

THE TYPES OF CREATIVE ACTIVITIES OF PUPILS WHEN DOING LABORATORY WORKS

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ABSTRACT

The problem of interdisciplinary laboratory work was analyzed in the "reader and study material" system. In this way, the relationship between the students and the organizers of the separation between the contents of the student and the interdisciplinary laboratory work, the interaction, first of all, in relation to student-reading activities and then expand the scope of the content of the study material to analyze the laboratory's work, and to interpret its procedural and instrumental properties.

Keywords: Intersubjective, problem, system, component, relation, creativity, activity, means, result, work, thinking, world view, effect, synthesis, reason, emotion, interest.

INTRODUCTION

Studying is a social function that is assigned to the learner in the social division of labor. We distinguish between two situations in which reading and student interactions interact: inactive learning is traditional learning. The basis of this reading is the verbal explanation of the teacher, which is intended for memory; active situation is the creative work of the laboratory which underpins the independent mental activity of the student. Interdisciplinary lab work is a creative thinking study.

The student's creative study of the content of interdisciplinary laboratory work, and the performance of the laboratory studies in it, are of interest to the reader. Performing a science lab will stimulate the reader. The interest in doing the interdisciplinary lab work creates a sense of wonder and knowledge of the material. A person gives in to the dynamics of "thinking out of need, from behavior dynamics to thinking". "In the synthesis of external influences and internal effects, the student begins to work. The result is formed as a product of independent mental activity.

Materials and methods

There are a number of common and varied aspects in the work of a creative scholar and student. Creativity is common to both of them. The scientist will discover unknowns in science, and the student will discover unknown aspects of himself. In both cases, news is primarily subjective, since both the scientist and the student develop their personality when they are created. At the same time, when a scientist contributes to the development of science and society through the

process of creation, the student develops his or her own abilities through creativity and prepares himself for the future. These two features of student activity are characterized by the social nature of the scholar and student activity.

In the system of interaction between reading and learner activities there are two types of relationship: student and learning material, student and real. The first of these relationships occurs between the reader and the characters (for example, drawing, drawing, graphs, tables, diagrams, histograms, equations, formula). Because every teaching material is modeled in formulas, equations or live speech. The second relationship takes place between the reader and the real person. The real thing that is noted in the implementation of the science labs is the field of academic disciplines.

From a relationship point of view, the student's work consists of the following steps:

1. Collision with conventional signs. There are two kinds of changes to this process.
 - a) the emergence of the student's affective signs;
 - b) Understand the signs that student readers are affected by, including the meaning of the symbols.
2. Move the content provided by the symbols to the field. The following two changes are also made in this process.
 - a) Converting students' contexts into relevant content, understanding what areas of text matter are relevant to the subject;
 - b) Understanding, thinking, analyzing, and synthesizing the changes in the mind of the reader under the influence of symbols.

This means that in didactics the study of characters (for example, graphs, drawings, figures, shapes, diagrams, histograms, formulas, equations), description of their features, and the analysis of the relationship between the character and the content it expects its researchers. methodological problems.

Formal changes In the performance of interdisciplinary laboratory work, content changes occur to the reader. Changes in the content of the student in the creative process of interdisciplinary lab work are didactic. Consequently, analyzing content changes and their essence is a matter of their creative didactics.

During interdisciplinary laboratory work, there are various links between the learner's conventional signs of creative activity and the process of translating their content into their field. In essence, the links are divided into the following two groups.

- a) Negative relationships;
- b) Positive relationships.

Negative links are those that interfere with the performance of the laboratory, preventing students from expressing meaningful connections. The material related to the student's laboratory work is informative. Failure to understand the purpose of the Interdisciplinary Laboratory Performance Act, the lack of understanding of the links between knowledge and reality, and the inability to distinguish the creative methods of teaching related to interdisciplinary laboratory work, is a failure . By eliminating negative feedback, the student will be able to effectively engage in creative activities.

The creative activity of the student is accelerated by increasing the positive relationships in return for minimizing negative feedback. Therefore, it is especially important for researchers

and teachers engaged in pedagogical activity to know the positive relationships, to classify them.

1. Content Relationship. The following types of communication are distinguished between student and laboratory work during interdisciplinary laboratory work, there are suggestions on the nature, society, and student intelligence, and on the nature of events. Implementation of cognitive and creative activities, methods of remembering and recollection in different learning and living environments are the hallmarks of a particular sequence and consistency of a particular interdisciplinary laboratory work of a student. Theoretical knowledge about performance is to be studied separately, through a synthesis-based analytical approach. Frequent monitoring of student learning results in determining the effectiveness of education.

