

APPROVED  
by the decree of the President of the  
Republic of Kazakhstan  
dated December 7, 2010  
No 1118

**STATE PROGRAM OF EDUCATION DEVELOPMENT  
IN THE REPUBLIC OF KAZAKHSTAN FOR 2011–2020**

Astana 2010

## 1. Program description

Program title	State Program of Education Development in the Republic of Kazakhstan for 2011- 2020
Basis for development	<ul style="list-style-type: none"><li>• Decree of the President of the Republic of Kazakhstan dated February 1, 2010 No 922 «On Strategic Plan of Development of the Republic of Kazakhstan till 2020»;</li><li>• Decree of the President of the Republic of Kazakhstan dated March 19, 2010 No 957 «On approval of the List of Governmental Programs»</li></ul>
Developer	The Ministry of Education and Science of the Republic of Kazakhstan
Goal	increasing competitiveness of education and development of human capital through ensuring access to quality education for sustainable economic growth
Program aims	<ul style="list-style-type: none"><li>• improvement of financing system, aimed at provision of equal access to education services;</li><li>• enhancing prestige of the teaching profession;</li><li>• establishment of state-public education management system;</li><li>• ensuring equal access of all participants of educational process to the best educational resources and technologies;</li><li>• full coverage of children with preschool education and training; ensuring equal access of children to various programs to prepare them for school;</li><li>• formation of an intellectually, physically and spiritually developed citizen of the Republic of Kazakhstan in general education institutions, satisfying his/her needs in obtaining education, in order to ensure success in a rapidly changing world; development of competitive human capital for economic prosperity of the country;</li><li>• transition to 12-year education model;</li><li>• modernization of the system of technical and vocational education in accordance with the demands</li></ul>

of society and industrial-innovative development of economy, integration into the global educational space;

- achievement of a high level of higher education quality meeting the demands of labor market, the objectives on industrial-innovative development of the country, satisfying the needs of a person and conforming to the world's best practice in education;
- ensuring life-long education;
- encouragement of active citizenship social responsibility, patriotism, high moral and leadership skills among the young people

## Objectives

- development of new mechanisms of education financing, increasing availability of quality education;
- training highly qualified staff for education sector;
- increasing state support and stimulating labor of teachers;
- improvement of education management including implementation of corporate governance principles;
- development of the public-private partnership system (further – PPP) in education;
- improvement of the system of monitoring education development, that includes establishment of national education statistics with consideration of international requirements;
- creation of conditions for automation of education process;
- enlarging the network of preschool organizations;
- updating the content of preschool education and upbringing;
- staff training for preschool education organizations;
- transition to 12-year education model and updating educational content;
- solution of problems of ungraded schools;
- improvement of inclusive education system in schools;
- updating the structure of the content of technical and vocational education according to the demands of the country's industrial-innovative development;
- development of staff training infrastructure for the sectors of economy;
- enhancing prestige of technical and vocation

education;

- training staff for undergraduate and postgraduate degrees meeting the demands of the country's industrial-innovative development;
- integration into European higher education space;
- integration of education, science and industry; creation of conditions for commercialization of intellectual property products and technologies. Training highly-qualified scientific and scientific-pedagogical staff;
- creation of conditions for life-long education, education for all;
- implementation of a package of measures on patriotic education, encouragement of active citizenship and social responsibility and a mechanism of revealing youth potential;

Implementation period (stages)

2011- 2020

The Program will be implemented in two stages:

first stage: 2011 – 2015

second stage: 2016 – 2020

Target indicators

- per capita financing mechanism to be implemented in all educational organizations, except for ungraded schools;
- share of a highly qualified teaching staff holding the first and the second category - 52% (out of the total number of teachers);
- boards of trustees to be established in 60% of educational organizations;
- heads of educational institutions who passed qualification upgrading and refresher courses in the sphere of management – 100%;
- share of secondary education institutions using e-learning- system – 90%;
- 100% of children aged 3-6 to be provided with pre-school education and upbringing;
- transition to 12-year education model to be completed;
- number of schools under the project “Nazarbayev Intellectual Schools” in all regions of Kazakhstan - 20;
- share of students who have successfully completed educational programs in science and mathematics - 70%;
- rankings of the students of Kazakhstan's general education schools in international comparative

surveys: the OECD Programme for International Student Assessment (PISA) – 40<sup>th</sup>-45<sup>th</sup>; the Trends in International Mathematics and Science Study (TIMSS) – 10<sup>th</sup>-12<sup>th</sup>; the Progress in International Reading Literacy Study (PIRLS) – 10<sup>th</sup>-15<sup>th</sup>;

- share of schools that created favorable conditions for inclusive education - 70% (out of their total number);
- share of technical and vocational school graduates who passed independent assessment of qualification in the employers' associations at the first try (out of the total number of assessment participants) – 80%;
- share of working and employed graduates of technical and vocational schools in the first year after graduation under the government grant scheme – 80%;
- share of colleges which passed national institutional accreditation – 30%;
- share of university graduates who passed independent assessment of qualification in the associations of employers at the first try (out of the total number of participants) – 80%;
- share of university graduates who completed education under the government grant scheme and employed within their specialization in the first year after graduation – 80%;
- number of Kazakhstani universities listed in the ratings of the world's best universities – 2;
- share of universities that passed independent national institutional accreditation according to international standards – 65%;
- share of universities that passed independent national specialized accreditation according to international standards – 30%;
- share of universities carrying out innovative activity through integration of education and science and implementation of domestic research results into production – 5%;
- share of faculty and pedagogic workers who have published their works in impact-factor scientific journals within the past 5 years – 5%;
- various forms and types of education for all ages to be implemented;
- share of young people actively involved in implementation of the measures in the sphere of youth

policy and patriotic education (out of the total number of youth) – 55%;

Sources and volume of financing

KZT 461.1 bln will be allocated from the National Budget for the first stage of the Program's implementation. Financing from the local budgets will be carried out within the funds, envisaged annually in the corresponding local budgets for education development.

## **2. Introduction**

Education is acknowledged to be one of the main priorities of “Kazakhstan – 2030” Strategy. The common goal of education reforms in Kazakhstan is to adapt the education system to new socio-economic environment. The President of Kazakhstan has also set a task on accession of our republic to the club of 50 most competitive countries in the world. Improvement of the education system plays an important role in achieving this goal.

As international experience shows, investments in human capital, and, in particular, in education, starting from early age to mature age, results in significant benefit for economy and society.

Investments in human capital are of vital importance in the development of technically progressive, productive labor force, which can adapt to the rapidly changing world. Those economies that invest in development of education, skills and abilities of population will gain success in future. Education should be regarded as economic investments, but not just as social expenditures.

There are many facts, linking education and economic development:

– review of international researches in macro- and microeconomics prove that there is a close link between education, salaries and productivity. Noteworthy to say that at an early stage of education, the return on investments is quite high.

- various surveys prove importance of investing in education development.

Apart from economic advantage, education provides other social benefits and fosters formation of a social capital – the society with active citizenship, high social unity and integration and low level of crime. From the earliest age education plays an important role in forming social, emotional and other vital skills of a person. Therein lay the arguments demonstrating the necessity of further development of the whole range of education services. Kazakhstan needs cardinal modernization of its education sector: significant and steady increase in investments in education and improvement of its quality.

For this reason a new national vision is proposed: by 2020 Kazakhstan will have become an educated country with smart economy and highly qualified labor force. Education development must become a platform which future economic, political and socio-cultural prosperity of the country will rely on.

The State Program of Education Development in the Republic of Kazakhstan for 2011 – 2020 (further – Program) must become an organizational basis for implementation of the Republic of Kazakhstan public policy in education, which guarantees continuity of the country's education modernization.

Being an organizational basis for implementation of public policy in education, the Program provides for a set of interrelated measures covering the changes in structure, content and technologies of education, in management system, organizational and legal structure of educational entities and financial-economic mechanisms.

### **3. Analysis of current situation**

Progressive development and modernization of education in the Republic of Kazakhstan becomes possible due to understanding of the importance of human capital development by the country's top officials and all-round support rendered while initiating and conducting reforms in education sector.

