

Research Activity as a Technology of Activation of Cognitive Activity of Students of Higher Education Institutions

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ABSTRACT

The article conducts research related to the use of higher education technology in the educational process of students of higher education institutions, as research activities in the educational process. The use of research activity is substantiated as a method of activating the cognitive activity of students. Developed and proposed to use modified algorithmic approaches to the organization and content of research activities of students of higher educational institutions. Algorithms reveal the organization of students' research activities with a step-by-step explanation and develop scientific thinking.

Keywords: Science Preparation, Higher Education Institution Training, Principle of Clarity, Discipline, Pedagogy, Special Disciplines.

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INTRODUCTION

Today, the changes taking place today in the information, communication, professional and other spheres of modern society require adjustment of both methodological and technological aspects of education, revision of value priorities, goals and pedagogical tools used. The educational process is the most important and reliable way to receive systematic education. It reflects all the essential properties of the pedagogical process: two-sidedness, focus on the comprehensive development of the individual, the unity of the substantive and procedural aspects, but at the same time has specific qualitative differences. Being a complex and multifaceted process, specially organized to reflect reality in the student's mind, learning is nothing more than a specific cognitive process managed by a teacher [7-12]. The teacher provides full acquisition of knowledge, skills and abilities, development of their mental strength and creative abilities to students.

Training always takes place in communication and is usually based on a verbal-activity approach. Conversation is both a means of expression and a means of knowing the essence of the phenomenon being studied, as well as a tool for communication and organization of practical cognitive activity of students [12-14]. Cognitive activity is a unity of sensory perception, theoretical thinking and practical activity. It is carried out at every step of life, manifests itself in all types of activities and social relationships of students (productive and socially useful work, value-orientational and artistic-aesthetic activities, communication), as well as by performing various practical actions in the educational process

(experimenting, constructing, solving research problems). Only in the learning process, cognition takes on a clear design in a special educational activity or teaching inherent only to man.

The work programs of many higher education institutions are focused on the use of research activities in education. Presentation of the project is recommended as one of the types of summarizing at the end of the study of a large section of any topic. Based on this, the design and research activities of students still remain relevant in modern pedagogy. And this is no accident. I would like to note that it is in the process of independent work of students when creating a project that the culture of students' mental work is best formed. And work on the project is impossible without the use of information and communication technologies. The use of global network resources by students in the preparation of a research project contributes to the active introduction of modern pedagogical technologies, the development of an integrated approach, productive training in activities, improving the quality of education, and, ultimately, self-organization and self-development. With full confidence, we can say about the need for further development of this process, which not only significantly increases the motivation for learning, but also develops the ability of students to search the educational Internet, classify information, compare data, that is, in general, helps to increase the information culture, which is a necessary quality of a modern person, instills self-education skills.

The purpose of this article is the analysis and development of modified algorithms for the organization of research activities of students.

MAIN TEXT

The organization of research activity can take place both in the classroom and outside the classroom. In modern life, when getting higher education, the organization of research activity comes to the forefront precisely in the classroom, as a rule, in the framework of problem and project approaches to learning. The most important thing in a project after defining a topic is to develop a hypothesis, pose a problem, plan educational activities, and compare facts. All this phased activity forms the culture of the student's mental work, accustoming them to independently acquire knowledge. It is advisable to teach all this to students not during the preparation of a specific project, but in advance, during the training of the subject. That is why seminars and conferences are especially relevant today, at which the student can try himself on the part of the researcher and scientist. After all, they not only contribute to the intensification of the educational process, but also form a culture of mental work of students, preparing them for the creation of independent projects [1-10]. The first stage in the formation of a culture of mental work of students during the preparation and presentation of their project is a seminar. The preparation of this type of lesson involves the organization of research activities of students and pedagogical activities of the teacher.

The second stage is a laboratory (computational and graphic) lesson. At this stage, the pedagogical activity of the teacher should be the same as at the seminar.

