

ANALYSIS OF STUDY OF INDIVIDUAL SUBJECTS OF THE COMPLETE GENERAL EDUCATION PROGRAM

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Abstract. *One of the most important areas of reforming secondary general education, as noted in the Concept of the Federal Target Program for the Development of Education for 2016–2020, is the strengthening of its practical orientation. A practice-oriented approach involves the development of practical skills, the application of acquired knowledge in everyday life. This paper analyzes monitoring work carried out on the management in the field of education. The authors address the article to specialists of educational authorities, managers implementing profile education.*

Keywords: *education, management, approach, acquired knowledge, monitoring, organizations.*

АНАЛИЗ ИЗУЧЕНИЯ ОТДЕЛЬНЫХ ПРЕДМЕТОВ ПОЛНОЙ ОБЩЕОБРАЗОВАТЕЛЬНОЙ ПРОГРАММЫ

Аннотация. *Одним из важнейших направлений реформирования среднего общего образования, как отмечается в Концепции Федеральной целевой программы развития образования на 2016–2020 годы, является усиление его практической направленности. Практико-ориентированный подход предполагает развитие практических навыков, применение полученных знаний в повседневной жизни. В статье анализируется мониторинговая работа, проводимая по менеджменту в сфере образования. Авторы адресованы статье специалистам органов управления образованием, руководителям, осуществляющим профильное образование.*

Ключевые слова: *образование, управление, подход, полученные знания, мониторинг, организации.*

INTRODUCTION

These guidelines are addressed to specialists of educational authorities, managers implementing profile education, and are written based on the results of monitoring carried out in accordance with the "Concept for analyzing the system of modern profile education at the level of secondary general education", monitoring on the organization of profile education with the participation of 107 experts from 48 constituent entities of the Russian Federation, authorized by the executive authorities of the constituent entities of the Russian Federation, exercising management in the field of education. The monitoring was attended by 11,101 people (specialists of educational authorities, heads of educational organizations, students in grades 10–11, parents of students) from 64 constituent entities of the Russian Federation. The monitoring analysis showed that in the regions whose representatives took part in the survey, the number of general educational organizations prevails, in which specialized classes or groups are organized at the level of general secondary education in accordance with the federal basic curriculum of 2004. At the same time, based on the analysis of answers directors of general education organizations, it

was revealed that half of them represent general education organizations in which specialized training is implemented in accordance with the Federal State Educational Standard of secondary general education. The results showed that general educational organizations in which profile education is implemented in accordance with the Federal State Educational Standard of secondary general education offer 5 areas of profiles recommended by the Federal State Educational Standard and focused on different fields of activity: natural science, socio-economic, technological, universal and humanitarian. These training profiles are almost equally in demand among students, the most in demand is the natural science profile (for 43% of students).

The vast majority of survey participants (up to 90%) indicated that in most cases, the intra-school model is used in the implementation of specialized education. In the case of organizing specialized training according to the network model option (from 28.57% to 37.50% according to a survey of specialists from educational authorities), general education organizations most often interact with universities (69.64%), other schools (55.36%), houses of children's creativity (50.00%). Most often, on a regional scale, inter-school interaction is used (according to the answers of 55.36% of specialists in educational authorities). Interaction with industrial enterprises, museums, theaters, technoparks and other organizations is less common. Analysis of the monitoring results of different groups of respondents (specialists of educational authorities, directors of general education organizations, high school students and their parents) revealed a number of problems that need to be addressed in order to improve the system of profile education. In the field of education, changes are constantly taking place, associated primarily with changes in society. In order to train specialized personnel, the education system is being developed and improved, in line with the interests of society and the state. One of the most important areas of reforming secondary general education, as noted in the Concept of the Federal Target Program for the Development of Education for 2016–2020, is the strengthening of its practical orientation. A practice-oriented approach involves the development of practical skills, the application of acquired knowledge in everyday life. It is this approach that provides for a greater number of practical exercises and independent work. Students apply the acquired knowledge in practice, thus preparing for their future professional work professional orientation of high school students, taking into account the real needs of the labor market. Special requirements for the organization of the educational process in high school are put forward by the Federal State Educational Standard of secondary general education. According to the Federal State Educational Standard of secondary general education, a general educational organization provides for the implementation of one or more profiles of education: natural science, humanitarian, socio-economic, technological, universal. Today, in the list of issues that should undoubtedly be addressed by the reform of general education, one can name profile education in the senior classes of a general education school. This system is multicomponent, since the organization of specialized educational processes is based on the combined efforts of general educational organizations and higher educational institutions. Since the number of areas of professional training does not have strict restrictions, it is permissible to supplement it, aimed at solving the needs of a particular region. Profile education is a means of differentiation and individualization of education, which, due to changes in the structure, content and organization of the educational process, takes into account the interests, inclinations and abilities of students more fully, and creates conditions for teaching high school students in accordance with their professional interests.