Since 2005 the Republic of Kazakhstan has adopted several documents in education sphere. These are namely the State Program of Education Development for 2005-2010, the State Program of Technical and Vocational Education Development for 2008-2012, “Children of Kazakhstan” Program for 2007 – 2011 and “Balapan” Preschool Education Program for 2010-2014.

The implementation of the “Bolashak” International Scholarship Program initiated by the President of the Republic of Kazakhstan has made a significant contribution to the development of the country's human resources and has provided a unique opportunity to young talented Kazakhstanis to obtain education in the best universities of the world.

To date Kazakhstan is an active participant of international documents related to education, human and children rights protection. These are the Universal Declaration of Human Rights, the Convention on the Rights of the Child, the International Covenant on Economic, Social and Cultural Rights, the Lisbon Convention on the Recognition of Qualifications concerning Higher Education in the European Region, the Bologna declaration and others.

Human resources development is defined as one of priorities of Kazakhstan's 2020 Strategic Development Plan.

There are achievable goals of quality development of human capital through investing in education.

Following the implementation of the State Program of Education Development in the Republic of Kazakhstan for 2011 – 2020, as of July 1, 2010 all levels of education have been institutionally supported by the network of related organizations. The structure of education has been changed in accordance with the International Standard Education Classification. Conditions for implementation of the 12-year education model are being created. Technical and vocational education system has been renovated. A three-level of specialists' training “undergraduate – graduate – PhD” has been introduced. The

Classification of Specialties of Graduate and Postgraduate Education of the Republic of Kazakhstan including the groups of majors has been approved.

The National System of Education Quality Assessment has been established, including the elements of independent external assessment (licensing, confirmation, accreditation, rating, Unified National Testing (further – UNT), Intermediate State Control (further – ISC), Comprehensive Testing of Applicants etc.)

The Education Quality Assessment System is being implemented in all regions of the republic now.

Material and technical base of educational organizations is improved.

In 2009 the number of biology classrooms reached 640, multimedia language labs - 536, physics classrooms - 10, chemistry classrooms – 78; 721 schools were provided with interactive boards. To date, 3,450 schools have been equipped with multimedia language labs against 2,661 in 2005.

Quality of education is improved.

Inclusive education is developed.

Issues concerning provision of students with free hot meals and their transportation are solved.

Government grants for training staff for undergraduate and post-graduate degrees have been increased from 25, 710 in 2005 to 35, 425 – in 2010.

The work on informatization of education is underway. The number of students per one computer makes 18 today. In 2005 this figure was 41, out of which 36 were in rural areas.

98% of urban and 97% of rural schools have been connected to Internet (in 2005 - 75% and 70% accordingly). 34% of schools have access to broadband Internet.

Students of Kazakhstan participated in TIMSS International Comparative Study; in 2007 they were ranked the 5<sup>th</sup> in mathematics and 11<sup>th</sup> in science among the 4<sup>th</sup> grade students from 36 countries.

Kazakhstan gives special attention to the development of the Kazakh language. Kazakh language learning centers have been opened in central and local executive bodies and in universities across the country; compulsory language learning courses, record-keeping in the Kazakh language, level-based teaching of the state language in basic and secondary general education schools have been launched.

A network of specialized schools for gifted children focusing on trilingual education has been created. To date the number of such schools is 33 countrywide.

The number of Nazarbayev Intellectual Schools is 6 to date.

In national higher education system the measures were aimed at achievement of the world level of education: Kazakhstan has joined the European education system, the Bologna Declaration. A world-class higher education structure - the Nazarbayev University – has been established in Astana .

Currently the universities of Kazakhstan enjoy more academic freedom in defining the content of educational programs: the number of electives has been

raised from 40% to 50% - in undergraduate system, from 50% to 60% - in graduate system, and from 70% to 80% - for PhD.

The number of students willing to obtain high-quality education is increasing. More than 20, 000 Kazakhstani citizens are studying abroad to date. Around 3,000 recipients of the Bolashak International Scholarship of the President of the Republic of Kazakhstan are studying in 27 countries of the world.

The country takes measures to raise the attractiveness of Kazakhstan's higher education for foreigners. Over 10, 000 foreign citizens are studying in universities of the republic.

Despite the indicators mentioned above, the education sector of Kazakhstan remains uncompetitive.

### **Preschool education and upbringing**

Increasing the role of preschool education and upbringing is one of the world tendencies. Children attending kindergartens succeed in learning at all levels of education and are more successful in life.

As of July 1, 2010 coverage of children with pre-school education and upbringing in Kazakhstan rose by 16.8% compared to the similar period in 2005, and makes only 40%, whereas in developed countries this indicator is 90-100%.

Annual increase on waiting list for the preschool organizations due to birth rate comprises in average 5-7% countrywide. Besides, in five regions due to birthrate and migration factors this indicator makes 11.1%: in South Kazakhstan region – 8.1%, in Kyzylorda region – 11.8%, in Zhambyl region – 10.7%, in the cities of Almaty and Astana –11.3% and 13.6% correspondingly.

In average there are 111 children per 100 kindergarten places in Kazakhstan; in cities this figure is 120. In urban area every third child attends a kindergarten, while in rural areas – only 5 out of 100.

Inclusive education has not been developed yet. Out of 149, 246 children with disabilities 29, 212 or 19.5% are preschool-age children. 10 thousand of these children, that is 32.8%, are covered with preschool education and training in 37 special kindergartens and 240 special groups.

Along with state preschool organizations private kindergartens are being opened; in 2005 their number was 158, whereas in 2010 it reached 284.

The share of state budget expenditures on preschool education and training makes approximately 0.1% of the gross domestic product (further – GDP). In the member countries of the Organization for Economic Cooperation and Development (further – OECD) – it makes from 1% to 2% of GDP.

### **Secondary education**

Secondary education is a fundamental level of the system of education. The right to free secondary education is guaranteed by the Constitution of the country.

Presently, the secondary education system faces a number of problems, linked to insufficient material and technical resources, educational and methodical base, as well as the necessity of updating the content and methods of education.

As of July 1, 2010, there were 7,576 public general education schools functioning across the country, teaching 2.5 mln students and subordinated to the local executive bodies and the Ministry of Education and Science of the Republic of Kazakhstan. 64.6% of schools occupy typical buildings, 35.4% of schools use altered buildings and 201 schools are in poor condition. 37.4% of schools don't have access to drinking water. There are 70 three-shift schools and one four-shift school in the country. 25.1% of schools need an overhaul.

41.7% of primary and secondary schools of Kazakhstan have been equipped with newly modified physics classrooms, 13.2% of schools have been provided with chemistry classrooms, 16.3% ones - with biology classrooms and 46.7% - with multimedia language labs.

Every fifth school lacks for either a dining room or canteen. Depreciation of equipment and inventory in school canteens is 80%. 26.4% of schools do not have gyms. There is no state-funded program of children's transportation to schools by specialized buses.

All these factors have resulted in postponing transition to 12-year general education model.

One of the peculiarities of Kazakhstan's education system is the availability of ungraded schools, which makes 56.5% of the total amount of schools (52% in 2005). In rural areas this figure makes 68.6%.

Almost every fourth teacher in Kazakhstan is working and every sixth pupil is studying in ungraded schools.

The number of children with disabilities is increasing. In 2005 there were 124 thousand children with disabilities; in 2010 this figure exceeded 149 thousand. 41.4% of them only are engaged in special educational programs.

The modern education system, implementation of innovative forms and methods of education set more requirements to a person and professional competence of teachers.

There is no adequate legislative base and financial and moral incentive scheme for encouragement of teacher's labor.

Every fifth teacher in Kazakhstan is aged 50 or more. 13% of teachers have up to 3 years of experience. The number of young teachers increases by 2.6% per year.

Gender disproportion, feminization of the teacher's profession is observed to date (81.3% of teachers in Kazakhstan are women). Low wages (approximately 60% of national average), low prestige of the teaching profession contributes to brain drain. Despite the fact that since 2000 the wage of education sector employees has grown by 400%, it remains one of the lowest ones across the country.

Development of the system of younger generation upbringing has been a priority goal of public policy in education.

However, the educational institutions and children's public organizations have not fully used their upbringing potential yet. The schools and extracurricular organizations do not apply labor education and professional orientation any more and experience lack of artistic and musical creativity clubs and sports clubs. The activity of the children's and school public organizations is ineffective. Coverage of children with supplementary education makes 21.5% only compared to other countries (30-50%). 20% of students only attend sports clubs.

