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METHODS OF CONDUCTING INTEGRATED LESSONS IN BIOLOGY

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Annotation: The article provides valuable information on the importance of integrated lessons in the teaching of biology, the methodology of transition and its role in education. Experimental data on changes in academic performance of pupils and students during integrated lessons are recorded. It also provides information on how to teach biology, first of all, to acquaint students with the basic ideas, theories, laws and concepts of biology, the importance of mastering biological knowledge.

***Keywords*:** integration, integrated lessons, academic mastery, cognitive interests, objective laws, biology, pedagogical observation, questionnaire.

Introduction

At present, the search for new ways to implement the content of education remains relevant. Integration in this regard is one of the innovations of modern methods. This technology helps to understand the combination of incompatible subjects in the curriculum of schools and universities. Biology is no exception. In our opinion, biological ignorance is not possible in the formation of the personality of schoolchildren and university students, because biology is a holistic science.

The new standard of our time is based on the ability of schoolchildren and university students to study independently, acquire knowledge, skills and universal methods of activity. The learning process should be organized in a way that ensures the student's ability to learn.

The insufficient development of the solution to this problem, its undoubted relevance and social significance served as the basis for the choice of the research topic.

Literature review

The problem of integration in the learning process has been raised many times in history. To determine the essence of integration, let us turn to the general scientific definition of this concept. "Integration is the integration into one whole, the unity of any elements, the restoration of any unity; in systems theory - the state of interdependence of the individual components of the system and the process that leads to such a state".

One of the first was the philosopher-humanist, public figure Ya.A. Comenius tried to systematize the objective laws of education and upbringing, to solve questions that previous pedagogy could not answer. Comenius called for enriching the mind of the reader, acquainting him with things and events in a sensitive world.

The main form of implementation of the integration process is the course. Thus, integrated lesson topics are chosen in such a way that they develop the ability to achieve lesson objectives, focus quickly in new contexts, see known innovation, transcend boundaries, and flexibility.

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Methods

Research and analysis of literary sources in the field of methodology, pedagogy, psychology, biology and local lore, pedagogical observation, analysis of student work, pedagogical experiment, sociological methods (survey, questionnaire, conversation).

Results and Discussion

The following research was conducted to explore interest in learning, general science and specific skills, as well as the use of integrated teaching in a biology course to enhance a student's personal qualities and the quality of knowledge in biology: study of students' attitudes to integrated lessons; determine the level of academic mastery of students during integrated classes; analysis of educational activities.

These studies were conducted in schools and universities. The use of this method in the teaching of biology in secondary schools and higher education institutions has shown a significant increase in the number of students who are well versed in the teaching materials (Figure 1).

The results of the study showed that in the first month of study, there were five students with a grade of "5", which was 22.7%, and in February and March their number was 31.8-40.9% of the number of students. The number of students who received a satisfactory grade of "3" decreased from 27.3% to 9.1%.