2. Purposeful communication. This type of communication is determined by the substance of interdisciplinary laboratory work. Why Teach Didactics “If we start thinking about the traditional question, we can see that purposeful communication is recognized as one of the oldest. Depending on the purpose, the creative activity of the student plays a positive role in the student's personal development. Also, setting goals and pursuing a goal is one of the factors in fostering creative activity in students. Consequently, purposeful and purposeful activity “acts as the main point of any activity formed in the subject”, wrote A.N. Leontev.

Student's understanding of the goals of interdisciplinary laboratory work is mainly achieved in two ways: to understand the purpose of the laboratory work, the material, problems, tasks, and independent interpretation of laboratory work. This allows teachers and students to understand each other and to understand the purpose of the laboratory work being done. The learner understands his or her goal by experiencing interdisciplinary lab work, addressing problematic questions, and experiencing difficulties in solving them.

The second way to understand interdisciplinary lab work is effective, but also dangerous. As a student who has difficulties with mental and creative activity, misunderstanding the goal can in some cases lead to a failure.

3. Functional communication. Any object is intriguing with its existence, its role in the surroundings. This is a case in which the student's creative activities are targeted. When we first meet a new object, we begin to think about its function. Consequently, functional descriptions of the problem or system should be at the forefront. Understanding the need for a system, determining its role, and evaluating its response to other systems depends on functional analysis. Performing each interdisciplinary laboratory work has specific functions in the student's creative activity.

For example, the following functional features of the formation of theoretical knowledge, practical skills and qualifications can be distinguished in class IX by the use of the low-molecule formula (I-law of electrolysis) when the electrolyte passes through the electrolyte through the electrolysis law. : The connection between the mass of dissociation in electrodes during electrolysis and the current in the electrolyte over time, that is, the formula $m=kq=kIt$, promotes the development of the reader mind.

4. Communication. Object information, which combines two things that are learned in doing inter-laboratory labs at school, is a creative approach to the subject. Take, for example, the definition of $m=kq$ or $m=qk$ that "does not change the multiplication by replacing the multipliers." This definition provides information on one of the multiplication features, as well as replacing (or may or may not) enhance student learner activity. In modern traditional pedagogical activity, learning about the topics is a priority and the methods of managing the

creative activity of the student are ignored or the methods of managing the creative activity of the student are completely ignored.

In fact, the methods of knowing and managing a creative activity of a student are just two aspects of the thing, that is, the object being studied. The principle of looking at the information from the creative methods of performing the student to the inter-disciplinary laboratory work is chosen for the organization of the student's creative activity.

Above are described the process characteristics of interaction between student and interdisciplinary laboratory work. Now the interaction is based on the interdisciplinary laboratory work. In this way we will try to give a descriptive description of the interaction. It is easier to understand the essence of the interaction by submitting a reference to the student and then inter-laboratory work materials.

The interaction is a holistic system with its own goals, means and outcomes. The goal at the previous stage was to acquire new theoretical knowledge, practical skills and skills, and to perform new interdisciplinary laboratory work. Therefore, one of the main features of the student's creative activity is the use of the teacher's theoretical knowledge, practical skills and skills as a condition for enriching new theoretical knowledge, practical skills and skills. The interaction as a holistic system has three aspects: primary, intermediate, and final.

According to the above three situations, the student has the ability to perform interdisciplinary laboratory work in his mind: to understand inter-laboratory work, to understand and make decisions, to carry out interdisciplinary laboratory work.

Result and discussion

Each result can be achieved by at least two different tools: understanding the interdisciplinary laboratory work; communication with concepts, formulas, rules, laws (1) and theoretical knowledge, practical skills and qualifications; methods of activity, development of creative activity of the student (2), decision-making, information obtained by means of communication with instruments, (1) devices, reagents (2); the use of conscious concepts about the process of interdisciplinary laboratory work (3), and logical methods — comparison, selection, induction or deduction.

In three cases of student and interdisciplinary laboratory work, three results are achieved:

- 1) understanding, the physiological technology of creative activity of the student and the means involved in this process;
- 2) in the case of decision-making, interdisciplinary laboratory work, the student participates in psychological technologies and their means of creative activity;
- 3) Exercise, in the latter case, the logical technology of the creative activity of the student and the tools involved. Consequently, interdisciplinary laboratory work materials, their various forms, interdisciplinary laboratory work have three basic principles - physiological, psychological and logical technologies, tools and results.

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