The negative factors in secondary education are outdated methodology and guidelines for the selection of educational content. Information overload leads to a decrease in learning motivation and deterioration of health of students. The education sector focuses today on formal results but not on personality development.

Thus, the existing problems necessitated the modernization of secondary education in accordance with today's requirements of development of the Kazakh society and with the conditions of integration into global educational environment.

### **Technical and vocational education**

The system of technical and vocational education plays a key role in meeting the interests of an individual, satisfying the needs of the labor market and the prospects economy and social sphere development.

According to statistics, there are 786 technical and vocational education institutions countrywide as of July 1, 2011, including 306 vocational schools and 480 colleges. Compared to the same period of 2005 their number has risen by 64.22.8% of them are located in rural areas.

32.7% of graduates of general education institutions continue their education in vocational schools and colleges, 24.8% of which are admitted there after the 9<sup>th</sup> grade and 7.9% after the 11<sup>th</sup> grade.

Currently, there are 609 thousand people studying in technical and vocational education organizations; 36.3% of them only are studying under the government grant scheme.

Training of technical and maintenance staff is provided in 177 majors and 416 qualifications.

Alongside, lack of professional standards and modern qualification requirements to the specialists do not allow developing adequate content of staff training to meet the demands of industry and employers.

The existing infrastructure, material and technical base of technical and vocational education system does not guarantee high quality of staff training and attractiveness of education for young people.

Low motivation of engineering-pedagogical workers to provide quality education became a reason for brain drain to other sectors of economy. Ineffective management does not guarantee competitiveness of education organizations in market conditions.

Insufficient financing and cost of expenditures to train one professional under the government grant scheme does not help the students obtain necessary qualifications.

Besides, the issue of lifelong education and training needs to be solved.

Economy and society, based on knowledge and lifelong education must underlie the solution of the problem of competitiveness and application of up-to-date technologies, ensuring social unity, equal opportunities and quality of life.

### **Higher education, postgraduate study and science**

Higher education plays an important role in training of competent and competitive professionals for all sectors of economy in integration of science and industry.

Currently, there are 148 universities (9 national, 2 international, 32 state, 12 non-civilian, 93 private, including 16 corporatized ones), which educate more than 595 thousand people.

However, most employers are not satisfied with the quality of university education. Educational programs do not always meet the expectations of employers and do not meet the needs of economy.

Corruption has been a serious latent factor encompassing the entire system of higher education in Kazakhstan. The higher education policy will remain ineffective until specific measures are taken to eradicate corruption.

Negative trends in staffing the universities are observed: there are no systematic measures on faculty training; outside employment is widely practiced.

Material and technical resources of Kazakhstani universities are renewed at a slow pace. Universities do not follow the established norms of updating the library collection either for humanities or for technical professions. In many disciplines textbooks are not developed or published in small circulations. Information resources of universities are not united, and library fund is scattered.

There is lack for state support mechanisms of educational services funding.

Integration of education, science and industry, development of postgraduate education, science and industry, development of postgraduate education based on modern science and technology are among the priorities of economic development.

A number of issues in science sector remain still unresolved.

Outdated material and technical base and equipment of laboratories do not allow conducting qualitative research.

Insufficient amount of design institutes and construction agencies undermines transfer of technologies into production. There is no mechanism of cooperation of design institutes, construction bureaus and industry with universities.

Conditions for attraction of young people to science have not been created in full. Manpower ageing is observed. The average age of researchers is 55 today.

Scientific potential of Kazakhstani universities is used quite inefficiently.

The reason for weak link between education, science and industry are:

- interdepartmental barriers between the universities and scientific organizations

- inadequate funding for university research
- excessive administration of the educational process which does not allow flexibly responding to the achievements in science and technology, or taking into account the changing needs of production
- lack of economic incentives for the private sector to invest in education, science and innovations

Kazakhstan has not developed the institutional forms of support for innovative structures performing scientific-research and development activities and bringing their results to practical implementation.

In Kazakhstan, the share of scientific development is more than ten times lower than the level accepted in developed countries.

### **Upbringing work and youth policy**

One of the most important tasks of the education system modernization is formation of an intellectual nation, the representatives of which have competitive knowledge, creative thinking, as well as high civil and moral principles, patriotism and social responsibility.

At the beginning of 2010, the population aged 14-29 in Kazakhstan made 28.7%. The share of youth living in rural areas was 49.1%.

In early 2010 the number of children from birth up to the age of 18 was approximately 5 mln. Protection of rights and interests of children is ensured by the local executive bodies.

Youth policy in Kazakhstan faces the following problems:

- no centralized system of coordination of upbringing work among young people
- according to a social survey conducted in 2009-2009, the share of young people involved in youth activities was 22% of the total number of young people.
- share of young people participating in decision making process regarding youth policy issues in representative bodies does not reach 1%
- in accordance with the results of social surveys, 64% of respondents believe that state universities are most corruption-prone; 54% evaluate the level of corruption in high schools as high, whereas 28% note the fact of "buying" diplomas.

Not all children have been provided with an opportunity to exercise their rights in full.

Besides, there is no single database of education statistics in the education sector. The existing forms of education statistics are scattered and not widely published; there is no in-depth analysis on them and they are not available to public. The indicators of national education statistics do not comply with the requirements of international statistics

Thus, the analysis of Kazakhstan's education policy has revealed the following:

**Strong features:**

- priority areas of education development have been clearly defined
- the network of preschool and secondary school education has been increased
- functioning of national and republican centers at each level of education;
- compliance of the structure of Kazakhstan education with the International Standard Classification of Education (ISCED)
- restructuring of technical and vocational education
- functioning of the National Quality Assurance System in Education
- high results in TIMSS-2007 international study
- joining the European educational space

**Weaknesses:**

- insufficient financing of education;
- low status of the teaching profession;
- poor quality of teacher training;
- lack of high quality teaching staff;
- lack of specialists in children's rights protection;
- underdeveloped education management;
- underdeveloped Public-Private Partnership system (further – PPP) in education;
- underdeveloped informatization of education;
- education statistics does not meet international standards and is not available to public;
- undercoverage of children with preschool education and upbringing;
- lack of integration of the content of general secondary and higher education;
- poor material and technical base of educational institutions;
- low-quality educational services provided by ungraded schools;
- underdeveloped inclusive education;
- lack of National Qualification System;
- lack of balance between education supply and employer demand in qualified college and university graduates;
- lack of higher education and science integration.

**Opportunities:****For the state:**

- increasing competitiveness of Kazakhstani education;
- human capital quality improvement;
- ensuring social and legal guarantees of children's life quality;
- increasing efficiency of manpower use;
- stabilization of national economy;
- investment support of education by international organizations and employers;
- development of new efficient management methods in education;
- popularization of sports among students;
- more efficient use of budgetary funds;

- increasing availability, attractiveness, quality and transparency of education;
- sustainable economic growth;
- improvement of the country's performance indicators in international rankings;
- raising parental responsibility for upbringing of children.

**For parents:**

- an opportunity to choose an educational organization;
- involvement in education management;
- ensuring equal access to preschool education and upbringing;
- implementation of a “parent – educational institution – child” scheme through distance notification of parents on a child's progress

**For teachers:**

- attractiveness of the teaching profession;
- career development system;
- lifelong education, including studying in overseas educational institutions and development of professional competence.

**For students:**

- universal access to quality education;
- access to the best educational resources and technologies;
- development of communicative and professional competence.

**Challenges:**

- failure to achieve the goals and objectives set due to underfunding of education;
- low motivation of teacher's labor and low prestige of the teaching profession;
- low level of qualification of most teachers;
- lack of desire for self-education and professional development of teachers;
- low motivation of users to apply the e-learning systems;
- increase in the number of children on the pre-school waiting list and shortage of school places caused by demographic processes (increasing birthrate) and migration;
- decrease in quality of education;
- delays in commissioning educational facilities;
- increase in the number of schools in emergency condition;
- increase in the number of children with disabilities;
- no forecast of demand for specialists in labor market;
- outflow of staff from technical and vocational education system, caused by mismatch between the level of wages in the sector and the average level of wages in the country;
- reduction in the number of foreign nationals wishing to study in universities in Kazakhstan;

- outflow of specialists to other countries due to more favorable prospects to implement their scientific potential;
- weak inflow of young people to science;
- lack of coordination between the performers of the program;

Thus, this program provides for further modernization of education system and prospects of raising it to European level.