Goals and objectives: - to provide an in-depth study of individual subjects of the complete general education program;

- to create conditions for a significant differentiation of the content of teaching high school students with wide and flexible opportunities for building individual educational programs by schoolchildren;

- to promote the establishment of equal access to a full-fledged education for different categories of students in accordance with their abilities, individual inclinations and needs;

- expand the opportunities for socialization of students, ensure continuity between general and vocational education, more effectively prepare school graduates for the development of higher professional education programs.

METHOD AND METHODOLOGY

To form effective models of specialized education in the process of developing basic educational programs, educational organizations can use:

1. The presence in the main educational program of programs of subjects studied at an in-depth level, corresponding to the areas of specialized education.
2. Availability of programs of elective and optional training courses corresponding to the areas of specialized education.
3. Availability of programs for extracurricular activities, additional general education programs that correspond to the areas of specialized education.
4. The presence of a system of pre-profile training, expressed in the distribution of hours in the curricula of basic general education.
5. Absence of direct copying of materials of author's programs, copying of texts of exemplary programs.
6. Implementation of the design work of students according to the orientation of the classes in cooperation with higher education organizations.
7. Availability of partners in the field of development of specialized education from among promising employers of graduates of specialized classes.

RESEARCH RESULTS

The natural science profile forms a scientific outlook on the basis of acquaintance with the forms and methods of scientific knowledge, the study of basic biological and chemical theories, the formation of skills for independent research, and the disclosure of the role of natural sciences as a productive force. It focuses on such fields of activity as medicine, biotechnology, bioinformatics, medical imaging, biomechanics, biomaterials and bioengineering, systems analysis, 3D modeling. In this profile, you should choose subjects for studying at an in-depth level and elective courses mainly from the subject areas "Mathematics and Informatics" and "Natural Sciences"

The curriculum should provide for the implementation of individual project(s) by students. Profile subjects are compulsory for students who choose this profile of study. To form a profile curriculum, you must: 1. Determine the training profile. 2. Select from the list the mandatory, common to all profiles, subjects at the basic level from each subject area. For all profiles, except for the universal one, include in the plan at least 3-46 subjects at an advanced level, which will determine the direction of education in this profile. 3. Supplement the curriculum with individual project(s). 4. Calculate the total number of hours devoted to the study of academic subjects selected in paragraphs. 2 and 3. If the received number of hours is less than the time (2170 hours) provided for by the Federal State Educational Standard, then it is possible to supplement the profile curriculum with some other subject (subjects) at the basic or advanced level, complete the formation of the profile curriculum with optional and elective courses. 5. If the total number of hours is more than the minimum number of hours, but less than the maximum allowable (2590

hours), then the educational organization may complete the formation of the curriculum or increase the number of hours for studying individual subjects or include other courses at the student's choice in the plan, provides students with the opportunity to form individual curricula. Achievement by graduates of the level of requirements of the state educational standard in basic general education and specialized subjects is determined by the results of the unified state exam. The student has the right to choose optional (optional for a given level of education) and elective (mandatory) subjects, courses, disciplines (modules) from the list proposed by the organization carrying out educational activities; development, along with academic subjects, courses, disciplines (modules) according to the educational program being mastered, of any other academic subjects, courses, disciplines (modules) taught in an organization carrying out educational activities, in the manner established by it, as well as taught in other 47 organizations that carry out educational activities, subjects, courses, disciplines (modules) (Article 34 of the Federal Law of December 29, 2012 No. 273-FZ "On Education in the Russian Federation"). One of the mechanisms for the implementation of specialized training is elective courses. When choosing and developing elective courses, the following requirements must be taken into account: variable nature, a sufficient (excessive) number (to provide students with a real choice), short duration - 8–16 hours (will enable the student to change, if necessary, several courses during the school year). by choice), completeness, original content. Elective courses are mandatory courses of students' choice, which are part of the profile of education at the level of secondary general education. Elective courses serve two functions. Some of them can "support" the study of the main profile subjects at the level set by the profile standard.

