

анализ и синтез информации, применять системный подход для решения поставленных задач. ОПК-1. Способен анализировать и интерпретировать результаты химических экспериментов, наблюдений и измерений. ОПК-6. Способен представлять результаты своей работы в устной и письменной форме в соответствии с нормами и правилами, принятыми в профессиональном сообществе [4].

Современная система обучения невозможна без использования информационно-компьютерных технологий, на это обращено серьезное внимание в монографии Е.Я. Аршанского и А.А. Белохвостова. Авторы отмечают, что «необходимо сформировать у студентов осознанные представления о преимуществах организации обучения химии с использованием потенциала компьютера» [2, с. 40].

Таким образом, в ходе занятий используются образовательные технологии: 1. Деловая игра «Моделирование фрагментов уроков разного типа в ходе сотрудничества в обучении». 2. Работа в микрогруппах. Освоение темы «Методы обучения» в ходе работы в микрогруппах с последующим обобщением и тестированием. Обсуждение практико-ориентированных заданий. 3. Защита творческих заданий. Обучение решению расчетных и экспериментально-расчетных задач по химии. Работа с интернет-ресурсами. 4. Изучение педагогического опыта. Ознакомление с работой сайтов учителей химии, участие в методологическом семинаре, научно-практических конференциях, мастер-классах педагогов города и области.

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INTERDISCIPLINARY APPROACH TO FORM CHEMISTRY STUDY

Olena Mitryasova

Mykolaiv, Petro Mohyla Black Sea National University

Interdisciplinary approach is a special type of designing of natural education, namely chemical, content which opens the system of communications, and it also coordinates, unites and systematizes knowledge about the main natural-science theories, basic categories, and principles of the modern natural-science picture.

The modern natural-science picture of the world with its main principles of construction and organization (systematic, global evolutionism, self-organization and historicity) is one of the consequences and the basis of the interdisciplinary of the chemical study content. Defined principles of scientific picture of the world as a whole are correspond to the regularities of Nature existence and development [1; 2].

First, this is the systematic. This principle means the fact that the universe is vast of the systems, which consists of a large number of elements (subsystems) of varying complexity and ordering. A systematic way of combining elements expresses their fundamental unity: thanks to hierarchical inclusion systems of different levels of each element of any system associated with all elements. For example, Human – Biosphere – Earth – Solar System – the Galaxy; Electron – Atom – Molecule – Substance and etc. All parts are closely intertwined.

Secondly, the global evolutionism is the impossibility of the existence of the Universe and all its systems without the development and evolution. Factor in the evolution of the Universe testifies to the fundamental unity of the world, each component of the particle which is a historical consequence of the global evolution of the process.

Thirdly, self-organization, which means the ability of a material to complications and create an increasingly organized structures during evolution. Mechanism of transition material systems in complex condition is similar for all levels.

Fourthly, the historicity principle is fundamental incompleteness of the world modern scientific picture. That there is now established by the previous history and specific cultural features of present time. Development of society, changing its value orientations, awareness of the importance of the study of the unique natural systems where component is the man to change the strategy of scientific research; it is the attitude to the world. The defined fundamental features of modern science picture world define, mainly the general outline, and also the very way of organizing various scientific knowledge in a holistic and consistent.

Introduction of the interdisciplinary approach is sometimes considered as not the only way, panacea concerning of improvement training quality. Some educators understand that introduction the integration approach into educational process of the numerous multidisciplinary courses which represent of various knowledge eclectic association from different areas of science without allocation in them the intrinsic general. Misunderstanding of the integrated nature of subject matters or ignoring of it in practice leads to that researchers try to exempt the training program of the discipline from a «excess» material, for example technological character. Thus, high-quality changes in education are connected, first of all, with integration in necessary forms and scales of theoretical knowledge, its practical use.

Instrument and procedures of pedagogical supervision, the analysis, synthesis of knowledge were used for fulfillment of the purpose. As a result of the research the concept of integration approach of environmental education is developed and a specific of the teaching is defined, efficiency of methodical system of ecologists' preparation is introduced and experimentally checked. Pedagogical experiment with using of mathematical statistics methods for processing experimental data analysis was used for the purpose of experimental evaluation of effectiveness developed by the didactic system of integrated approach to training bachelors-ecologists and introducing it into educational practice. By simulation method structural-functional model of a methodical system of integrated approach to teaching students is developed.

Main tasks of the chemical education in the context of the interdisciplinary approach are:

- to form of the fundamental (global) laws concepts of nature and research methods that allowed them to discover; ideas about the most important milestones on the way to achieving a modern level of natural history; understanding of the most common theories that characterize the present level of natural history;
- to form of knowledge about the unity of living and inanimate nature, about the unity of the developing world, which is provided by the fact that the physical form of the movement goes higher – chemical and biological forms of matter movement;
- to form of the whole scientific world outlook, awareness of the students the principles and regularities of the nature development – from the microcosm to the Universe and Human, as well as the development of ideas that in the transition of systems to a higher level of development at the same time increasing their diversity, the growing number of structural parts, there is differentiation, complicated by relationships and simultaneously increases the integration;
- to form in students skills to use the obtained knowledge of natural science disciplines during the solution of the professional orientation tasks.