#### **4. Goals, objectives, target indicators and indices of the Program's implementation**

##### **Goal:**

increasing competitiveness of education and development of human capital through ensuring access to quality education for sustainable economic growth

##### **Objectives:**

- improvement of financing system, aimed at provision of equal access to education services;
- enhancing prestige of teacher's profession;
- establishment of state-public system of education management;
- ensuring equal access of all participants to educational process, the best educational resources and technologies;
- full coverage of children with preschool education and upbringing; ensuring equal access of children to various programs to prepare them for school.
- formation of an intellectually, physically and spiritually developed citizen of the Republic of Kazakhstan in general education institutions, satisfying his/her needs in obtaining education, in order to ensure success in a rapidly changing world; development of competitive human capital for economic prosperity of the country;
- transition to 12-year education model;
- modernization of the system of technical and vocational education in accordance with the demands of society and industrial-innovative development of economy, integration into the global educational space;
- achievement of a high level of higher education quality meeting the demands of labor market, the objectives on industrial-innovative development of the country, satisfying the needs of a person and conforming to the world's best practice in education;
- ensuring lifelong education system.
- formation of active citizenship, social responsibility, patriotism, high moral and leadership skills among the youth.

#### **Target indicators**

<b>Indicator</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
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Per capita financing mechanism implemented in all educational organizations (except for ungraded schools) since 2015	0%	60%	60%
Share of highly qualified teaching staff holding the first and the second category (out of the total number of teachers)	42%	47%	52%
Boards of trustees established in educational institutions	40%	45%	60%
Heads of educational institutions who passed qualification upgrading and refresher courses in management	29%	50%	100%
e-learning system is used in educational institutions	0	50%	90%
Coverage of children aged 3-6 with pre-school education and upbringing	40% as of July 1	73,5%	100%
Transition to 12-year education model completed in 2020	0	1,5,11 grades	1-10, 12 grades
Number of schools opened under “Nazarbayev Intellectual Schools” project countrywide	6	20	20
Share of students who have successfully completed educational programs in science and mathematics	50%	60%	70%
Results of Kazakhstani school students in international comparative surveys (PISA, TIMSS, PIRLS)	TIMSS: 7 <sup>th</sup> -11 <sup>th</sup>	PISA: 50 <sup>th</sup> -55 <sup>th</sup> ; TIMSS: 10 <sup>th</sup> -15 <sup>th</sup>	PISA: 40 <sup>th</sup> – 45 <sup>th</sup> TIMSS: 10 <sup>th</sup> – 12 <sup>th</sup> PIRLS: 10 <sup>th</sup> – 15 <sup>th</sup>
Share of schools which created favorable conditions for inclusive education (out of the schools’ total number);	10%	30%	70%
Share of technical and vocational school graduates who passed independent assessment of qualification in the employers’ associations at the first try (out of the total number of assessment participants)	40%	60%	80%
Share of working and employed graduates of technical and vocational schools in the first year after graduation under the public contract scheme	68,5%	78%	80%
Share of colleges which passed national institutional accreditation	0%	10%	30%
Share of university graduates who have passed independent assessment of qualification in the associations of employers at the first try (out of	0%	10%	80%

the total number of participants)			
Share of university graduates who completed education under the public contract scheme and employed within their specialization in the first year after graduation	50%	78%	80%
Number of Kazakhstani universities listed in the ratings of the world's best universities	0	1	2
Share of universities that passed independent national institutional accreditation according to international standards	16%	50%	65%
Share of universities that passed independent national specialized accreditation according to international standards	0%	20%	30%
Share of universities carrying out innovative activity through integration of education and science and implementation of domestic research results into production	0%	2%	5%
Share of faculty and pedagogical workers who have published their works in impact-factor scientific journals in the past 5 years	0%	2 %	5%
Various forms and types of education for all ages implemented			
Share of young actively involved in implementation of the measures in the sphere of youth policy and patriotic upbringing (out of the total number of youth)	25%	27%	55%

**Following tasks must be solved in order to achieve the goals set:**

- development of new mechanisms of education financing, increasing availability of quality education;
- training highly qualified staff for education sector;
- increasing state support and stimulating labor of teachers;
- improvement of education management including implementation of corporate governance principles;
- development of the public-private partnership system (further – PPP) in education;
- improvement of the system of education development monitoring, that includes establishment of national education statistics with consideration of international requirements;
- creation of conditions for automation of education process;
- enlarging the network of preschool organizations;
- updating the content of preschool education and upbringing;
- training staff for preschool education organizations;
- transition to 12-year education model and updating educational content;

- solution of the problems of ungraded schools;
- improvement of inclusive education system in schools;
- updating the structure of the content of technical and vocational education according to the demands of the country's industrial-innovative development;
- development of staff training infrastructure for the sectors of economy;
- enhancing prestige of technical and vocation education;
- training staff for undergraduate and post-graduate degrees meeting the demands of the country's industrial-innovative development;
- integration into European higher education space;
- integration of education, science and industry; creation of conditions for commercialization of intellectual property products and technologies. Training highly-qualified scientific and scientific-pedagogical staff;
- creation of conditions for life-long education, education for all;
- implementation of a package of measures on patriotic education, encouragement of active citizenship, social responsibility and a mechanism of revealing youth potential;

**Achievement of these objectives will be measured by the following indicators:**

<b>Indicator</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>Performers</b>
Share of teachers who undertook qualification upgrading courses on the principle of voucher-module financing	0%	20%	100%	Local executive bodies; Ministry of Education and Science
Share of teachers of profession-oriented schools holding a master's degree	0%	not less than 10%	not less than 20%	Ministry of Education and Science
Share of young specialists newly arrived to educational organizations for working in the current year (out of the total number of teaching employees)	2,6%	4,5%	6%	Local executive bodies; Ministry of Education and Science
Share of teachers lecturing in science and mathematics in English	0,6%	10%	15%	Ministry of Education and Science
Share of specialists of the qualification upgrading system holding academic degrees	3,4%	5%	15%	Local executive bodies; Ministry of Education and Science
Share of engineering-pedagogical workers in technical and vocational schools, who undertook qualification upgrading and training	20%	20%	20%	Local executive bodies; Ministry of Education and Science, unions of employers, branch

courses (per annum)				ministries
Share of faculty of universities who passed qualification upgrading and refresher courses in Kazakhstan (per annum)	6%	20%	20%	Ministry of Education and Science
Implementation of corporate governance principles in civilian universities	44%	65%	90%	Ministry of Education and Science
Share of teachers who passed qualification upgrading in implementation of information-communication technologies in education (of their total number)	0%	90%	90%	Local executive bodies; Ministry of Education and Science
Number of students per one computer	18	10	1	Local executive bodies; Ministry of Education and Science
Share of pre-school mini-centers out of the total number of pre-school organizations	59,7 %	50%	52,7%	Local executive bodies; Ministry of Education and Science
Share of children aged 5-6 covered with pre-school training	83%	100%	100%	Local executive bodies; Ministry of Education and Science
Share of private kindergartens (of the total number of kindergartens)	10%	not less than 12%	not less than 15%	Local executive bodies; Ministry of Education and Science
Share of schools focusing on science and mathematics out of the total number of profession-oriented schools	0%	not less than 15%	not less than 35%	Local executive bodies; Ministry of Education and Science
Share of schools provided with chemistry, biology, physics classrooms, multimedia language labs with maintenance service (out of their total number)	31,7 %	40%	80%	Local executive bodies; Ministry of Education and Science
Share of schools that are in poor condition (out of their total number)	2,6%	2%	1%	Local executive bodies; Ministry of Education and Science
Shortage of school places	74,3 thous and	45 thousand	30 thousand	Local executive bodies; Ministry of Education and Science
Share of schools using the three-shift system	0,9%	0,2%	0	Local executive bodies; Ministry of

