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THE IMPLEMENTATION OF INTERDISCIPLINARY CONNECTIONS AS ONE OF THE DIRECTIONS IN THE PREPARATION OF A FUTURE BIOLOGY TEACHER

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ABSTRACT

This article reveals the pedagogical conditions aimed at the effective training of a future biology teacher.: strengthening interdisciplinary links between courses on methods of teaching chemistry and biology at a pedagogical university; improving courses on methods of teaching chemistry and biology at a pedagogical university through the introduction of pedagogical teaching technologies.

Keywords: interdisciplinary connections, pedagogical technologies, chemistry, biology, future teacher, pedagogical conditions.

The change in the socio-economic situation in Uzbekistan as a result of the reforms initiated in the 90s of the XX century marked a new direction in the development of vocational education. In the process of ongoing reforms, new requirements are moving towards the content of education in the context of professional training of teaching staff. In this regard, graduates of vocational schools should be competitive in the labor market.

A future teacher should be able to organize not only collective, but also individual activities of students, as well as, comprehending innovative pedagogical technologies, creatively implement them in their own professional teaching activities. The education of a new generation with a high degree of mobility and great social responsibility depends on the training of teaching staff capable of solving the tasks of teaching students the basics of economic, environmental, and biological knowledge. Such knowledge, in turn, is the basis for the formation of professional skills and abilities of future specialists. This is one of the most important factors ensuring the social protection of schoolchildren.

The appropriate level of education can only be achieved by a highly qualified teacher with modern training. In accordance with the main directions of the state policy of the Republic of Uzbekistan in the field of education, presented in normative documents in the Laws of the Republic of Uzbekistan "On education",

the "National Training Program" is the most important factor in the humanization of socio-economic relations, the formation of new personal attitudes. Developing agricultural production needs modern educated people. In this regard, the higher school is able to train teaching staff adapted to work in a modern school.

A future biology teacher must possess modern technologies of pedagogical influence on students, which make it possible to increase the attractiveness of studying the basics of biology with the prospects of a personality in further professional education. The preparation of a biology teacher for school work is intensively conducted at the Kokand State Pedagogical Institute. The modern scientific and pedagogical experience of teaching biology teachers at the university has shown that it is necessary to clarify and rethink the goals, content, forms and methods of preparing a future biology teacher to work at school from a completely new

perspective. One of the conditions for such improvement is the establishment of a system of holistic and continuous training of students of a pedagogical university, including in the specialty "Chemistry and Biology".

In this direction, the following trends have developed, aimed at the effective training of future biology teachers:

1) strengthening interdisciplinary links between courses on methods of teaching chemistry and biology at a pedagogical university and special scientific disciplines;

2) improving the teaching methods of chemistry and biology at a pedagogical university through the introduction of more effective pedagogical teaching technologies.

One of the basic scientific disciplines studied by students of chemical and biological specialties of a pedagogical university is the course "Chemistry". Its importance for teacher training is increasing due to the increase in the volume of biochemical content in school courses in organic chemistry and general biology. However, the methodological potential of a course based on interdisciplinary communication is far from being fully used in a pedagogical university.

Let's look at each of the trends we have identified in the preparation of a future biology teacher for teaching

In our study, interdisciplinary connections will be understood as a reflection of the connections between sciences, in the content of educational material, in its structure and teaching methods [7].

A survey of the faculty of the Kokand State Pedagogical Institute showed that 76% of respondents consider the implementation of interdisciplinary connections in the educational and cognitive activities of students to be promising areas of activation of this activity, contributing to the improvement of the content of higher education.

There are various types and types of interdisciplinary connections. For example, M.V. Bulanova-Toporkova identifies the following types of interdisciplinary connections:research and interdisciplinary relations;

mental-mediated connections; indirect-applied connections [4; 202].

V.T. Fomenko identified the types of interdisciplinary communication according to the way content is deployed over time. "Vertical" interdisciplinary connection – logical and temporal relations do not coincide. "Horizontal" communication – blocks of selected disciplines are studied simultaneously, in parallel, but with varying degrees of interpenetration. [4, pp. 208-209].

