

ABOUT THE ELECTIVE COURSE «INTRODUCTION IN METHODICS OF TEACHING CHEMISTRY» FOR CLASSES OF PEDAGOGICAL PROFILE

Y. Arshansky

*candidate of pedagogical sciences, assoc. professor of Department of Chemistry
Vitebsk State University by P.M. Masherov*

One of the most important directions of modernization of a modern school is introduction of profile training at the senior level. Profile training is called to provide with continuity between common and professional training to help pupils' professional self-determination. It carries out the function of before professional training of pupils.

Today the school requires creation of theoretical base and the educational-methodical maintenance which is necessary for transition to profile training. However even this difficult problem is solved, the goals of profile training will not be fully realized, if the teacher will not be methodically prepared for such kind of work.

We created the system of continuous methodical training of the future teacher of chemistry to work in classes of different profiles [2]. It is possible to allocate there three structural subsystems: before professional training, professional - methodical training and special - methodical training to work in classes of different profiles.

Within the framework of the problematic given in this article we shall stop on before professional training of the future teacher of chemistry carried out in classes of pedagogical profile. Pedagogical classes will allow realizing of the idea of continuity of pedagogical training in the system «school - high school - school» which has the property of cyclicity. Pupils of such kind of classes will have the opportunity to try to grasp in the essence of pedagogical activity, especially in the essence of work of a teacher of chemistry.

In classes of pedagogical profile the set of profile courses should include pedagogics, psychology and the block of special disciplines on the basis of which the pedagogical profile will be divided into pedagogical classes of a natural - mathematical direction and pedagogical classes of a humanitarian direction.

Nowadays in a number of schools pedagogical classes, in which the pedagogics and psychology are taught, have been already created, but there is no substantial connection between subject teaching at school and methodics of its training in a pedagogical university, particularly the interconnections between studying of a school rate of chemistry in pedagogical classes and methodics of training chemistry in a pedagogical university are not established.

The solution of the put problem is possible by including elements of methodics in pupils' activity concerning the studying of a school rate of chemistry in classes of pedagogical profile. It should promote pupils' orientation to receive the profession of a teacher of chemistry (professional-directing function), and also will be favorably reflected in pupils' development, because learning of methodics promote rationality and orderliness of thinking, development of memory and speech, promotes disclosing of their creative potential (general educational function).

Additional opportunities for profile training in pedagogical classes are represented by the concept of profile training at the senior level of general education [5]. According to this concept each training profile should include not only basic general educational and profile courses, but also elective ones - obligatory courses, chosen by pupils them-selves. As elective courses it is expedient to offer to pupils of pedagogical classes courses of methodical essence. For example, for pedagogical classes of a natural - mathematical direction an elective course «Introduction in methodics of teaching chemistry» will be very useful.

At the lessons of the elective course «Introduction in methodics of teaching chemistry» the propaedeutics of methodical training of the future teacher of chemistry will be carried out. The pupils engaged in the given elective course, at a lesson of chemistry will fulfill the role of proctors. A proctor is a specially methodically prepared pupil who partly assumes the functions of training, control and evaluation of knowledge and skills of pupils of a microgroup consisting, as a rule, from 4 persons [4]. Such a rate is developed by us.

The structure of the elective course includes 4 modules: «The content of a school rate of chemistry», «Chemical problems», «Chemical school experiment» and «Organization of teaching chemistry in the secondary school and control of its results». All modules are rather independent. Each lesson supposes proctors' training to realize a new methodical activity that is why it is desirable to organize continual proctors' training to such kind of activity and its realization at the lessons of chemistry while studying different themes. The content of the elective course is represented in table 1.

Table 1.

The elective course «Introduction in methodics of teaching chemistry»

Module	Content of the course	Pupils' activity of methodic direction
The content of a school rate of chemistry	The goals of the elective course. The essence of methodics of teaching chemistry as a science. The content and the structure of a school chemistry course.	The allocation of new and basic concepts in the last learned theme of a school rate of chemistry, their grouping in three blocks: concepts about substance, a chemical element and a chemical reaction.

