

always leads to the achievement of a predictable educational result with an acceptable rate of rejection. The relevance of the work due to the need of introducing in the learning process of modern practice-oriented methods of teaching in order to identify the most productive methods of teaching.

Innovative teaching methods were used during the learning of the discipline "Human anatomy" by the students of 1 course of Ecological Medicine Department of educational establishment "International Sakharov Environmental Institute of Belarusian State University". 114 students of the specialties of the Medico-biological affair and Medical ecology were involved into the research.

During the classes we used the following methods: the method of computer technology and the method of discussions. The introduction of computer technologies in the learning process creates the prerequisites for the intensification of the educational process. Computer technologies make it possible to use in practice psychological and pedagogical developments that ensure the transition from the mechanical assimilation of knowledge to mastering the ability to acquire new knowledge independently. Discussion methods are the group of methods of active socially-psychological training, based on communication or organizational communication participants in the process of solving their educational and professional goals. The control group classes were conducted according to the traditional methods of teaching.

As a result of the analysis of students' tests checking the level of students knowledge obtained during the lesson on the chosen methodology, it was established that the discussion method is more effective and cognitive than the method of computer technologies. The computer method of training was the least effective in this discipline and has low indicators of the results of testing due to the specificity of the discipline of human anatomy. Thus, this method of teaching is undesirable for use in this discipline and requires further development in the technique of its conduct.

The most effective and successful method in terms of the results obtained was the classical method of teaching in the control group. This is due to the fact that a classical lesson is the most common form of education for students of these specialties and the most convenient for teaching the discipline "Human anatomy".

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PROBABILITY OF HUMANLIKE COMMUNICATION AMONG VIRTUAL ASSISTANTS – CHAT-BOTS

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Chat-bots are programs that can simulate a user's communication with one or several companions. As a rule, they are created on the basis of applications such as Telegram, Facebook, Skype, Viber, etc. The main idea of using chat bots is to automate repetitive processes and interact with the user.

Keywords: chat-bot, Telegram, communication, artificial neural networks, automation.

One of the important features of the chat-bot is its dialogue with the user. Such dialogues can be divided into two types: rigidly constructed answers and simulating a dialogue based on an artificial neural network (ANN).

The problem of a dialogue built on unchanging answers is that the end user can't get the information he needs. If a question is not correctly formulated, the chat-bot will respond with the stub in it – "I don't understand you. Put the question differently".

The solution to the problem of understanding the user and the virtual assistant is the use of ANN. An artificial neural network is a mathematical model, as well as its software or hardware implementation, built on the principle of the organization and functioning of biological neural networks – nerve cell networks of a living organism. This concept arose when studying the processes occurring in the brain, and when trying to simulate these processes.

For the simulation of human-like communication, recurrent neural networks are used – the kind of neural networks in which feedback is available. The presence of feedbacks allows one to memorize and reproduce entire sequences of reactions. The relationship of the RNN is shown in picture 1.

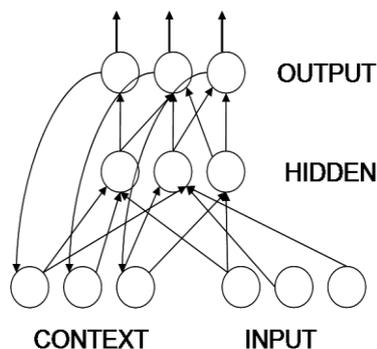


Figure 1 – The recurrent neural networks

The input vector of the signal goes to the group of neurons INPUT, on the group of neurons CONTEXT the zero signal. Then the signal spreads to the group of neurons of the hidden layer HIDDEN, and then it is converted by them and hits the neurons of the output layer OUTPUT. At the next iteration along with the signal vector INPUT, the context group of neurons receives copies of the signals from the OUTPUT layer of the last iteration.

To use an artificial neural network, you need a knowledge base. The CONTEXT, INPUT, and OUTPUT layers have one neuron each, the output value of which is set according to the word index in the word set. ANN is consistently trained in the following sentences: "Hello. How are you? _end_ Hello. Fine. _end_" (_end_ is entered corresponding to the end of the sentence).

To mark the knowledge base, the markup language AIML (Artificial Intelligence Markup Language) is used. The keywords in the language are category, pattern and template.

The category tag is the parent of the pattern and template tags that store the question and answer templates. The random tag allows you to specify multiple answers to a question that the interpreter selects randomly. It is proposed to introduce additional tags corresponding to the history and theme of the dialogue.

The algorithm for building a chat bot based on the extended markup of AIML and a recurrent neural network facilitates the creation of a chat-bot with the ability to communicate. A recurrent neural network allows you to get answers to questions that were not in the knowledge base, with the help of the network's ability to generalize.

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FORMATION OF AESTHETIC EDUCATION BY MEANS OF PROJECT ACTIVITY

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The role of project activity of students in the formation of their aesthetic education is defined. The types and forms of project activities that can be used to improve the aesthetic culture of students are analyzed.

Keywords: aesthetic education, aesthetic culture, personality, project activity, project.

At the present stage of the society development, the Belarusian education system faces the task of preparing highly educated citizens, capable of active, creative activity for the benefit of society. In its solution, the development of creative principles in man, the ability to transform the surrounding life, is of increasing importance. In connection with this, the role of aesthetic education and upbringing, which involves the formation of aesthetic judgments, tastes, improvement of the inner emotional world of a young person, serves to strengthen consciousness, ideological conviction, and the development of the entire spiritual image of a person.