

Application of adaptive modular control of knowledge of future engineers in the process of foreign language training

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Abstract

The article deals with the problem of application of adaptive modular control of students-future engineers in the process of foreign language training.

Keywords: adaptive modular control, educational process, systematic principle, teaching methods, .

Анотація

Стаття присвячена проблемі застосування адаптивного модульного контролю студентів-майбутніх інженерів в процесі вивчення іноземних мов.

Ключові слова: адаптивний модульний контроль, освітній процес, систематичний принцип, методи навчання.

Introduction

Implementation of information technology in the educational process has led to significant changes in all educational institutions and changed the methods for assessing the quality of education. It is clear that the organization of controlling the knowledge of students-engineers requires the use of new, modern approaches.

Theory of modular learning

In the basis of any teaching methods a certain pedagogical theory of learning is laid, and this theory determines the effectiveness of the appropriate teaching methods. Modular training is relevant in the modern technological environment.

The availability of computer technology, the ability to gather different information from the Internet, and the ability to use electronic learning and monitoring software simplifies the process of student learning and facilitates the work of the teacher.

At the heart of the theory of modular learning, concrete principles are laid down: modularity, content allocation of individual elements, dynamism, flexibility, versatility, methodological advice, and others closely related to general didactic principles.

The term "module" of pedagogy has borrowed from the field of computer science, where it refers to the construction used in relation to different information systems and structures and which gives them flexibility and ability to change. A modular approach is usually perceived as the organization of teaching material and procedures in the form of complete units, taking into account attributive characteristics. The module is a logically completed part of the educational material, which is necessarily accompanied by the control of knowledge and skills of students. The basis for the formation of modules is a discipline program. The number of modules depends on the subject itself, as well as on the required frequency of knowledge control. Modular control is usually carried out 1 to 2 times per semester, the final part is a test or an exam.

The basis of the modular interpretation of the training course is the systematic principle:

- systematic content, i.e. necessary and sufficient knowledge (thesaurus), without which neither discipline as a whole nor any of its modules can exist;
- alternation of theoretical and practical parts of the module, which provides an algorithm for the formation of cognitive abilities and skills;
- systematic control that logically completes each module and forms the ability of students to transform the acquired systematization skills into a professional ability to analyze, classify and predict engineering solutions.

For the formation of knowledge, skills and abilities, a control is needed. Therefore, the curriculum includes a knowledge control unit, which is a compulsory component of the didactic process. Under control, we understand the assessment of students' knowledge, skills and abilities. Control stimulates learning and affects its quality. As practice shows, an attempt to avoid controlling the educational process, in whole or in part, leads to a decrease in the quality of education. Existing intensive teaching methods are inevitably leading to new forms of quality improvement and knowledge control efficiency.

Control as an important component of the learning process has the following objectives:

- determine the extent to which the purpose of the training is achieved;
- obtain the necessary information to manage the learning process and improve teaching methods.

Control is classified as preliminary, current, thematic, periodic and final. Modern didactics allocates such methods of knowledge control: written, practical, didactic tests, supervision and self-control. Any learning process involves the use of different methods for checking knowledge of students. One of the modern methods of knowledge control is adaptive test control.

The main advantage of adaptive test control to the traditional one is its effectiveness. An adaptive test determines student points with fewer questions, sometimes reducing the length of the test by 60%; this is the main reason why adaptive tests should be preferred.

Conclusion

Therefore, we can conclude that adaptive testing expands the capabilities of traditional testing and, with appropriate data processing, provides greater accuracy in assessing the level of knowledge of students. Using an adaptive knowledge control module as an independent unit in the teaching methodology of the "Foreign Languages" discipline will increase not only the level of students' knowledge, but also create conditions for the training of future engineers to become more productive.

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