				Education and Science
Share of school students provided with school bus transportation from home to school and back (of the total number of students needing transportation)	63%	80%	100%	Local executive bodies; Ministry of Education and Science
Number of «supporting schools» – resource centers for ungraded schools	0	160	160	Local executive bodies; Ministry of Education and Science
Share of secondary school students attending sports clubs in educational institutions (of the total number of students)	20%	25%	30%	Local executive bodies; Ministry of Education and Science
Share of school students attending children and youth sports centers (of the total number of students)	8%	12%	14,5%	Ministry of Tourism and Sport
Share of school-age children covered with artistic, musical and technical creativity	21,5 %	23%	38%	Local executive bodies; Ministry of Education and Science
Share of university students attending sports club (of the total number of students)	*	20%	40%	Ministry of Education and Science
Share of children covered with inclusive education of the total number of children with developmental disabilities	9%	25%	50%	Local executive bodies; Ministry of Education and Science, Ministry of Labor and Social Protection
Provision of students from low-income families with free fortified hot meals	70%	100%	100%	Local executive bodies; Ministry of Education and Science
Share of majors in technical and vocational schools provided with professional standards (out of the total number of majors)	0%	30%	90%	Ministry of Labor and Social Protection, Ministry of Industry and New Technologies, branch ministries, Ministry of Education and Science, unions of employers
Share of State Compulsory Education Standards (further – SCES), based on professional standards	0%	50%	90%	Ministry of Education and Science; local executive bodies; unions of employers

Share of educational programs developed in compliance with international requirements	20%	40%	70%	Ministry of Education and Science; local executive bodies, unions of employers
Share of university students enrolled in industrial placement of the total number of students studying under the government grant scheme in technical and vocational education organizations	80%	85%	90%	Local executive bodies; Ministry of Education and Science; branch ministries; unions of employers; Atameken Union
Share of students of technical and vocational education institutions whose study is funded by the employers (of the total number of students)	0,6%	1%	2%	Local executive bodies; employers; Ministry of Education and Science
Providing young people aged 18-24 with technical and vocational education	17,6 %	20%	23%	Local executive bodies; Ministry of Education and Science
Number of school places opened in the system of technical and vocational education	0	2 660 school places	16 940 school places	Local executive bodies; Ministry of Education and Science
Number of newly opened places in the dormitories of technical and vocational education institutions	0	1300 places	1500 places	Local executive bodies
Share of technical and vocational education institutions provided with up-to-date teaching equipment (out of their total number)	36%	75%	90%	Local executive bodies; Ministry of Education and Science
Share of students studying under graduate programs on a government grant scheme out of the total number of undergraduate program students studying on under the government grants	8%	20%	40%	Ministry of Education and Science
Including one-year master's degree program against the amount of government grants for bachelor's degree program	1,6%	14%	25%	Ministry of Education and Science
Number of students studying on a government grant scheme under the PhD programs with annual increase of government grants, beginning from 2012	200	not less than 1000 people	not less than 2000 people	Ministry of Education and Science

Share of universities which implemented the credit transfer model according to the European Credit Transfer System (ECTS) in the Republic of Kazakhstan	19%	100 %	100 %	Ministry of Education and Science
Share of the Bolashak International Scholarship recipients studying under the master's degree, PhD and bachelor's degree programs since 2015 – from one term up to one academic year, and those passing research internships	69%	100%	100%	Ministry of Education and Science
Share of universities having access to the Republican Interuniversity Electronic Library	26%	55%	100%	Ministry of Education and Science
Extension of academic freedom of universities within the SCES for higher undergraduate and postgraduate education within majors; increasing the number of elective components	65%	70%	80%	Ministry of Education and Science; employers
Share of graduate students and PhD candidates in Nazarbayev University having publications in high impact factor scientific journals	0%	10%	30%	Ministry of Education and Science
Share of foreign students in Kazakhstan's higher education institutions including those studying on a fee paid basis	1,5%	2,5%	3%	Ministry of Education and Science
Share of universities that created innovative structures, research laboratories, technological parks and centers (of the total number of technical universities)	14%	20%	50%	Ministry of Education and Science
Share of universities that established structural divisions of scientific as well as design and construction organizations (of their total number)	*	10%	25%	Ministry of Education and Science
Share of university graduates who have completed master's degree and PhD programs and who have been employed by universities and	*	10%	30%	Ministry of Education and Science

scientific organizations within the first year after graduation				
Share of funding for educational activity of civilian universities under the PPP scheme	*	10%	50%	Ministry of Education and Science
Share of funding for research and innovative activity of civilian universities under the PPP scheme	*	10%	50%	Ministry of Education and Science
Number of modular curriculums for short-term refresher courses and qualification upgrading programs for the technical and maintenance sector employees run jointly with employers	0	20 units.	25 units.	Ministry of Education and Science; employers; Ministry of Labor and Social Protection
Share of youth running for representative bodies at all levels	*	6%	15%	Local executive bodies; Ministry of Education and Science
Share of young people participating in the activity of youth organizations	22%	25%	29%	Local executive bodies; Ministry of Education and Science; NGOs
Share of republican youth organizations involved in implementation of socially important projects under the public social contract	12%	20%	24%	Local executive bodies; Ministry of Education and Science; NGOs
* – statistics are not kept				

The goals, target indicators, objectives and the performance indicators of the Program's implementation will be achieved by the Ministry of Education and Science together with the Ministry of Labor and Social Protection, the Ministry of Communications and Information, the Ministry of Industry and New Technologies, the Ministry of Tourism and Sport, the Ministry of Internal Affairs, the Ministry of Culture, branch ministries, local executive bodies, associations of employers, "Atameken" Union and non-governmental organizations

## **5. Main areas, ways of achievement of the program goals set, measures**

Development of education will be carried out in the following areas:

- education financing
- status of a teacher
- education management
- e-learning
- preschool education and upbringing

- secondary education
- technical and vocational education
- undergraduate and postgraduate education
- lifelong education
- upbringing work and youth policy

## **Education financing**

### **Aim**

Improvement of financing system focused on ensuring equal access to educational services

### **Objective**

Development of new mechanisms of education financing aimed at improving the quality and ensuring equal access to education

### **Target indicator**

Since 2015 all educational institutions, except for ungraded schools, will implement the per capita financing mechanism

### **Per capita financing**

Result-oriented financing will become an integral part of reforms in management of public expenditures in secondary education sector

A methodology of per capita normative financing will be developed in 2011. This will allow raising the efficiency of budgetary expenditures and will promote availability of quality education to all groups of population.

At the first stage the per capita financing will be provided for the profession oriented schools. In 2013 the scheme of per capita financing of secondary education will be tested at 4 profession oriented schools. For this purpose regulatory-legal documents concerning the per capita financing will be developed.

There will be determined pilot schools out of public or private secondary education institutions and schools functioning at the universities in order to develop the mechanism of per capita financing, financial independence, boards of guardians etc.

At primary and elementary schools the per capita financing scheme will be implemented on the basis of experience gained in profession oriented school.

By 2015 preschool education and upbringing will be funded from the national budget on the basis of per-capita financing.

In the system of technical and vocational education, a pilot project on implementation of per capita financing with approval of cost standards for one specialist training will be realized during 2011-2013.

By 2015 the per capita financing mechanism will be implemented in all educational institutions – from preschool organizations to technical and vocational education institutions, except for ungraded schools.

The per capita financing scheme for teachers' qualification upgrading will be provided. This will be a voucher-module system within which the teachers will be able to choose the place and time of undertaking qualification upgrading courses via transfer of payment sum to the trainer.

### **State education savings system (SESS)**

In order to ensure availability of commercial educational services, a mechanism of state education savings system (further – SEAS) will be developed which will allow every citizen of the Republic of Kazakhstan to save funds to pay for education of his/her child in universities and colleges in future. The SEAS provides for payment of state premiums on the citizens' savings.

Implementation of the SEAS will be carried out after adoption of corresponding regulatory-legal acts.

Besides, in order to develop an efficient education system, it will be necessary to increase spending on the sector via attraction of investors. Private investments in education and science will be attracted on the basis of PPP mechanism.

### **Status of a Teacher**

#### **Aim:**

Enhancing prestige of the teaching profession

#### **Objectives:**

- Training highly-qualified staff for educational system
- Reinforcement of state support and motivation of teacher's labor.

