

METHODS OF PLANNING, ORGANIZATION OF INDEPENDENT WORK AND EVALUATION OF EDUCATIONAL RESULTS IN THE TEACHING OF CHEMISTRY IN THE CREDIT MODULE SYSTEM.

Ismailov Saidjon Azamjonovich;

Ph.D, Acting Associate Professor of the Department

"Chemistry and methods of its teaching"

TSPU named after Nizami

Anvarjonova Gulnozakhon Farkhodjon qizi;

3rd course student of the chemistry direction of TSPU named after Nizami

Avazova Komila Erali qizi;

3rd course student of the chemistry direction of TSPU named after Nizami

Annotation

In this article methods of planning, and organization of independent work and evaluation of educational results in the teaching of chemistry in the credit module system have been learnt and converted student's midterm scores into credit scores also analyzed.

Key words: credit module system, chemistry, evaluation of educational results, independent work, planning, independent education of the student, independent work of the student under the guidance of the teacher

Independent work of students is a unique educational activity of a student, which is aimed at independent completion of didactic tasks, interest in learning and increasing knowledge in a specific field of science. The content of the students' independent work will be related to the performance of practical tasks that allow forming logical thinking, creative activity, and research approach in mastering the educational material.

Independent student work usually includes student independent work under the guidance of a teacher, which is carried out outside the classroom together with independent student learning.

In full-time bachelor's degree, the total number of hours of independent work of students in chemistry is half of the volume of the subject, and almost half of it is allocated to the independent work of the student under the guidance of the teacher.

The organization of students' independent work in the teaching of Chemistry in the credit module system is carried out in accordance with the requirements of the



main normative documents of the higher educational institution, including working study programs (syllabus), independent study of science modules.

Independent work of students can be introduced in the teaching of Chemistry in the credit module system in the following forms:

- types of independent work performed directly by the student himself through a mobile device or computer - traditional form of independent work of the student under the guidance of a teacher;
- independent work of the student under the guidance of the teacher in electronic form.

In the credit module system, the following types of independent work carried out directly by the student through his mobile device in the teaching of Chemistry can be included:

- Preparing for the chemistry class - studying lecture texts, podcasts, video materials, practical exercises and laboratory reports;
- Searching for information about chemistry - studying internet materials through a digest presented based on one's interests;
- Chemistry FAQ (Frequently Asked Questions) – searching for answers to the problems of interest through educational programs;
- Forum on chemistry - exchange of ideas on science topics on telegram channels or distance education platforms;
- Solving tests on chemistry - strengthening the materials related to the science module by practicing in educational test programs;
- Chemistry Test preparation - preparing for the expected midterm and final tests in the subject.

The workload of a student's independent work under the guidance of a chemistry teacher is not fully included in the workload of the science teacher, but a separate workload is assigned to the teacher for contact activities (calculation work, course work, course project, graduation work, master's thesis, supervision of a research student, supervision of a basic doctoral student, etc.

Independent work of a student under the guidance of a teacher in the traditional form of chemistry:

- Solving problems related to chemistry - solving problems given on the topic of practical training and presenting it in writing;
- Chemical abstract - a written statement of the problem, in which literary sources are interpreted or scientific work, books are analytically described;
- Chemistry colloquium - organizing a conversation to check the mastery of the theoretical part of the educational module;



- Essay on chemistry - writing a personal opinion on a current topic in critical, journalistic and other genres;
- Presentation related to the science of chemistry - making a presentation on the given topic using slides and video materials;
- Case-study of chemistry - searching for a solution to problems in the production according to the assignments of the prescribed form;
- Glossary of topics in chemistry - brief explanation of terms on a given topic.
- Group project related to the topics of chemistry - 3-5 students working together on the project;
- Course work related to the topics of chemistry - written and calculated works written on the basis of the methodological manuals on the problems of the science or complex of sciences and etc.

Monitoring and evaluation of students' knowledge is carried out in accordance with the "Regulation on the evaluation system of monitoring student knowledge in higher education institutions" attached to the order of the Minister of Higher and Secondary Special Education of the Republic of Uzbekistan dated August 9, 2018 No. 19-2018. According to it, students who have achieved the A-C level in the subject in the mid-term examination will be put in the final examination. The student's midterm scores are converted into credit scores and a letter system based on the table below.

Grade in the letter system	Numerical equivalent points	Percentage indicator	Traditional assessment
A	4,0	95-100	excellent
A–	3,67	90-94	
B+	3,33	85-89	good
B	3,0	80-84	
B–	2,67	75-79	
C+	2,33	70-74	
C	2,0	65-69	satisfactory
C–	1,67	60-64	
D+	1,33	55-59	unsatisfactory
D	1,0	50-54	
F	0	0-49	



In conclusion, the analysis of methods of planning, organizing and evaluating independent work in the teaching of Chemistry in the credit module system can create a wide range of opportunities for increasing educational efficiency and improving the quality of education.

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