DISCUSSION

For example, the elective course "Mathematical Statistics" supports the study of the core subject "Economics". Other elective courses serve for intraprofile specialization of education and for building individual educational trajectories. For example, the courses "Information Business", "Fundamentals of Management" - in the socio-economic profile; courses "Chemical technologies", "Ecology", etc. - in the natural science profile. The number of elective courses offered as part of the profile must be in excess of the number of courses the student is required to take. The proposed system does not limit the school in the organization of one or another profile of education (or several profiles at the same time), and the student - in the choice of various sets of basic general education, specialized subjects and elective courses, which together will make up his individual educational trajectory. 48 A set of elective courses should be determined at the end of training in the previous class on the basis of a survey, questionnaire, interview. The content of elective pre-profile training courses should not duplicate the content of the subjects. Actually, elective courses should help students to really assess their capabilities and orient them to a further choice of a training profile. Forms of education in the process of studying elective courses can be both academic (lesson, workshop, lecture, seminar, etc.), and focused on innovative pedagogical technologies (communicative methods, group, research activities, project method, development of individual curricula and etc.). Subject courses are propaedeutic in relation to specialized general education subjects of an in-depth level and enable the student to realize his abilities and interests in the chosen profile. Intersubject courses help students to navigate in the modern world of professions, to get acquainted with the specifics of various activities. These courses can be organized as learning modules and delivered over the course of a month or a semester. An optional course (optional) is an optional course, a subject studied at the request of the student. Optional courses at school are in addition to the basic body of general education, which is determined by the curriculum and curricula. Electives are designed to expand

the knowledge of students obtained in the study of basic subjects. Among other things, they allow students to form and develop diverse interests, a culture of thinking, the ability to independently acquire knowledge, introduce students to independent research work, and provide an opportunity to get acquainted with some modern achievements of science.

For the implementation of specialized education in the natural sciences, in addition to classes for regular teaching, the creation of a properly equipped space of subject laboratories is required. This includes meeting the basic infrastructure requirements for the laboratory. The requirements relate to power supply, water supply, sewerage, exhaust, sterilization. From a safety point of view, each laboratory should have at least 2 emergency exits, as well as a fire alarm and fire extinguishing system. School first-aid kits should be placed in laboratories. In physics and laboratory laboratories, it is required to provide power supply for connecting demonstration and laboratory devices both on a stand-alone demonstration table and on student desktops; a dedicated line is required to connect high power devices. The laboratory should be equipped with a sink for washing dishes. Storage systems for laboratory equipment should be organized in the laboratory and in the laboratory. 58 In chemical laboratories, the energy requirements are the same as in a physical laboratory. Due to the use of a large number of laboratory glassware in experiments, it is desirable to organize at least 2 sinks; sewerage must be resistant to chemicals of various nature. The laboratory and laboratory should have demonstration fume hoods with water and electrical connections. The laboratory should provide storage systems for equipment and reagents connected to a forced exhaust. It is desirable to organize an emergency shower in the chemistry laboratory, which allows, in case of damage by concentrated acids or alkalis, as well as other aggressive reagents, to ensure rapid treatment of the victim with a large amount of water. In biology laboratories, a 220 V power supply is required, a dedicated line is desirable for connecting a distiller and a sterilizer. Washing dishes requires at least 2 sinks; in the sewer it is possible to use ordinary materials. Storage systems should provide storage for bulky, fragile equipment such as microscopes and organ models. Due to possible bacterial contamination, a system of UV sterilization of the working space, a lighting system for growing plants in the laboratory should be provided. All of the above requirements apply to converged laboratories. Furniture in laboratories must be resistant to possible external influences (temperature, chemicals, etc.). If possible, then in laboratories it is better to organize island tables with add-ons. From electronic equipment, it is highly desirable to have a multimedia projector in each laboratory for demonstrating teaching materials or an interactive whiteboard. 59 Sets of subject equipment for the implementation of specialized education should be more diverse than in the case of basic education. In general, a physical laboratory should have demonstration and laboratory kits in mechanics, optics, electrodynamics, thermodynamics and other areas. The chemical laboratory should have instruments for chemical synthesis, preparative isolation of substances, as well as various types of chemical analysis. The list of available reagents should cover all proposed demonstration and laboratory methods. A necessary part of the chemical and biological laboratory is the equipment for distillation of water. The equipment of a biological laboratory should include both equipment for field practices and laboratory equipment for optical microscopy, work with microorganisms, hydroponic plant cultivation and other practical exercises.

CONCLUSION

The concept of profile education as a whole proceeds from the variety of forms of its implementation, therefore, various options for profile education are possible, in particular, such an organization of educational institutions in which students are given the opportunity to learn

interesting and important content for each of them not only in the lessons on the profile subject, but through various forms of the educational process: classroom, extracurricular activities and additional education. The federal state educational standard of secondary general education is a set of requirements that are mandatory for the implementation of the main educational program of secondary general education. The standard is focused on the formation of personal characteristics of a graduate prepared for a conscious choice of profession, understanding the importance of professional activity for a person and society; motivated for education and self-education throughout his life and participation in solving public, state, national problems

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