USE OF MODERN INFORMATION TECHNOLOGY IN PROCESS OF STUDYING LIMITS THEORY

Barlikbaeva Saera Jetkerbaevna

Qarlibaeva Azada Qoylibaevna

Nukus state pedagogical Institute named after Azhiniyaz,

Nukus city, Uzbekistan

The paper pays attention to using the computer in the preparation process of the future bachelors of mathematics as an effective learning tool. It is marked its role as a means of visual and dynamic presentation of the information, it is disclosed its use in the material of the course ─Mathematical Analysis‖, namely, during the introduction and consolidation of such concepts as the limit of a numerical sequence, limit of a function.

Keywords: the principle of visual learning, mathematical analysis, the limit of numerical sequence, limit of a function, information technology.

ИСПОЛЬЗОВАНИЕ СОВРЕМЕННЫХ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ В ПРОЦЕССЕ ИЗУЧЕНИЕ ТЕОРИИ ПРЕДЕЛОВ

Барлыкбаева Саера Жеткербаевна

Қарлыбаева Азада Қойлыбаевна

Нукусский государственный педагогический институт имени Ажинияза,

город Нукус, Ўзбекистан

В статье уделено внимание вопросу использования в процессе подготовки будущих бакалавров математики такого эффективного средства обучения, как компьютер, его использование раскрыто на материале учебного курса «Математический анализ», при введении и закреплении таких понятий, как предел числовой последовательности, предел функции.

Ключевые слова: принцип наглядности обучения, математический анализ, предел числовой последовательности, предел функции, информационная технология.

Today we are witnessing how computerization penetrates into all aspects of our lives. There are practically no spheres of activity, wherever computers are not used: financial operations, engineering, communications and printing, modeling and construction of new facilities and more. It is difficult to imagine our life without these operating and multifunction tools. Therefore, it is important to teach various computer skills at all levels of the education system.

Using computer technology in education is a powerful new stimulus for the further development of the teaching science. There is a need for research to find new and effective techniques, methods of using computer technology that expand the possibilities of the educational process.

In recent years, pedagogical and methodological developments demonstrate the comprehensive implementation of information and communication tools in education and science. Today, many leading pedagogues turn increasingly to the use of these tools in the modern educational process, among them: M.P Lapchik, V.A. Dalinger, K.A. Zuev, N.V. Sholokhov, P.I. Sovertkov, I.V. Robert, S.I. Shapiro, B.S. Gershunskiy and others. Most of them take the consideration of various approaches to the use of computer technology as a learning tool.

The computer can act as a subject of study, as a learning tool, and as a tool for scientific research. In this connection, it solves the following problems: execution of complex computing operations, analysis of the experimental results, the construction and interpretation of mathematical models, and so on.

Applications of the computer in the learning activities are mainly limited to its use as a ―big calculator‖, ―information textbook‖ tool for controlling students' knowledge and less – as a performer of other functions. Moreover, its advantages and opportunities for learning are generally not fully disclosed. When using the computer, students master the learning material at their own speed, their knowledge are objectively evaluated, simultaneous feedback is carried out, they get a wide range of information to be provided in a variety of images [1]. On the other hand, using the computer, teacher can take into account the individuality of students, pay more attention to them, get rid of routine work when searching for

information, include various exercises, while spending a minimum of time for creating tasks, and as a result, spend more time for improving his intellectual level and professional skill.

No doubt, such use of computer solves many educational and psychological problems during the learning. However, the possibilities of this technical tool are much broader. In addition, information technologies have a significant impact not only on the learning process, but also on the development and education of students. They stimulate and create motivation, provide the dynamism of the learning process, stimulate learning and cognitive activity. Information technologies alone cannot always ensure efficiency of learning, but they can be a means of improving the current educational process [2].

The primary role in realization of these possibilities falls on the shoulders of teachers of higher educational institutions. In this connection, it is necessary to pay the due attention in pedagogical higher educational institutes not only to teachers of computer skills, but also to teachers of other disciplines (of humanitarian and natural–mathematical cycles) in their training the basics of modeling with the use of the application software. Teachers must be not only subject teachers, but also teachers having basics of didactics and new technologies of education.

In the process of understanding and generalization, computer can make a demonstrational analysis of the relationships, dependencies, etc.; it can monitor students' independent work, formulate conclusions, hypotheses and prognoses.

When fixing the educational material, computer serves as a generator of problem situations; manages students' independent work; analyzes the level of assimilation.

In the application of knowledge, computer can serve as a simulator for formation of skills and abilities; provide differentiated support and control for the learners [4].

Turning on the computer in the learning process should not be chaotic and aimless. Each lesson must be thought-out; the involvement of information and communication tools must be justified by the objectives, demands of the subject,

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time expenditures. The development of skills in working with technical equipment must be carried out regularly throughout the course of study in high school.

This is a natural introduction of means in the learning process in higher educational institutes that allows students not only to learn the concepts being studied, and to fix them, to see over abstract visual images, but also equips the classroom experience in the use of your computer. The computerization of the educational process is essential for the improvement of education at all levels‖, provides great opportunities for deep study of the fundamentals of science, as well as intensification of the whole educational process.

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