Thus, conducting these two types of classes, we create a culture of mental work among students, we teach students to research, to self-conscious work on the project. In general, the technology of organizing educational and research activities of students can be represented as follows. The technology for organizing educational research of students consists of certain elements. Important mechanisms for the development of research activities are: the creation of a creative atmosphere during work, motivation for interest in research, design, creative activities; initiation and comprehensive support of search and research activities; support of research activities; creation of conditions for support, implementation and dissemination of results. Consider the various algorithms for organizing research activities of students.

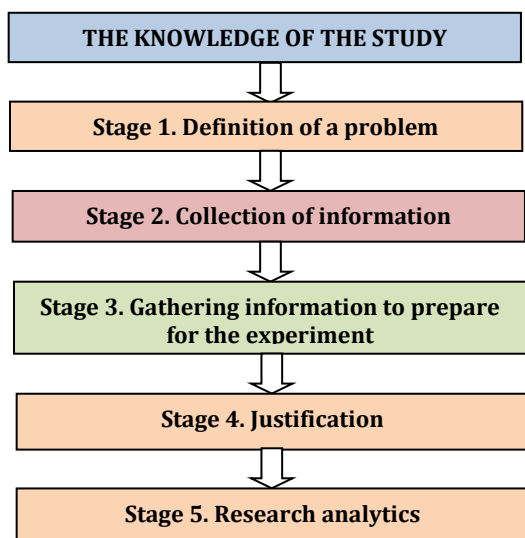


Figure 1. Algorithm 1. "The knowledge of the study"

Its purpose is not so much the achievement of the result as the development of the research process itself.

Implementation technology: the teacher poses a problem for students, outlines the strategy and tactics for solving it, and the student will have to find the solution. The model is implemented as a form of organization of individual student activities outside school hours. The job is to complete the five main steps.

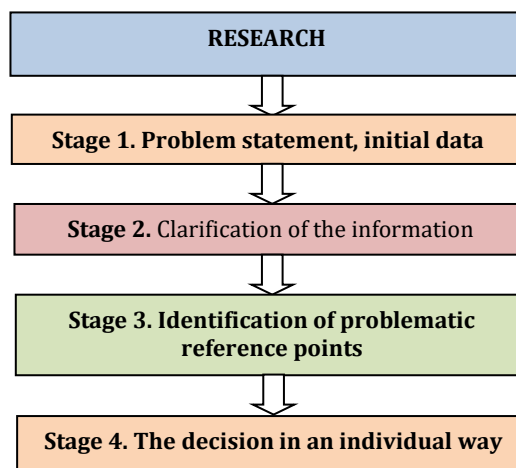


Figure 2. Algorithm 2. "Research"

Purpose: development of problematic vision, stimulation of search thinking.

Technology: the teacher poses a problem for students, but they are already looking for a method to solve it on their own. It is implemented as a form of organization of group and collective activities of students in the lesson. The work consists of four stages.

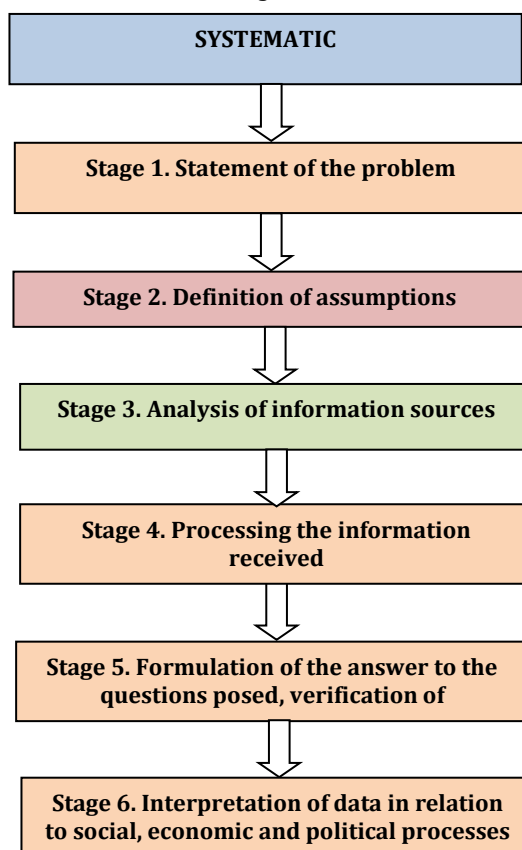


Figure 3. Algorithm 3. "Systematic"

