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Profile training in the system of general secondary education in Kazakhstan

The article deals with the modernization of the structure of the secondary educational system in Kazakhstan, based on the phased introduction of the updated school education content in the framework of 12-year education with the transition to profile education at the senior level of education. The definition of two leading concepts of profile education is given, such as differentiation and individualization. The concept of modernization of Kazakhstan education at the senior stage of the 12-year secondary school provides for profile training, the task is to form a system of specialized training (profile training) in the general upper secondary school, focused on individualization of education and specialization of pupils, which includes the real needs of the labor market. The leading principle of building a modern learning process is differentiation, which has become a means of solving the problem of satisfying the interests, vocations and needs of schoolchildren, a stimulus for the development of their creative activity. The authors list the goals and objectives of profile training within the system of secondary education in Kazakhstan. The stages of formation and development of profile differentiation of training are considered. The definition of the phenomenon of «profile education» by various authors is being traced.

Keywords: updating content of education, 12-year training, profile education, general secondary education, differentiation, individualization.

In modern world, the ability to adapt quickly to the conditions of competition is becoming a critical factor of sustainable development. Competitive opportunities of any developed country are associated with the development of its social capital, which is largely determined by the condition of the education system. Education has always been one of the most important components of the state, since the future of the country depends on the quality of education.

In 2015, amendments and additions were made to the Law of the Republic of Kazakhstan «On Education». Legislation regulates a staged transition to the updated content of school education.

In the State Program for the Development of Education in the Republic of Kazakhstan for 2016-2019, it is strategically determined that general secondary education programs «will be developed on the basis of differentiation, integration and professionalization of the education content».

Modernization of the general secondary education structure is aimed at implementation of general school at senior stage of the 12-year school; it is oriented to individualize education and specialize students according to the needs of labor market; also it is aimed at flexible relationship between school and vocational education organizations [1].

Profile training is a method of differentiation and individualization of education, which allows to take into account interests, inclinations and abilities of students due to changes in the structure, content and organization of the educational process. This method helps to create conditions for the education of high-school students in accordance with their professional interests and intentions with regard to further education [2].

There are two leading concepts in the definition of profile training: «differentiation» and «individualization».

Differentiation is consideration of students' individual characteristics when grouping students on the basis of any features for individual education; usually education in this case occurs on several different curricula and syllabi. Individualization is consideration of students' individual characteristics in the learning process in all its forms and methods, regardless of what features and to what extent they are taken into account [3; 31].

Differentiation of learning is not a new form of the learning process organization in education. In this direction, a certain amount of experience has been accumulated.

The starting point of differentiation in secondary education can be seen in the specialization of Soviet school. In order to improve the work of general secondary school, elective courses were introduced in Soviet school (math lessons) in 8-10 grades as well as classes with in-depth study of subjects (mathematics), the system exists even today.

The main goal of the courses in mathematics was to deepen and expand knowledge in mathematics, develop students' interest in the subject and their mathematical abilities, foster interest in self-guided study of mathematics, develop initiative and creativity.

Statements about the need for an individual approach to any student in the conditions of collective work belong to J.A. Komensky [4], who in his work «The Great Didactic» pointed out the need for combining individual and group learning activities in a class-lesson system. In his works K.D. Ushinsky refers to the idea of implementing a differentiated approach to students in the conditions of collective class work [5].

The analysis of scientific and methodological literature made it possible to highlight the main historical stages in the development of differentiation in education. Historical periods of differentiation development in school education have been determined by political situation in the country.

Until the middle of the XVIII century differentiation of education was carried out in the following areas: church or secular, class, masculine or feminine. It was characterized by the development of the following educational institutions: gymnasiums for men and women, non-classical secondary schools, commercial schools, cadet corps and parochial secondary schools for girls.

From the middle of the XIX century, on the background of intensified struggle against serfdom law, there were attempts to create schools and classes with in-depth study of individual subjects. They were the «prototypes» of specialized classes. Implementation of the curriculum for senior classes of general secondary school on cycles (streams) had resulted in the creation of two types of seven-year gymnasiums: classical and non-classical. The goal of classical gymnasium was general education and admission to the university upon graduation. The goal of non-classical gymnasium was general education necessary for practical activities and admission to specialized educational institutions. Subsequently, there were non-classical secondary schools, in which the volume of knowledge in mathematics, physics and natural science was much higher than the volume of knowledge in these subjects in comparison with classical gymnasium [6].

At the foundations of Soviet government more than 30 decrees on public education were proclaimed. The main emphasis of education was aimed at the need for differentiation of education, conditioned by the interests of society and the abilities of students. Educational process implied the possibility of dividing students into groups or in several areas, beginning at age 14 [7].