Horizontal interdisciplinary communication implies the allocation of several main courses that include other courses. At the same time, each discipline is divided into blocks-modules. The vertical interdisciplinary connection determines the sequence of training at different levels of training, as well as the unified methodology, methodology, terminology of the approach to the study of the cycle of natural science disciplines. At the same time, it is necessary to carry out organizational and methodological measures, including editing existing curricula, covering the interconnection of natural science disciplines. This makes it necessary to prepare a future biology teacher for the ability to develop an individual plan for the implementation of interdisciplinary connections in biological courses. This requires knowledge of the teacher's creative work methodology, which includes a number of stages:

1) study of the section "Interdisciplinary connections" for each biological

course and reference topics from programs and textbooks of other subjects, reading additional scientific, popular science and methodological literature;
2) after-school planning of interdisciplinary connections using course and thematic plans;
3) development of tools and methodological techniques for the implementation of interdisciplinary connections in specific lessons;
4) development of a methodology for the preparation and implementation of complex forms of training organization;
5) development of methods for monitoring and evaluating the results of interdisciplinary communication in training.
In our study, we consider the interdisciplinary connections of educational and cognitive activity of students through the application of integration based on the organic connection of natural science disciplines.
Integration (Latin– restoration, replenishment) is the unification into a whole of any parts, elements, leading to a qualitatively new formation, to the restoration of any unity. This is not the sum of the connected parts, but their organic interaction, which gives a new holistic or systemic education. Systems theory defines integration as a state of interconnection of individual components of a system and as a process that causes such a state [8].
Interdisciplinary integration is the unification of knowledge, beliefs and practical actions at all stages of specialist training, the synthesis of all forms of classes in relation to each specific goal of education at a university [9].
It is indisputable that natural science disciplines are in an organic connection with each other, i.e. such a connection in which they "relate to the very essence, the inner integrity of something" [3, p.459].

REFERENCES

1. Lavrentieva, N.B. Pedagogical foundations of the development and implementation of modular technology of education in higher education: Dis. ... Doctor of pedagogical Sciences. - Barnaul, 1999.-393 p.
2. The general regulation on the rating system for assessing student academic performance of the Tyumen State Oil and Gas University. – Tyumen: TSOGU, 2004. – 12 p.
3. Ozhegov, S.I. Explanatory dictionary of the Russian language: 80,000 words and phraseological expressions / S.I. Ozhegov, N.Yu. Shvedova / Russian Academy of Sciences; Russian Cultural Foundation; - 3rd ed., stereotypnoe - M.: AZ, 1996. – 928 p.
4. Pedagogical technologies: A textbook for students of pedagogical specialties / Under the general editorship of V.S. Kukushin. – Series "Pedagogical education". – M.: ICC "March"; Rostov n/A: Publishing Center "March", 2004. – 336 p
. 5. Principles and procedures for designing the structure, content of conditions for the implementation of innovative educational programs. Methodological recommendations. Part 3. [Text] / Lazarev V.S. – M.: Nauka, 2006. – 77 p.
6. Learning technologies: the essence, the experience of understanding and the problems of development. Reports and materials for scientific research. –practical conf. – M.: Prosveshchenie, 1997. – 170 p.

7. Usova, A.V. The role of interdisciplinary connections in the development of cognitive abilities in students. - In the book: Interdisciplinary connections in teaching the basics of science in secondary school [Text] / A.V. Usova - Chelyabinsk: CHSPI, 1972. - pp. 10-20.
8. Kazimova N. Meliboeva G., Jumanov A. Dependence On The Professional Competence Of The Organizers Of Educational Processes. Journal of Positive School Psychology. 2023, Vol. 7, No. 4, 1219-1223.
9. Jumanov A., Yigitaliev M.Use of Innovative Technologies for Integrative Purposes in Chemistry Education. Pioneer: Journal of Advanced Research and Scientific Progress (JARSP) Volume: 02 Issue: 01 | 2023.
10. Jumanov A. M. The Role and Importance of Chemical Knowledge in Biological Education. //The American Journal of Social Science and Education Innovations, Volume 2 Issue 8, 2020. pp.191-194.
11. Jumanov A. M. About integrative improvement of the course "Chemistry" in the chemical preparation of future students of biology. A Multidisciplinary Peer Reviewed Journal Volume 8, Issue 6, June-2022. PP.60-63.