#### **Target indicator:**

The percentage of highly-qualified teaching employees with highest and first category to make: in 2015 – 47% out of total number of teaching employees, in 2020 – 52% out of total number of teaching employees.

### **Training highly-qualified staff for educational system**

Education quality is determined primarily by highly-qualified teachers.

Since 2011:

- training of English speaking pedagogical staff for secondary, technical and vocational, and higher education under the “Bolashak” International Scholarship of the President of Republic of Kazakhstan will be ensured;
- training of pedagogical staff with polylingual education in the country's higher educational institutions will be carried out through the increase in loans for foreign language teaching in the range of basic subjects. For this purpose the standard curriculum will be updated in the part concerning training of pedagogical staff in trilingual teaching;
- teacher training programs including those for ungraded schools and master's degree programs will be improved under the government grant scheme for

intentional training of teachers for profession-oriented school in higher educational institutions specializing in pedagogical staff training;

- according to the new educational programs, professional development program will be renewed and the qualification upgrading of pedagogical staff in educational organizations will be provided.
- 73.3 thousand people are planned to pass refresher courses annually by 2020
- A voucher-module system of financing will be introduced

With the introduction of the voucher-module financing system the qualification upgrading system will be modernized. In 2013 this system will be certified in 2 regions (Pavlodar and Zhambyl) and 2 cities (Astana and Almaty). The regulatory-legal framework will be improved; the programs and material - technical base of qualification upgrading system will be updated, organizational model will be reformed, and resource potential will be distributed on a competitive basis between the entities implementing the qualification upgrading and staff retraining programs.

The voucher mechanism in qualification upgrading system and pedagogical staff retraining according to approbation results is assumed to be introduced by 2015.

For the purpose of providing the distance teaching, the educational organizations implementing retraining and qualification upgrading programs will be equipped with interactive facilities.

The government grants for upgrading pedagogical staff's qualification for preschool and secondary educational institutions will be increased including the specialists for:

- Integrated education of preschool and school-age children (inclusive education);
- Work with disabled children;
- Implementation of general educational programs;
- Within the technical and vocational education system:
  - The teachers will pass annual qualification upgrading courses on the ground of educational organizations and enterprises;
  - Special subject teachers and vocational training masters will upgrade their qualification and undertake an internship in enterprises at the expense of social partners, inclusive enterprises abroad.

For the purpose of multi-lateral cooperation of higher educational institutions with the leading domestic and foreign industrial enterprises in priority areas of forced industrial-innovative development, the faculty of the universities will be engaged in annual qualification upgrading programs including those launched abroad.

## **Reinforcement of state support and motivation of teaching employees' labor**

To enhance the teaching profession prestige a number of activities will be carried out.

A new model of payment of the teaching staff labor will be established. This model provides for:

- the introduction of differentiated coefficients used for calculation of teacher's fixed official salary size for qualification grade;
- implementation of result-oriented mechanism of labor payment

As a result of these measures, by 2015 the average salary of the teachers will approximate to the salary of private sector of economy.

Pension provision of the citizens of Kazakhstan including the pedagogical workers will be improved on the basis of analytical and economic researches and pension payment forecast in a long-term period conducted by the Ministry of Labor and Social Protection.

In the meantime, the measures on tightening up the requirements for teachers are developed.

While applying for pedagogical majors in higher educational institutions, the applicants will have to take a creativity exam to define the level of gift for teaching.

Pass grade for school leavers applying for pedagogical majors will be raised.

The requirements to the teachers' qualification will be reviewed in order to create favorable conditions stimulating them to get the first and highest categories.

Since 2016, a procedure of confirmation of teachers' qualification will be introduced. The qualification confirmation procedure will be held once in five years in a form of certification for the teachers and those who proceed with work for the first time or after a break in pedagogical activity. The rules of admission to work at educational organizations will be elaborated which will also focus on testing the given category of citizens.

While selecting teachers for profession-oriented schools, those with a master's degree in education will be preferred.

Self-education and self-improvement will become an inseparable part of teacher's activity, as they will be reflected in his/her portfolio.

For the control and stimulation of training quality, the teaching staff will pass the evaluation of qualification level in the independent non-commercial nongovernmental agencies.

Teachers' certification will be implemented on the basis of integrated assessment that consists of testing the teachers' knowledge, teaching and methodological activity report, polling of interested individuals (parents) and community.

The teachers of mathematics will participate in the international comparative research TEDS-M (Teacher Education and Development Study in Mathematics) – the evaluation of vocational education quality of math teachers of primary and secondary school.

For the purpose of enhancing prestige of the teaching profession certain

work will be carried out to form positive image of a teacher in society: namely, “Teacher of the Year” contest, actions, joint projects with mass media, master classes, forums of teachers-innovators, competitions, meetings of pedagogical dynasties, scientific-research workshops and symposiums, training workshops and round tables.

## **Education management**

### **Aim:**

Formation of the state-public system of education management

### **Objectives:**

1. Improvement of education management including introduction of corporate governance principles and formation of the public-private partnership in education.
2. Improvement of the system of education development monitoring and national education statistics with the consideration of international requirements.

### **Target indicators:**

Boards of trustees established in educational institutions to make: in 2015 – 45%, in 2020 – 60%.

Share of heads of educational organizations who passed qualification upgrading and refresher courses in management to make: in 2015 – 50%, in 2020 – 100%.

## **Education management system**

Tough competition in the labor market requires mobility and dynamism the education management system

Education management will involve wide public - both pedagogical and other social groups.

In order to promote PPP, the system of social contract and mechanism of state financing of the activity of non-commercial non-governmental organizations, in a form of grants and other mechanisms will be improved. Financing of nongovernmental sector as a basis of long-term mechanisms of PPP will be provided. Participation of society at different levels of education management will be implemented in the form of boards of trustees.

There will be a mechanism of efficient participation of the trustees’ boards in education development.

The role of the boards of trustees in schools will be increased due to involvement of parents, employers, nongovernmental organizations in the education sector and professional associations in paying for the education.

In order to provide corporativity and transparency of educational system management the boards of trustees will function also in educational institutions, sectoral and regional councils on training the staff with the participation of

employers.

After amending some regulatory-legal acts of the Republic of Kazakhstan concerning the state education and healthcare organizations having the status of a state enterprise founded on the right of economic competence, the following corporate governance principles will be implemented: collegiality in management, independence in carrying out the activities, accountability in accordance with the results, transparency of activity and responsibility. The corporate governance principles presuppose three key aspects of management activity: adoption of strategy, budget approval, HR policy.

In case if there are positive results, the corporate governance principles will be implemented in all higher civilian educational institutions by 2020.

Since 2011 the educational organizations will implement a result-oriented planning system. It will require new skills of management, retraining and qualification upgrading both from top officials and teachers.

As for upbringing, there will be some measures assumed to improve the system of planning, monitoring, results evaluation and control of educational work in higher educational institutions, and management structure strengthening.

Qualification upgrading for the top officials of preschool education and upbringing structures and secondary schools in education management will be organized.

Regular training, retraining and qualification upgrading courses for the top officials of educational institutions will be launched for the purpose of updating management technologies implementation.

The heads of educational organizations are those individuals who have successfully passed training and retraining course in education management.

In 2013 the mechanism of appointment of rectors for state higher educational institutions will be reviewed, namely concerning their election.

The introduction of corporate governance will be implemented in accordance with the current legislation of Republic of Kazakhstan.

To provide transparency of educational organizations' activity and to decrease the percentage of corruption, social studies are planned to be conducted in higher educational institutions.

### **Monitoring education development**

One of the principles of education quality management system is the principle of constant improvement of educational process based on monitoring results.

In order to provide systematic monitoring of educational results and social effects at the national and regional levels, there will be a common education monitoring system functioning in the form of information management base and forecast of development trends.

To achieve this goal a National Centre for Education Quality Evaluation will be reformed into the National Centre of Education Statistics and Evaluation (NCESE).

**Measures:**

- The introduction of the national system of education quality evaluation will be continued at all levels;

- The National education statistics will be developed in compliance with the requirements of the UNESCO, the OECD and the U.S. international educational statistics;

- A single base of education statistics will be created based on initial data;

- The infrastructure of education management will be improved.

