a) integration and stratification of teaching content in a dialectical unit by grouping in modules for in-depth study of orthographical material;

b) provide individual speed in the selection of one or another variant of the system-modular program and mastering the orthographical rules;

c) use of modules with different didactic functions as scenarios in the creation of software pedagogical tools;

d) allows the reduction of teaching time based on the use of adequate teaching methods and forms without interfering with the full and in-depth presentation of the teaching material;

Computer system-modular adaptive personality learning is reflected in its leading ideas such as system quantization, modularity, problem-solving, and cognitive visualization.

The principle of systemic quantization requirements for scientific, systematic, consistent, active, time-saving, generalization of education.

On the principle of modularity is stratification, individualization, independence, hierarchy, variability, practical orientation of education.

The principle of problematization is a conglomerate of the logic of conclusions when confronted with conflicting and inconsistent evidence in the areas of motivation, consciousness, accuracy and orthography.

The principle of cognitive visualization is characterized by visual, cognitive activity, aesthetic and emotional orientation of teaching.

These principles represent appropriate approaches to teaching based on new information technologies.

The problem-solving principle is based on developmental learning theories and motivations for learning.

The cognitive-visual approach is based on the principle of cognitive visualization. Visualization not only serves the function of illustration, but also "contributes to the natural-intellectual process of learning" through a combination of symbolic and figurative ways of presenting new information. [3; 24]

The principle of activity of the computer-based learning system determines the independence of students and teachers, and the results of learning are monitored and evaluated using a rating system,

The theoretical rules listed above reflect the requirements for the design of computer-assisted learning systems.

The first group of requirements is related to the selection and nature of the materials recommended for design and development. Fulfillment of these requirements shows the unity of the logical and psychological basis of a particular subject in the teaching process. As a result, students will gain theoretical general knowledge as well as graphical and symbolic modeling of orthographical rules.

Requirements for this group include:

➢ identify the initial elements of a specific object of study and their relationship (grammatical and orthographic categories);

➢ determine the logical-subject context of the object of mastering on the basis of adequate conditions of grammatical knowledge;

➢ identify the means by which all types of connections are made in the orthographical analysis on the display screen;

➢ identify a system of learning and practical issues through object modeling.

The second group of requirements is related to student learning and includes: to prepare the results of the study of spelling in the form of protocols and to perform correctional tasks.

❖ planning student activities based on logical and psychological analysis;

❖ adhere to the principle of organizing the system of skills and practical issues in educational activities by presenting them in a predetermined sequence;

❖ programming its operating system;

❖ selection of the speed of action, the level of complexity of the problem, the type of model in which the object of mastering is reconstructed, transformed and constructed;

❖ the study of the choice between discrete and continuous transformation of objects on the screen, the modes of automatic control of actions with the object and the combination of learning activities;

❖ planning instructional efforts;

❖ ensuring the content and outcome of the effort;

❖ ensure that issues are recorded;

Special requirements are related to the control of the computer training system. Such systems collect information about the progress of assignments; provide this information in accordance with the diagnostic criteria for monitoring; to prepare the results of the study of orthography in the form of protocols and to perform correctional tasks.

The monitoring and evaluation regime should be varied from fully automated to extend.

Apparently, the following issues are considered in the adaptive teaching of orthography in primary school:

a) computer-assisted learning activities;

b) computer-based modeling of the learning system based on preliminary analysis as an object of mastering the content of relevant skills and knowledge;

c) the introduction of spelling rules into the computer training system, reflecting a certain sequence of exercises in each program;

d) monitoring and evaluation of learning skills in a certain sequence in a computer-based learning system;

e)   integration of dynamic and static models in the computer training system itself;

f)   taking into account the age characteristics of the young school student in computer training programs;

g)   contribute to the formation of practical and theoretical thinking of young schoolchildren in computer training programs;

Computer-assisted learning programs accelerate the development of creative activity in young schoolchildren.

In conclusion, a positive approach to learning can be achieved through the use of computers in an integrated learning system, based on experimental data.

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