

**PROBLEMS OF IMPLEMENTATION OF THE PRACTICAL PART
EDUCATIONAL PROGRAMS ON CHEMISTRY IN SCHOOLS OF THE REPUBLIC
OF BELARUS**

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Annotation: The article reveals the content of the practical part of the curriculum in chemistry and ways to improve it.

Keywords: *training program, educational subject "Chemistry", general secondary education.*

Ensuring the sustainable development of the Republic of Belarus largely depends on the level and quality of education of citizens, on their knowledge of the legal and ethical norms governing the attitude of man to nature and society, and the ability to take this knowledge into daily and professional activities, from their ability to understand the essence of socio-economic transformations. [3]. In this regard, the issue of creating new and updating existing methods, educational and methodological complexes aimed at developing the creative qualities of students at the level of general secondary education is relevant. The research culture of personality [2], the formation and development, which occurs at the level of general secondary education, can be attributed to the creative quality of the individual.

Within the framework of the research work, the following tasks were set: 1) to analyze the experience of organizing the experimental activity of students in the educational process in chemistry in the institutions of general secondary education of the Republic of Belarus; 2) analyze the experience of organizing the experimental activity of students in the educational process in chemistry in the institutions of general secondary education of the CIS countries. The purpose of the analysis of the organization of the experimental activity of students in the educational process in chemistry in institutions of general secondary education is to identify trends in the organization of experimental activities of students and problems associated with the organization of this activity.

The organization of experimental activity of students in the educational process in chemistry in institutions of general secondary education was analyzed in terms of the contents of the curricula of the Republic of Belarus and CIS countries (Ukraine, Russian Federation). In the Republic of Belarus, the main methodological bases for selecting the content of the educational material on chemistry are reflected in the Concept of the academic subject "Chemistry" (approved by the order of the Ministry of Education of the Republic of Belarus No. 675 of 29.05.2009). The goals of teaching chemistry at the second level, reflected in the concepts of the academic subject "Chemistry" in the Republic of Belarus [1], Ukraine and the Russian Federation are identical. They boil down to the fact that at the end of the second stage of general secondary education (basic education), students must form initial key competencies that will allow them to independently carry out their activities. In the updated, active curricula on the subject "Chemistry" for grades 7-11, at the basic and advanced levels, the material studied is divided into theoretical and practical blocks. The practical block includes such forms of training: 1) demonstration (D); 2) Laboratory experience (LO); 3) Practical work (PR). In the countries of the near abroad, such as Ukraine and the Russian Federation, as well as in the Republic of Belarus, a programmed approach to teaching individual disciplines, including natural sciences, at the level of general secondary education is carried out. The subject "Chemistry" in these countries is studied, as in the Republic of Belarus, at the second and third levels of general secondary education. The only difference is that the programs of the Republic of Belarus and Ukraine study chemistry at the second stage starting from grade 7, and in the programs of the Russian Federation from grade 8. Having carried out a comparative analysis of the practical

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block of curricula at the second stage of the Republic of Belarus and the CIS countries (Ukraine, Russian Federation), the data presented in Table 1 were obtained.

Analyzing the data of the table it is possible to draw conclusions: in the main, practical blocks of programs on the subject "Chemistry" in quantitative terms coincide. However, there are a number of differences, so the demonstrations are more foreseen by the curriculum in the Republic of Belarus, slightly less in the program of Ukraine, even less in the programs of the Russian Federation. On the contrary, more is provided for by the program of the Russian Federation, slightly less in the program of Ukraine, even less in the program of the Republic of Belarus. By the number of practical works, a slight preponderance in the program of the Republic of Belarus. However, the essential difference between the curriculum in chemistry in Ukraine is the availability of such forms of studying the material as an educational project and a home experiment. Within the framework of the educational project, students develop and develop research skills, expand the range of the material studied, and make it possible to study the material not only within the institution, but also outside it.

Table 1 "Practical part of the curriculum on the subject" Chemistry "

Countries	amount				
	Demonstrations	Laboratory Experience	Practical work	Home experiment	Training project
II stage					
Republic of Belarus	56	22	13	-	-
Ukraine	40	34	12	6	41
Russian Federation < arithmetic mean >	37	39	12	-	-

The goal of teaching chemistry at the third stage, reflected in the concept of the academic subject "Chemistry" in the Republic of Belarus, Ukraine and the Russian Federation, is to form in the students: 1) systematic knowledge of chemistry; 2) practical skills of working with chemical utensils and reagents; 3) understanding of chemical nature as part of the natural-science picture of the world; 4) readiness to continue education at the following levels: CPS, HIGH SCHOOL.