The purpose of this model is the synthesis process. Implementation technology: the formulation of the problem, and the search for methods for its research, and the development of solutions are carried out by students independently. The work consists of six steps. [3]. The search for information takes up the largest part of work on any creative or research topic. The success of such research activities directly depends on whether the student is able to search and process the information found. In this regard, the teacher has a very important task to teach them the accelerated search and processing of information [15-18]. Today, perhaps, everyone knows that the texts of scientific works can be found not only in a traditional library or bookstore. On the Internet you can find almost any text and download it to your computer, using subsequently for various purposes [21-14].

But it's perhaps worth recalling that any search for a specific issue begins, for a specific purpose, i.e. by a pre-compiled logical structure of the research work, or by newly discovered problems. In any case, at the beginning of the work, the teacher, together with the student, develops the structure of future work, identifies problematic issues. If the teacher can offer ready-made literature, fine. But it often happens that a researcher discovers very valuable and useful articles in the process. Collaboration with the teacher will teach the student to process the information found, take only the necessary facts, draw logical conclusions from them or carry out the next search problems [19-20].

The next stage of work on the research is the design of the report itself on the research work. Here, the teacher will help the standard requirements for the design of the essay. The final stage of the research activity is a public report on its work. I think no one will ever be tempted to challenge the idea of the need to accompany this report with a presentation. Watching a presentation makes it much easier for listeners to perceive information, maintains interest and attention, allows the speaker to focus on the most important points, provide illustrations, necessary quotes or provide examples, etc.

The classic look for the content of research work.

Introduction. In the introduction, the author substantiates the chosen topic, briefly explains what his scientific interest is, sets the goal of the work. In this chapter, the author reveals the tasks that must be solved in this work, defines the ways of their implementation, gives a characteristic of the subject of study.

LITERATURE REVIEW

The author gives a brief analysis of the literature read on this topic, describes processes or phenomena that illustrate and directly relate to the experimental part of the work.

Methods of conducting an experimental or research part of the work. A detailed description of the technique itself. A list of questions that were used to implement the methods is given, a description of the groups participating in the study is given.

Analysis of research results. In this chapter, the author analyzes the data obtained during the experiment.

Conclusions. In this chapter, the author draws his own conclusions on the results of the data obtained during the experiment, comparing them with the theoretical material of the third chapter. The list of used literature ends. Literary sources can be arranged as follows: classic books in the field of knowledge in which the work is written. books revealing the theoretical content of the

work (author, book title, publisher, city, year of publication, page); encyclopedias, thematic dictionaries, reference books; literature in a foreign language (author, year of publication, page); collections of regulatory documents (if necessary); journal articles (article title, journal name, journal number, year of publication, page).

CONCLUSION

Scientific research largely depends on the way its results are presented. Information technology allows you to make this work interesting. Working on a research project with the object of research, they often become a means of acquiring new knowledge by students and intensify cognitive activity. Information technology in the organization of research activities are of great importance and affect the content of work, helps to increase learning motivation, the development of creative thinking of students. Thus, all modern innovative technologies are focused primarily on increasing student activity, because the truth gained through their own efforts is of great cognitive value.

The joint work of teacher and student is very useful for the formation of the ability to find, analyze, process information and use it for its intended purpose, the ability to establish intersubjective communication, to look for common patterns, and so on.

Nowadays, students are invited to master such a huge amount of knowledge accumulated over the centuries that we simply do not have to count on absolute success in this, so it is much more important to teach them to work with information. Having gained knowledge and skills of research work, future specialists in various fields will be able at any time to find and use the necessary information for its intended purpose.

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