Chemical problems	The role of problems in teaching chemistry. Classification of chemical problems on settlement and qualitative. Methods of registration of solution to settlement chemical problems.	Selection and composition of typical settlement chemical problems according to the algorithm offered by a teacher. Explanation of the solution to settlement chemical problems to a class. Training of lagging pupils in doing typical chemical problems.
Chemical school experiment	Requirements to demonstration of a chemical experiment. Methodics of realization of pupils' experiment with the participation of proctors. Methodics of doing experimental problems of chemistry.	Improvement of the technique of chemical experience's realization and its demonstration in class. The division of practical work or laboratory experiences into separate operations. Drawing up of sheets of control and evaluation of pupils' experimental skills by a proctor. The proctors' control over the solution to experimental problems in a pupils' microgroup. The help to a teacher in creation of self-made devices for realization of chemical experiences, producing of clichés of chemical utensils and equipment.
Organization of teaching chemistry in the secondary school and control over its results	Kinds of chemistry tasks (tasks of free answer and test tasks). Methodics of the organization of pupils' individual work concerning the learning of a new material in microgroups. Methodics of the organization of a test.	Drawing up of tasks of test type and tasks of free answer on a sample of the material of a learned theme. Independent proctors' learning of a new material from the textbook according to the plan offered by a teacher. Making up of questions on each item of the plan and their discussion. The organization of work of a pupils' microgroup on studying a new learning material of chemistry. Proctors' training to the realization of the test on the following stations «Theoretical» (drawing up of questions and tasks), «Problematic» (drawing up and the solution to chemical problems), «Experimental» (improvement of chemical experiences and experimental problems).

The content of a school rate of chemistry for pupils of pedagogical classes, as well as for classes of other profiles, should consist of two parts: an invariant core and a variant part [1, 3].

The invariant core of the content includes a chemical language, basic chemical concepts, laws, theories, facts and methods of the chemical science. Thus it is important to take into account and to be orientated to the pupils' deep learning of this profile of theoretical material of chemistry.

The variant part illustrates interrelations of a school rate of chemistry with other profile disciplines, in particular with pedagogics and psychology. Thus, in pedagogical classes, the functions of the variant part of the content of a school rate of chemistry are carried out by the pedagogical (or chemical-pedagogical) component.

The pedagogical component of a school rate of chemistry can be realized in the following directions:

- inclusion of pedagogical situations in the content of chemical problems;
- use of the chemical experiment while doing situational methodical problems;
- application of knowledge of chemistry containing methodical orientation;
- disclosing of pedagogical activity of outstanding scientists – chemists.

In teaching chemistry in classes of pedagogical profile it is useful to choose methods of interlearning and intercontrol, and also various methods of teaching with participation of pupils - proctors.

So, we have tried to prove the basic approaches to realize propaedeutics of pupils' methodical training in pedagogical classes while learning chemistry.

References

1. Аршанский Е.Я. Методика обучения химии в классах гуманитарного профиля. – М.: Изд. центр Вентана-Граф., 2002. – 176с.
2. Аршанский Е.Я. Специальная методическая подготовка будущего учителя химии к работе в условиях профильного обучения // Химия: методика преподавания. – 2003. – №6. – С. 3-11.
3. Аршанский Е.Я. Специфика обучения химии в физико-математических классах.// Химия в школе – 2002. – №6 – С. 23-29., 0,4 п. л.
4. Беспалов П.И., Чернобельская Г.М. Химический эксперимент в малых группах // Химия в школе. – 1991. – №5. – С. 48-50.
5. Концепция профильного обучения на старшей ступени общего образования. – М, 2002. – 18с.

Summary

The article is about the most important approaches to teaching chemistry in classes of pedagogical profile, the content and methods of carrying out the elective course for pupils «Introduction in methodics of teaching chemistry» and its interconnections between the content and the process of teaching chemistry in pedagogical classes.