A comparative analysis of the practical block of curricula at the second stage of the Republic of Belarus and the CIS countries (Ukraine, Russian Federation) is given in Table 2.

Table 2 Practical part of the curriculum on the subject "Chemistry"

Countries	amount				
	Demonstrations	Laboratory Experience	Practical work	Home experiment	Training project
III stage (a basic level of)					
Republic of Belarus	49	17	8	-	-
Ukraine (standard level)	26	24	3	-	-
Ukraine (academic level)	58	36	5	-	-
Russian Federation < arithmetic	31	26	7	-	-

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mean >					
Итого на III stage (elevated level)					
Republic of Belarus	54	22	11	-	-
Ukraine (profile level)	83	41	31	-	-
Ukraine (advanced level) special courses	89 17/17/10 (44)	61 8/7/4 (19)	35 21/2/26 49	-	-
Russian Federation < arithmetic mean >	167	58	16	-	-

Analyzing the data of Table 2, the following conclusions can be drawn: at the basic and elevated levels, additional internal division into sublevels is proposed in the curricula of Ukraine. So the basic level is divided into standard and academic, an elevated level - to profile and in-depth. Comparing the basic levels of the Republic of Belarus, the Russian Federation and Ukraine (the standard sublevel), we can say that there are more demonstrations in the programs of the Republic of Belarus, more laboratory experiments in the programs of the Russian Federation, and practical work in the programs of the Republic of Belarus. When comparing the basic levels of the Republic of Belarus, the Russian Federation and Ukraine (the academic sublevel), one can say that the number of demonstrations and laboratory works is greater in the programs of Ukraine, and the practical work is less than in the programs of the Republic of Belarus and the Russian Federation. If we analyze the program indicators at a higher level (the profile sublevel in Ukraine), then in the quantitative terms, the program of the Russian Federation is envisaged 167, half the program of Ukraine - 83, three times less than the Republic of Belarus - 54. In terms of the number of laboratory experiments, the program of the Russian Federation stipulates 58, slightly less than the program of Ukraine - 41, even less by the program of the Republic of Belarus - 22. According to the number of practical works, more is envisaged in the program of Ukraine - 31, Amma Russian Federation - 16, much less in the program of the Republic of Belarus - 11.

If we talk about changes in the education system of the Republic of Belarus in the third stage of general secondary education, then the following changes are essential: 1) the gradual change in the content of curricula from 2015; 2) gradual change in the content of textbooks; 3) the return of profile education in the third stage. These reforms directly affected the academic subject "Chemistry", as a result, curricula for classes 10-11 of two levels (basic and advanced) appeared. Within the framework of the implementation of the strategy for the modernization of the education system, the State Program of the State Program "Education and Youth Policy" for 2016-2020 (hereinafter referred to as the State Program) is gradually being implemented, approved by the Decree of the Council of Ministers of the Republic of Belarus No. 250 dated March 28, Within the framework of this program, it is envisaged to equip the chemistry cabinets with furniture, equipment and training aids. If we analyze the program indicators at a higher level (an in-depth sublevel in Ukraine), then the number of demonstrations continues to be the same as the baseline. As for laboratory and practical work, there is a considerable advantage in the direction of Ukraine's programs plus a part due to compulsory special courses: "Fundamentals of chemical analysis" in grade 10, "Fundamentals of agrochemistry" in 10-11 class, "Fundamentals of chemical technology" in 10-11 class. In the Republic of Belarus and the Russian Federation, optional (elective) courses developed in accordance with the program are also available. However, they are of a variable nature and the theoretical material predominates in them, which reduces the study of chemistry to a "paper" version.

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It should be noted that the complexity of this analysis is that in the Russian Federation, unlike the Republic of Belarus and Ukraine, there is no single curriculum. The current legislation regulates and developed a number of major programs on the basis of which working programs can be created in each region. In this connection, the author analyzed the data of a number of working programs of various regions of the Russian Federation, which were compiled on the basis of O. Ghabrielyan's program.

To summarize, I would like to note that the content of the curriculum on chemistry in the Republic of Belarus is relevant at the second stage of general secondary education, and at the level of the III level of general secondary education (higher level) the content of the curriculum in chemistry requires adjustment. When adjusting them, one should take into account that "Chemistry" is a science, the study of which is not possible without practicing practical skills. Therefore, through the development, implementation and testing of "pilot" projects of compulsory special courses in chemistry, based on the expansion of the practical unit, will fully fulfill the goals and objectives that are set before the education system of the Republic of Belarus by a modern society.

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