The beginning of the XX century was characterized by introduction of school reforms, in which construction of the curriculum in senior grades of general education school was designed according to profiles. When making the curriculum, attention was paid to a group of educational subjects (liberal, science-mathematical and technical sciences). Due to the circumstances, none of the projects was implemented, but the pedagogical community did not refuse the idea [8].

At the beginning of the 1930s a new resolution of the Council of People's Commissars of the USSR and the Central Committee of All-Union Communist Party (B.) «On the organization of educational work and internal regulations in primary, incomplete secondary and secondary schools» was implemented. On the basis of this decree, a course was adopted in Soviet pedagogy for the uniformity of the school, strict adherence to the principle of common education for everybody, differentiation was considered from the point of students' orientation to social work, practical activity, ensuring the connection between theory and practice by education [9].

Since the mid 50's. differentiation of learning is becoming particularly relevant, which was facilitated by negative manifestations in secondary education: overload of school students, decline of the education reputation. There was a need to create a system of education in senior school, in which students along with obtaining general secondary education study the subjects of their chosen field, for getting a particular profession, while participating in social and productive work at an enterprise or in agriculture [6]. Orientation to the industrial training resulted in the division of general educational subjects into major and minor subjects, i.e. differentiation of general education. By reducing the hours of general and industrial education subjects, the hours for major subjects were appointed. The profile training did not limit the development of students in other areas, which indicated beneficial effect of educational process on the attitude of students to learning. However, with a general positive evaluation of the experiment results, there were negative aspects, such as overload of students [6].

The second half of the 60's was characterized by increased attention to differentiation: Facultative lessons were introduced, profile classes were created on the basis of specialized classes and special schools with in-depth study of mathematics, computer technology, physics, agrobiolology, and liberal subjects. But attempts to form classes with in-depth study of individual subjects due to mechanical increase in the number of hours

led to significant overload of the students and decrease in academic performance. The idea of creating optimal learning conditions for each student had been violated, the educational process was not provided with objective criteria for admission of students to specialized classes.

In the 70's and in the first half of the 80's, implementation of differentiation ceased to be a priority in educational practice. The teacher must ensure achievement of the content in general education by all participants in secondary education, regardless of the possibilities and needs.

The middle of the 80s was marked by a crisis, the consequence of which was the perestroika period, which later led to the «collapse» of the Soviet Union and independence of Kazakhstan. In education, there is a fairly clear scientific position regarding the need to take into account abilities, interests, as well as the students' future profession. The search for implementation of differentiated education within the framework of common content have been conducted taking into account individual and typological characteristics of students, organizing frontal and group activities, activating cognitive activity, classifying forms and types of differentiated education. During the classification of education forms we focused on electives, in-depth study of subjects and specialization. However, despite all the taken measures, current situation (decrease in the interests of students, the quality of education, «percentomania», etc.) has shown the insufficiency of the measures and led to a search for new approaches to solving problems of differential education [9].

Thus, the historical analysis confirms the thought expressed by A.V. Perevozchny: «The search for ways to improve school education constantly lead to differentiation» [10]. It allows us to establish the following.

In different periods of the society development differentiation have been carried out on different grounds, and evolution took place in the following manner:

- from elite education, serving various social stratum (ecclesiastical, secular, class);
- through nature-aligned, taking into account the abilities of students (gymnasiums, non-classical and commercial schools, vocational school);
- to the utilitarian for the purpose of improving the vocational guidance of students to specific branches of social and production fields (profiled classes in general secondary schools).

The next stage in the development of education is a turning point, as it must «transfer» the learning process to a higher level of differentiation; the level of interests, needs and capacities of each individual satisfaction. This quality is demanded by modern transformations in Kazakhstani society, its new strategic milestones in development.

Acceleration of all life aspects, caused by the transition of Kazakhstani economy to market relations. This transition leads to the need for adequate highly skilled workers and specialists capable to respond to increasing changes in the labor market caused by the need of people to change their profession several times in their lives [11].

In order to keep up with these changes, workers and professionals must possess the relevant qualities, not only professional, but also personal, such as self-management, problem-solving, creativity, entrepreneurship, risk, employment, readiness for change, motivation for learning [12].

The period from 90's to 2005 we defined as an initial stage of the newest history for the development of national education. The Law of the Republic of Kazakhstan «On Education» (1991) defines a number of cornerstones, including variability of general secondary education, professional orientation of students, and creation of general secondary education organizations (vocational school, gymnasiums, colleges), that widely implement variational education programs.