Monitoring surveys are to be conducted. Following the monitoring, annual regional reports about the country's education system and its development will be published for adoption of administrative decisions.

Since 2013 a collection of education statistics will be published annually. The on-line version of the collection will be placed onto the web-sites of the Ministry of Education and Science and the NCESE. A common database of students and teachers at all educational levels will be created.

By 2015 the separately existing statistics data bases will be united into one base of education statistics. This base will be filled out on the basis of initial data (school, college, higher educational institution, boarding schools, centers, quality evaluation services, etc.) and will be concentrated in the Ministry of Education and Science of the Republic of Kazakhstan. Thereby in 2015 the compilation of all forms of administrative reporting will be eliminated and transparency will be ensured.

The evaluation of demand for different profile specialists and their readiness to work will be carried out based on the monitoring system analysis and forecast of labor market, designed for the development of public control mechanisms and stimulation of specialists training in accordance with the demand of economy, governance and social sector of the country.

## **E-learning system**

**Aim:**

Ensuring equal access for all participants of educational process to the best educational resources and technologies.

**Objective:**

Creation of conditions for educational process automation.

**Target indicators:**

E-learning system to be used in educational organizations (2015 –50%, 2020 –9%).

**E-learning system application**

Achievement of the goal set will increase education quality, efficiency of learning management and information integration with external environment.

The implementation of the e-learning system will require making some

amendments to some legislative acts of the Republic of Kazakhstan.

State Compulsory Standards of higher, technical and vocational education will be amended by 2012 concerning the issue of training pedagogical staff for the e-learning system. As for the State Compulsory Standards of secondary education, it will also be amended in a part of compulsory use of e-learning system.

The requirements for the development e-books and teaching materials used in e-learning system, the regulations of individual and team work of system users as well as technical regulations (using and maintaining the e-learning system) will be elaborated.

The provision of informational-communicational technologies, competences of teachers requires organizational support, training and qualification upgrading of e-learning system users.

In order to provide information-communicative technologies (further - ICT) and develop the teachers' competence, training and qualification upgrading of the e-learning system users is required.

The work on upgrading the teachers' qualification in use of e-learning system is expected to start in 2011.

The regional centers for new technologies in education will be opened in the regional and municipal education departments to ensure functioning of the e-learning system.

The supply of e-resources and content for e-learning will be organized on the basis of PPP.

Development of technological infrastructure provides for connection of educational institutions to the Internet with the capacity of 4-10mb/s.

Over 90% of educational institutions will be connected to Internet, primarily, the schools working under the pilot projects of resource centers.

Connection to broadband internet, provision of equipment for e-learning and selection of the service suppliers will be carried out in accordance with the legislation of the Republic of Kazakhstan on public procurements.

90% of educational organizations will have Internet-resources with necessary academic resources.

There will be interactive and intellectual digital academic resources developed for each subject studied at the secondary and profession-oriented schools.

Secondary, technical and vocational schools are to be fully provided with digital educational content (text, graphics, music, video, music, etc.)

Electronic educational resources are to be elaborated by the teaching employees (centralized creation and maintenance of media library)

To automate the teaching process, each educational organization will be provided with all necessary equipment, new modification computers and access to broadband internet etc.

The scope of functions for administrator, deputy director, teacher, school student, medical worker and librarian will be developed in 2011.

The school students will keep personal portfolios, calendars and diaries in computerized system. The teacher will fill in an electronic notebook with a

calendar-thematic planning, a class journal, and alerting services (sending an e-mail or SMS to the parents about the coming scheduled and unscheduled meetings and appointments, reporting data and other).

Deputy Director will bear responsibility for teaching load, timetable, monitoring of students' academic performance and attendance, teacher's activity and reporting.

System Administrator will be responsible for maintaining the multi-user system including local and wide area network, telephone and voice-mail systems.

By 2015 the universities will develop their portals on the model of the leading foreign universities. By 2020 there will be 100% provision of access to broadband Internet. In due course time the universities will be connected to the Republican Interuniversity Electronic Library.

## **Preschool education and upbringing**

### **Aim :**

full coverage of children with preschool education and training; ensuring equal access of children to various programs to prepare them for school;

### **Objectives:**

1. Expanding the network of preschool education organizations
2. Renewal of preschool education and upbringing content.
3. Training highly-qualified staff for preschool education and upbringing institutions

### **Target indicator:**

Coverage of children with high-quality preschool education and upbringing at the age of 3-6 (in 2015 – 73.5%, in 2020 – 100%).

### **Expanding the network of preschool education organizations**

By 2015, due to implementation of the “Balapan” state program, the country will have a developed network of public and private kindergartens that will cover up to 70% of children aged from 3 to 6 with high-quality pre-school education and upbringing.

The number of places in pre-school organizations will be increased under the abovementioned program.

Special and inclusive education classrooms will be established to provide special pedagogical assistance to children. By 2015 the number of such classrooms will be raised from 8% to 30% out of the total number of kindergartens.

To preserve and expand the network of special preschool organizations, special kindergartens will be opened in Akmola, Almaty, West Kazakhstan, Kyzylorda and North Kazakhstan regions. The share of special preschool educational organizations will reach 2% by 2015 and 2.5% – by 2020 in Kazakhstan. The share of kindergartens providing unimpeded access to the

organization will be raised from 1% in 2011 to 10% in 2020 (of the total number of kindergartens)

### **Content updating. Staff training**

5 academic programs are expected to be updated in accordance with the leading educational fields of the State Compulsory Standards of Education by 2015.

Each academic program will have a developed teaching and methodical package of materials (5 units per year, 25 in total).

More than 18 thousand teaching employees of preschool education system will be trained in universities and technical and vocational educational organizations by 2015.

Teachers of preschool educational organizations will pass refresher courses.

By 2020:

- Various models of preschool educational organizations will be functioning countrywide (depending on regional peculiarities). Thus, in southern regions there will be cottage kindergartens, family-type nurseries for 5-6 children on the ground of residential houses and with the participation of family members in upbringing activity. In northern regions there will be mini-centers opened on the ground of general secondary schools at the expense of student places surplus. In large towns and cities the ungraded kindergartens and mini-centers will be opened on the first floors of residential houses. “School – Nursery” complexes will be opened in all regions. The nurseries opened in the buildings of large companies, organizations and enterprises will become a good alternative for public kindergartens.
- The amount of places in preschool organizations will be increased from 373, 000 to 662, 000.
- The maximum number of children per group in nurseries will be decreased from 27 to 22 (the average number throughout the country) in accordance with age norms (17 – in nursery, 22 – in intermediate group and 27 – in senior group).
- The number of children covered with pre-school education and upbringing will rise from 70% to 100% out of total amount of children of preschool age.
- 10 academic programs will be updated; 30 teaching and methodical materials will be developed, including 8 – in 2016, 8 – in 2017, 8 – in 2018, 8 – in 2019 and 8 – in 2020.

### **Secondary education**

#### **Aim:**

formation of an intellectually, physically and spiritually developed citizen of the Republic of Kazakhstan in general education institutions, satisfying his/her needs in obtaining education, in order to ensure success in a rapidly changing world; development of competitive human capital for economic prosperity of the country;

#### **Objectives:**

1. Transition to 12-year education model with the renewal of the content of education.
2. Solution of the problems of ungraded schools
3. Improvement of inclusive education system in school.

**Target indicators:**

- Transition to 12-year education model will be completed (in 2015 – 1<sup>st</sup>, 5<sup>th</sup>, 11<sup>th</sup> grades).
- The number of schools built under the “Nazarbayev Intellectual Schools” project countrywide will reach 20 in 2020.
- Share of students who have successfully completed educational programs in science and mathematics will make 60% in 2015 and 70% in 2020.
- Rankings of the students of Kazakhstan’s general education schools in international comparative surveys PISA, TIMSS, PIRLS to make: in 2015 PISA – 50<sup>th</sup>-55<sup>th</sup>, TIMSS – 10<sup>th</sup>-15<sup>th</sup>; in 2020 PISA – 40<sup>th</sup>-45<sup>th</sup>, TIMSS – 10<sup>th</sup>-12<sup>th</sup>, and PIRLS – 10<sup>th</sup>-15<sup>th</sup>;
- Share of schools which have created favorable conditions for inclusive education will rise from 30% in 2015 to 70% in 2020 (out of their total number).
- Share of schools which created conditions for inclusive education to make: in 2015 – 30% and in 2020 – 70% (out of their total number)

**Transition to 12-year-model of schooling**

A new standard of 12-year education based on competitive approach will be developed and implemented.