The most important aspects of interdisciplinary learning are component, functional and prognosis (fig. 1). Component aspect of integrated training responds to the question «what is integrated?». Functional component of integrated learning manifests itself as functioning of the intra- and interdisciplinary connections and responds to the question «how is integrated?». Prognosis aspect of integrated learning has two areas: genetic and prospective so demonstrates basic and promising concepts and ideas.

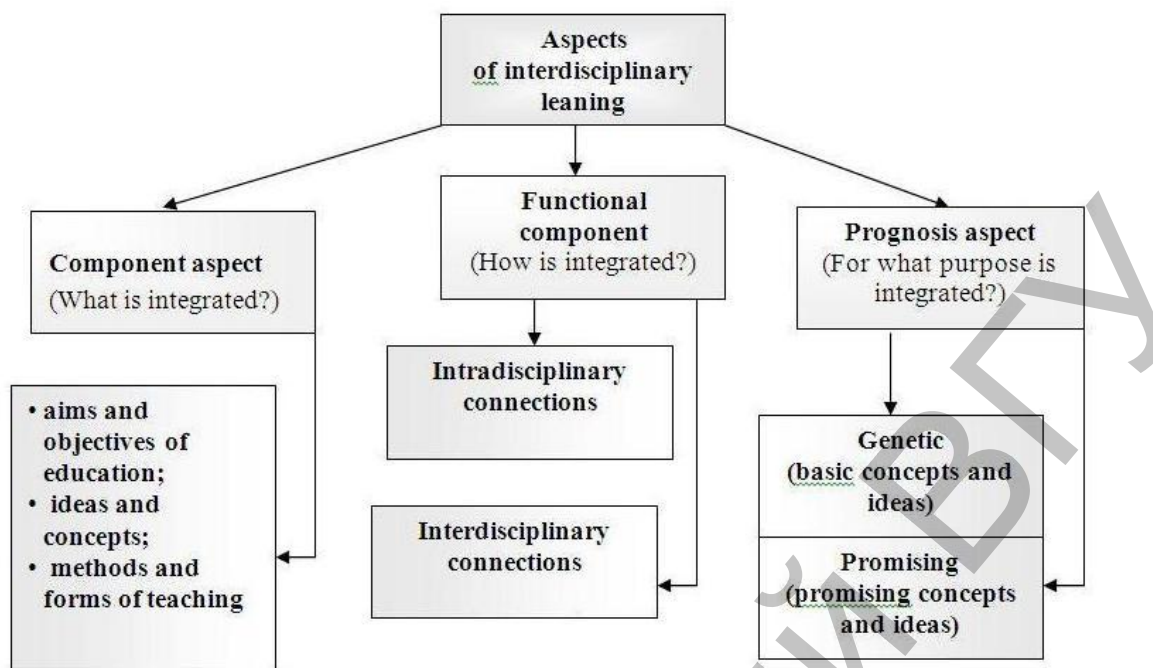


Figure 1 – The most important aspects of interdisciplinary study.

Analysis of the main phases and forms of knowledge integration in pedagogy and results of our research give grounds to determine new definition, that the interdisciplinary approach to the content is a special type of construction of its content, organization and direction of which subordinated to disclosure a system of intra- and interdisciplinary connections, as well as coordination, combination and systematization of knowledge concerning the basic main principles, leading categorical concepts that aimed at forming a complete picture of the world.

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ВЗАИМОСВЯЗИ ПРЕПОДАВАНИЯ ЕСТЕСТВЕННОНАУЧНЫХ И СПЕЦИАЛЬНЫХ ДИСЦИПЛИН СТУДЕНТАМ СПЕЦИАЛЬНОСТИ «НАЧАЛЬНОЕ ОБРАЗОВАНИЕ»

Н.С. Михайлова

Гродно, Гродненский государственный университет имени Янки Купалы

В последние годы в Беларуси актуальность приобретают вопросы организации исследовательской деятельности младших школьников. Ежегодно в Гродненской области на разных уровнях (школы, района, области) проводятся конкурсы работ исследовательского характера, индивидуальных и групповых проектов учащихся 1–4 классов. Перед учителями поставлена задача организации учебно-исследовательской деятельности школьников, что актуализирует вопросы как методологической, так и предметной подготовки педагогов, в том числе – в области естественнонаучного знания.

Анализ образовательного стандарта высшего образования специальности 1-01 02 01 Начальное образование [3] показывает, что если таким учебным предметам,