

Educational aspects of hydrogen economy: the school of general designers (SGD) as one of the forms of the organization of facultative classes on development of the maintenance of hydrogen economy

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The reforming of the school continues. But positive shifts in sphere of education have put before school new problems which concern not only the material field of activity of educational establishments, but also critical reconsideration of the maintenance of educational programs and introduction of modern pedagogical technologies.

The teacher of a comprehensive state school in the limited time frameworks of a lesson has no opportunity to give to the pupils all the luggage of knowledge which was saved by the mankind on a studied theme. Requirements of standards of education and reduction of quantity of class periods in subjects of a natural-science cycle do them in information overloaded.

The pupil tries to learn by heart, to remember the next portion of a studied material. At the same time the science develops rapidly. Modern school textbooks are not in time with our life. Search of ways of smoothing of contradictions between increasing requirements to the graduate of a comprehensive school and the limited opportunities of the school were stimulus for occurrence of new forms of the organization of educational activity.

The school of general designers has been opened in February, 2006 at Academy of young by North Western Administrative District of Moscow within the limits of realization of the district program Northwest district — the scientific future of Russia: reproduction of the fundamental (experience-focused) science on territories of North Western district and strategic types of employment of youth. The purpose of the program is construction of new model of the district education based on communication of education, science and industry [1].

Structure of SGD and its technological principles are developed by group of employees of scientific research institute of innovative strategy of development of general education (director — the doctor of psychology, professor, academician of Russian Academy of Natural Sciences Y. V. Gromyko). SGD includes several directions of work. Hydrogen economy — one of them.

The similar form of children — adult cooperation is not available anywhere in the world. It unites schoolboys, teachers, employees of management of education, representatives of a science and manufacture, based on interest of each of the parties in mutual dialogue. Here pupils of several schools of Northwest district of city of Moscow, beyond the school program, join the advanced achievements of science and technology, get acquainted with modern break through projects. Dialogue with contemporaries from other schools, public performances, collective work promote development of creative, inventing abilities of pupils in various areas of physics, chemistry, economy. SGD helps some pupils to be defined with a choice of the future professional work.

Work of children-adult group is organized by school teachers-enthusiasts and conducted by the curator of scientific research institute. Together with children they learn mechanisms of a birth of discovery, comprehend the advanced boundaries of a domestic and foreign science and, certainly, improve the pedagogical skill. Through development of the pedagogical technology, through new forms of construction of

educational process there is carried out revival of former interest of pupils to physics in SGD.

It is obvious, that without participation of those people which move science, the school teachers cannot do anything.. Work of SGD assumes close cooperation with experts of the Russian centre of science in Kurchatovsky institute. Consultations, lectures, practical works in laboratories of the center recover creative activity of pupils, support interest to a new way of getting knowledge. At given stage SGD exists within the limits of an experimental platform, but it can be considered as one of models of school of the future.

Work on popularizations of hydrogen economy and introduction of available operating time in the subject school maintenance — a complex and excessive problem for one school. In this connection it is planned to keep structure and the basic technological principles of work of SGD for creation of a network district platform. Its purpose — facultative studying of bases of hydrogen economy in uneven-age groups of the interested pupils of 9–10 classes.

Now there is a selection of the maintenance, drawing up of the program of additional classes, development of didactic schemes of educational employment, accumulation of materials and forming of attitudes on the basis of constant cooperation between representatives of education, science and industry.

At the same time, work of school of general designers has highlighted also a number of problems which sooner or later will rise before school physical formation. First of all it is a preparation of the pedagogical staff, updating of the school textbooks, displacement of accents from training of drilling on training of development.

The higher pedagogical education on the specialisation connected with subjects of a natural-science cycle, also demands updating both under the maintenance, and on a level of methodical preparation of young teachers.

Literature

1. Northwest region – strategic initiative: integration of science, industry and education, under the general edition d.f.s. Y. V. Gromyko, Puskin's Institute, institute of innovative strategy, M., 2006.