A new typology concept of education differentiation [9; 2] offered an external form of education differentiation within the framework of which it became possible to clearly outline the idea of profile training [13]. It was supposed to create groups on the basis of interests, inclinations, abilities, achieved results, projected by the future profession, differing in education content and educational requirements.

Since 1992, Kazakhstan initiated the reform of school education. The leading idea of this reform was the creation of the conditions for variable general educational preparation of students while preserving a common education space. Since 1994 the common basic curriculum and its 28 variants contributed to the opening of gymnasiums and vocational schools, general education institutions, aimed at in-depth education of school students for the purpose of further education at the university [14]. Classes with in-depth study of individual subjects were actively opening in the common schools.

Three parts have been distinguished in the structure of the plan: invariable «compulsory lessons for all», variable «compulsory lessons and elective courses», general developmental part as «club activities and work practice» [10; 4].

In 2002, the State Obligatory Standard of General secondary education (hereinafter, the State Compulsory Educational Standard-2002) was introduced, in which the principles of education organization at the senior stage of general education school are described: Introduction at the senior stage of industry-oriented and differentiated education, which depends on the needs of an individual and society can be organized in two directions: social-liberal and science-mathematical.

2006-2007 academic year was the new step in history of the development of Kazakhstani education as the year of common profilisation at the senior stage. The problem that arose in the process of common profilisation was the issue of ensuring students' choices of the profile training in accordance with their professional interests and intentions with respect to further education. Education is conducted only in one of the directions in the schools where senior grade is small or the only one in parallel. In these schools, when choosing an profile training, management is guided at best by the wishes of the majority of students, the needs and opportunities of the minority remain beyond the attention. The cases of a real choice in profile training for students in small schools are rare and are exception rather than the rule [15].

Practically every pedagogical publication has materials on the theory and practice of profile training, introducing sections and special journals. Nevertheless, despite the «excitement» to profile training, in modern pedagogical science there is no unambiguous interpretation of the «profile training» concept.

In order to get an idea, developed in pedagogical science about this phenomenon, let us turn to the definitions of the «profile training» concept by the following scientists.

A.V. Aglushevich: «Educational work aimed at studying educational areas that contain typical knowledge and skills of a certain field of activity, profession, specialty» [16].

E.V. Voronina: «A special kind of education differentiation and individualization. The form of educational activity organization of high school students, in which their interests, inclinations and abilities are taken into account. The conditions are created for the maximum development of students in accordance with their cognitive and professional intentions» [17; 26].

V.A. Orlov: «External, selective form of education differentiation based on the separation of students in the upper school according to several fields, correlated with subject educational areas, taking into account the structure of labor market and employment» [18].

A.A. Ostapenko, A.Yu. Skopin: «The system of specialized education in the upper school of general education focused on the individualization of education, successful socialization of students, as well as on the cooperation of the upper school with institutions of secondary and higher vocational education» [19].

B.A. Almukhambetov, K.A. Sarmanova: «The system of specialized training in the upper school of the general education school, focused on the individualization of education and socialization of students, taking into account real and long-term needs of the labor market of the Republic» [20; 5].

U.B. Zheksenbayeva: «The final stage of complete secondary education, which implements the principles of educational differentiation and individualization, that is aimed at creating conditions for the formation of high school students in accordance with their needs and interests, meeting the intentions to continue education and contribute to the personal and life self-determination of the students» [21].

Thus, in the period immediately preceding modernization of the Kazakhstani education system the profile training:

- from the social point of view, profile training is vocational guidance of students taking into account real and prospective needs of labor market development;
- from the psychological and pedagogical point of view, profile training is a student-centered process based on the interests, inclinations and abilities of students, contributing to personal determination, which creates conditions for their maximum development in accordance with their intentions to further education;
- from the didactic point of view profile training is a kind of education differentiation, providing forms and methods that adequately and most fully contribute to realization of the basic idea of profile training.

Today the essence of the «profile training» concept in Kazakhstan is to provide high-school students with the right to choose the variants of education in the senior grades for a particular field.

The main goal of profile training is self-determination of students, formation of an adequate understanding of their capabilities. This means the deepening of knowledge; inclinations, improvement of the previously acquired skills through the creation of a specialized system in the upper grades of general secondary school in the natural-mathematical, socio-liberal, technological and other areas. This training is focused on individualization of education and professional orientation of students, taking into account real needs of the labor market.

The objectives of profile training in the general secondary school:

- 1) to give students deep and solid knowledge in relevant subjects;
- 2) to develop students' skills of independent cognitive activity, prepare them for solving problems of different levels of complexity;
- 3) to orient students in a wide range of problems related to a particular field of activity;
- 4) to develop students' motivation for the research and development activity;
- 5) to develop students' thinking that allows them to critically and creatively process information; to have their own opinion and be able to defend it in any situation.

