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METHODOLOGY FOR IMPARTING ECONOMIC KNOWLEDGE TO STUDENTS IN CHEMISTRY CLASSES

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Abstract

In the current period, educational efficiency is increasing as a result of advanced innovation technologies in lesson processes, achievements in science and delivery of innovations to students.

With this in mind, we think that students should be given economic knowledge in accordance with their subjects when teaching chemistry. Because only an economically developed country will have its proper place. Therefore, we want to cite some ways to apply chemistry, the laws of nature, to the laws of economics, that is, society.

It is known that the events taking place in the world in recent years bring unexpected results for many experienced economists. This is due to the fact that the explanation of the origin of complex processes taking place in society and Economics shows that it is necessary to carry out in the language of Natural Sciences.

Development theory takes into account the quality of change in the economy. The economy, including commodity-money economy, is a dynamic system. Dynamical systems are characterized by state equations. The main characteristics of commodity monetization in the simplest case will be exactly similar to the Mendeleev-Clapeyron equation in molecular chemistry and thermodynamics [2]:

$$PV = \nu RT \qquad (1)$$

Here r is the level of commodity valuation; V is the volume of goods issued for sale;-analysis of the amount of money in circulation. This shows that the laws of Chemistry are universal. We cite the similarities between thermodynamic and economic magnitudes below.

Similarity between thermodynamic and economic magnitudes

Thermodynamic system			Economic system		
Physical size name	*Mark*	*Size*	*Economic size name*	*Mark*	*Size*
Energy	E	Joule	Resource reserve	N,M	Money
Temperature	T	Grade	Resource assessment	R	Money/ pieces

However, the expression representing the ideal gas State (1) cannot be fully supported by the real economy. In this case, an equation similar to the Van-der-Vaals equation for real gas arises:

$$\left(P + \frac{a}{V^2}\right)(V - b) = \nu T \qquad (2)$$

Here $\frac{a}{V^2}$ — the unpaid part of the price of a unit of goods, A and B are corrections that apply to the real commodity money economy [2].

Similarity between physical and economic concepts

Characters	Physical size	Economic size
$N_e^{\downarrow}$	Electrons heading spin to " low "	Money
$N_e^{\uparrow}$	Electrons heading spin to " top "	Commodity (stock or currency)
$N_{\downarrow}$	Atoms heading spin to "low"	Buyers
$N_{\uparrow}$	Atoms heading to the spin "top"	Vendors
n	Electron concentration	Concentration of market resources

There are many such examples. Thus, at present, a new science has appeared, which is devoted to the application of the laws of chemistry in economics. Practitioners of the discipline have grown from year to year, with thousands of works on "market chemistry" on the internet site. We want to quote some of this information. "Currently, a very large number of chemists are engaged in economic affairs on exchanges, in various other offices. Chemists differ from mathematicians in that the transition to such stock exchanges is a quantitative assessment of the real processes inherent in chemists, explaining any public parameter, including the stock market, on the basis of the laws of chemistry. Looking at the price as the coordinate of the material point, and the change of the price as the motion of the particle, it gives rise to the laws of stationary and dynamic economics by applying the laws of classical and quantum chemistry" [3].

Nobel laureate Marris Alle, in a lecture at the International Institute for economic progress in Geneva, mentions that "economics has become a real science thanks to its application of Mathematics, Chemistry and computer methods to its methods. Such integrations generated positive processes.

Now the world's leading universities are preparing specialists in chemical-economics. It is observed that the need for graduates and them exceeds the demand for graduates of Economics and banking academies at a high level. From this, it is possible to understand how much chemistry is necessary for economists-specialists in a period of increasing harmony.

In order to convince students in the course of the lesson that chemistry can represent not only nature, but also the laws of society, we think that if the method used above is used by teachers of chemistry, it will gain students ' interest in science. Also, students interested in other disciplines are diligently studying chemistry, being able to analyze the commonality between the laws of nature and society, and competencies are formed to apply it in their life activities.

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