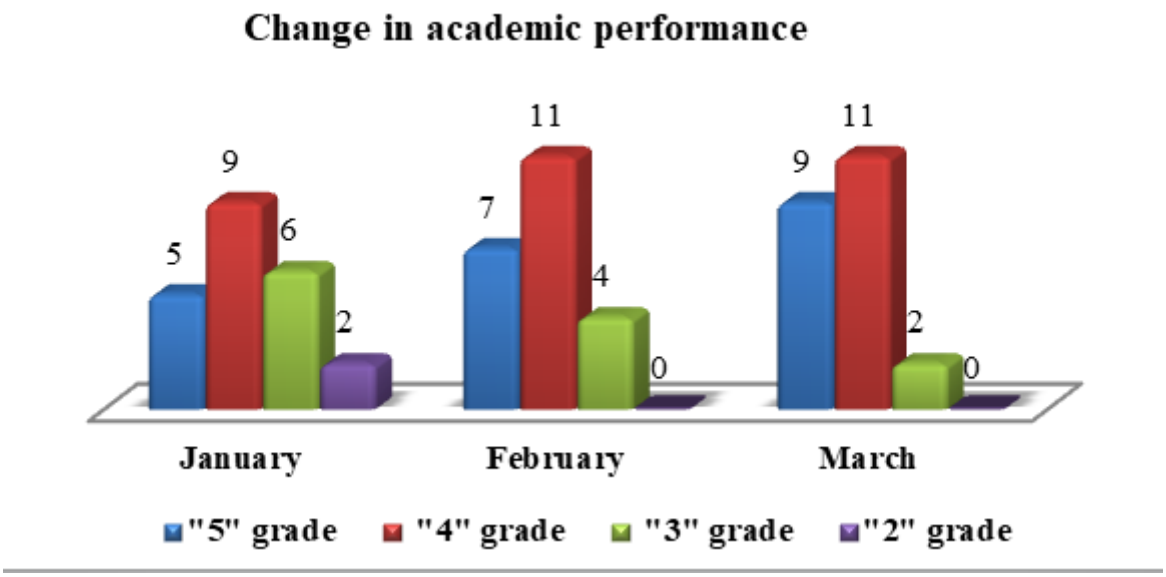

Figure 1. Changes in academic performance over time in integrated biology classes

The data obtained allow us to draw conclusions about the impact of integrated lessons in the teaching of biology, the formation and development of students' abilities, as well as to determine the dynamics and development of cognitive interests.

At the end of the study, students were asked "Should integrated classes be taught or not?". The students who participated in this survey also participated in our study of changes in academic performance over time when taking integrated courses in biology. Therefore, the positive and negative opinions of these students are reliable information. The survey was conducted in a confidential manner, which allowed students to express their opinions freely and without fear.

As can be seen from the table, 13 of the students, that is, 59.1% of the general education "integrated lessons must be passed or not?"he replied that the question should be passed. 22.7 % of the students approved both cases in the question, and 4.5% of the students did not answer the question. 5 students

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that is, 13.6% of the students answered the question “should not be transferred”. These 13.6% found their place in the assessment criteria of the students as long as they received an unsatisfactory assessment of their research in our time of oborgan.

Table 1. The results of the survey on the question what "Should integrated classes be held or not?"

View student responses	Answers, pcs	Answers %
should be introduced	13	59.1 %
should not be introduced	3	13.6 %
Both cases were approved	5	22.7 %
The question was not answered	1	4.5 %

Proceeding from this, we conclude that they did not understand the essence of the integrated lessons. This process is directly related to the pedagogical skills of the teacher who conducts these lessons, as well as the ability of students to make individual explanations based on their ability to think.

However, it should be borne in mind that the change in the quality of the learning process in the learning process was significant in terms of changes in learning motivation and changes in the learning environment. As for the rate of formation of cognitive interests, we can talk about the gradual improvement of students.

In this context, it is possible to talk about the inadequacy of the use of a single teaching method, the importance of using a variety of additional methods based on the level of preparation and the formation of primary education skills.

When we discuss the results of the study, the role of integrated lessons in the education system is very high, because these lessons can be used to explain topics that are difficult for students to master by linking them to other subjective factors. As a result of this situation, we observed throughout our studies that the knowledge and skills of students and students have changed to the positive side. This can be illustrated by the fact that when integrated lessons are passed, the indicator of academic achievement of students and students is significantly improved.

If we talk about the disadvantages of integrated lessons in education, in fact, there is no shortage of these lessons, there are factors that only lead to the formation of negative concepts in relation to this lesson in both students and students. This is the reason for the poor level of knowledge of teachers, the inability to conduct integrated lessons in the right order, the interdependence of incompatible lessons with each other.

Conclusion

The role of the integrated lesson in the teaching of biology is very large, because the content of the topic is determined by the psychological characteristics that depend on the age of the children.
Analysis of the data on the level of cognitive interests showed that an increase in the number of students at the level of “comprehension” and “application” was observed during the work with the class.

As we observe the growing interest of pupils and students in science, we can see that the role of integrated lessons in education is high.

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