In accordance with the methodology for selecting the content of profile education, the structure of its content includes: compulsory general educational subjects (studied at a basic level). Obligatory profile subjects (studied at the advanced and in-depth levels), elective courses.

Compulsory major curricular subjects for the designated fields are:

- physical and mathematical field - mathematics, physics;
- chemical-biological field - chemistry, biology;
- philological field: Kazakh language and literature - Kazakh language, Kazakh literature; Russian language and literature - Russian language, Russian literature; foreign language - foreign languages;
- Historical and social history field - history of Kazakhstan, world history, course «Man. Society. State»;
- natural geographic field - geography, biology (chemistry);
- informatics and mathematics field - computer science, mathematics;
- artistic and aesthetic field - domestic and world art culture, music, theater, fine arts, etc.;
- physical culture and sports field - physical culture and health, biology (chemistry), preliminary military training and medical training; technological field - technology (labor training) [2].

Introduction of the industry oriented education allows to successfully solve the strategic task of reforming the Kazakhstani education in the transition to a 12-year education. In this regard, priority direction of the functional activities of the school is profile training with a view to implementation before the professional education of students.

The new generation must be prepared for life differently than before. A turn to the individual, his problems, interests, creative development is qualitative content of the basic pedagogical paradigms regarding functions and priorities of school as a social institution, values and goals of education that best correspond to the modern requirements of society [22].

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Қазақстандағы жалпы білім беру жүйесінде бейіндік оқыту

Мақалада Қазақстандағы орта білім беру жүйесінің құрылымын модернизациялау мәселесінің негізінде 12-жылдық білім беру оқытуда жоғары сыныптарда бейіндік оқыту енгізу туралы айтылған. Дифференциация және жекелендіру бейіндік оқытудың екі басты тұжырымдамаларының анықтамасы берілген. Қазақстандағы орта білім беру деңгейінің модернизация тұжырымдамасында 12-жылдық жалпы білім беру мектептің жоғарғы сынып оқушыларына бейіндік оқытуды енгізу қарастырылуда. Оқытуды жекелендіру және оқушыларды мамандыру бағытында, сонымен қатар еңбек нарығының қоятын талабына сәйкес, орта білім беру мектептерінде жоғарғы сыныптарында мамандырылған дайындық жүйесі қалыптастыру міндеті қойылған. Оқушыларға шығармашылық қызметіне және жеке қабілетінің дамуына ерекше орын берілді, дараланған білім беру бағдарламаларын таңдауға мүмкіндік бар. Жинақталған білім алуға, өздігінен және шығармашылықпен қолдана білуге ұмтылу, әлем, қоғам және адам туралы жүйеленген түсініктерді кеңейтіп, тереңдетіп игеруге көшу қамтамасыз етілді. Авторлар Қазақстандағы орта білім беру жүйесінде бейіндік оқытудың мақсаты және міндеттерін тізімдеді. Бейіндік дифференциациялық оқытудың қалыптастыру және даму сатылары зерттелген. Әртүрлі авторлардың «бейіндік оқыту» феномені анықтамасы түсіндірілген.

Кілт сөздер: 12-жылдық білім беру, еңбек нарығы, бейіндік оқыту, қалыптастыру міндеті, мамандырылған дайындық жүйесі.

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Профильное обучение в системе общего среднего образования в Казахстане

Статья посвящена модернизации структуры системы среднего образования Казахстана, в основе которой лежит поэтапное внедрение обновленного содержания школьного образования в рамках 12-летнего образования с переходом на профильное обучение на старшей ступени обучения. Дано определение двух ведущих понятий профильного обучения, таких как «дифференциация» и «индивидуализация». Концепцией модернизации казахстанского образования на старшей ступени 12-летней общеобразовательной школы предусматривается профильное обучение, ставится задача формирования системы специализированной подготовки (профильного обучения) в старших классах общеобразовательной школы, ориентированной на индивидуализацию обучения и специализацию обучающихся, в том числе с учетом реальных потребностей рынка труда. Ведущим принципом построения современного процесса обучения является дифференциация, ставшая средством решения задачи удовлетворения интересов, склонностей и потребностей учащихся школ, стимулом развития их творческой активности. Авторами перечислены цели и задачи профильного обучения в рамках системы среднего образования Казахстана. Рассмотрены этапы формирования и развития профильной дифференциации обучения. Трактуются определение феномена «профильное обучение», данное различными авторами.

Ключевые слова: 12-летнее образование, рынок труда, профессиональная подготовка, задача формирования системы специализированного обучения.

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