The change of educational standards is linked to the development of new educational content. The basic principle of the new content will be creation of humane educational environment in each school stimulating development of moral and spiritual features of an individual: self-cognition, self-determination, and self-realization. The high level of moral and spiritual culture will be achieved in educational organizations and in families. All children, pupils, students and teaching employees will master the fundamentals of self-cognition, universal human values development.

The State Compulsory Education Standards will be result-oriented providing personal self-cognition, independence in knowledge obtaining which in turn promotes formation of communicative skills, abilities to operate the information and technologies, abilities to solve problems, zeal and creativity.

In 2011 the State Compulsory Standards of elementary education will be renewed and academic programs will be worked out on the ground of competitive approach to basic secondary and general secondary education.

Since 2015 the experience of the Nazarbayev Intellectual Schools will be implemented in the education system.

In 2012 the State Compulsory Standards of general secondary education will be integrated with the State Compulsory Standards of higher education (baccalaureate) – separate subjects of the general education curriculum of higher

education (e.g. sociology, self-cognition, basics of personal and social safety, history of Kazakhstan, cultural studies and others) will be added to the programs of “Beyindik Mektep” profession-oriented school without enlargement of academic load.

By 2014 the program of profession-oriented education for “Beyindik Mektep” school will be elaborated and tested in the following directions: social sciences and humanities as well as scientific-mathematical field.

Schoolbooks and teaching-methodical materials and e-books will be developed for test schools and 12-year education organizations. Schoolbooks and teaching materials will also be translated and adapted for special educational organizations. The functions on compiling schoolbooks and its expertise will be separated.

Schoolbooks and teaching materials will be developed according to 12-year-model of schooling in 2013 and their expertise will be conducted in 2014.

In 2014 the schoolbooks and teaching materials will be compiled according to 12-year-model of education for the students of the 1<sup>st</sup>, 5<sup>th</sup>, 11<sup>th</sup> grades, in 2015 – for the students of the 2<sup>nd</sup>, 6<sup>th</sup>, 12<sup>th</sup> grades, in 2016 – for the students of the 3<sup>rd</sup>, 4<sup>th</sup>, 7<sup>th</sup> grades and in 2017 – for the students of the 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> grades.

Along with Kazakhstani schoolbooks the secondary education institutions will use high-quality foreign books in mathematics, natural and technical sciences included in the list of schoolbooks authorized by the Ministry of Education and Science of Republic of Kazakhstan.

In 2015 all students of general secondary-education organizations will be provided with free books and digital educational resources at the expense of local budget.

In 2015 gradual transition to the 12-year-model of education will start according to the following scheme:

Years	Under the 12-year-education model	Under the 11-year education model
2015 – 2016	1,5,11	2,3,4,6,7,8,9,11
2016 – 2017	1,2,5,6,11,12	3,4,7,8,9
2017 – 2018	1,2,3,5,6,7,11,12	4,8,9
2018 – 2019	1,2,3,4,5,6,7,8,11,12	9
2019 – 2020	1,2,3,4,5,6,7,8,9,11,12	

Transition from the 9<sup>th</sup> grade of the 11-year school to the 11<sup>th</sup> grade of the 12-year-school will be accomplished from 2015-2016 academic year to 2019-2020 academic year. Education in the 11<sup>th</sup> and 12<sup>th</sup> grades in 12-year schools will be free of charge.

According to preliminary data, as of September 1, 2015 the number of

school students will amount nearly to 2.7 mln.

Among them (in accordance with the 12-year education program):

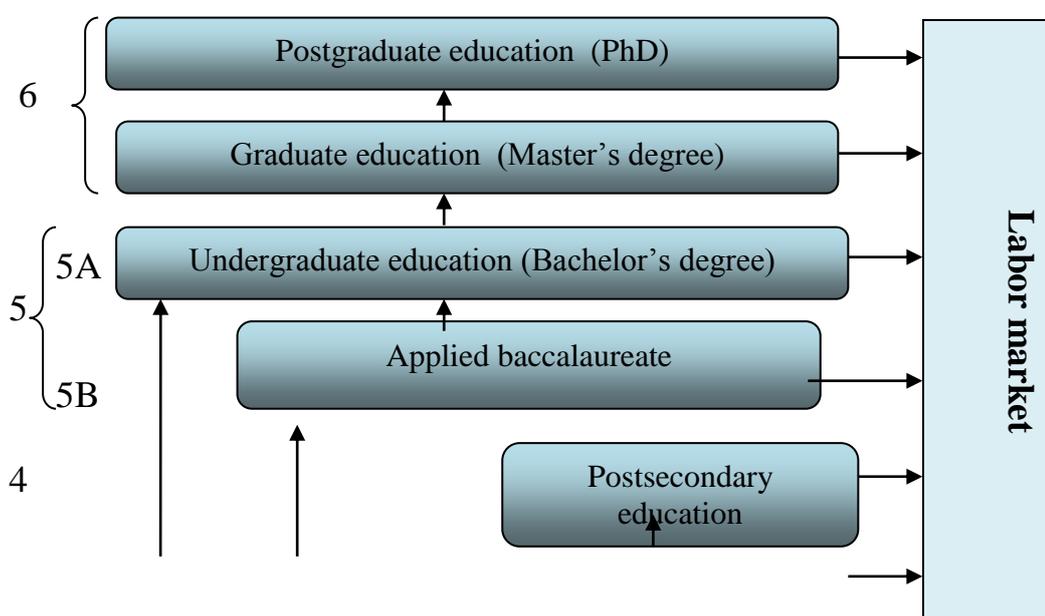
- more than 600 thousand children – in 1<sup>st</sup> grade (nearly 450 thousand of them will be at the age of 6 and 150 thousand – at the age of 7). The anticipated amount of class-suits - about 30 thousand;
- more than 260 thousand children in the 5<sup>th</sup> grade; the anticipated amount of class-suits - about 13 thousand;
- nearly 175 thousand children – in 11<sup>th</sup> grade, with anticipated amount of class-suits – more than 13 thousand.

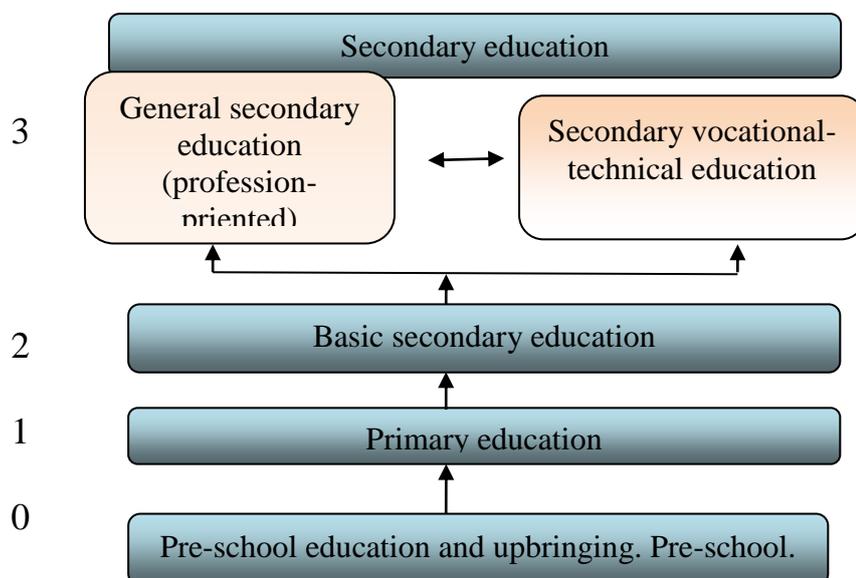
Since 2015 the program of “Beyindik mektep” school will be implemented in the senior classes of general secondary education schools, lyceums, grammar schools, intellectual schools and specialized schools for gifted children.

The admission to profession-oriented schools will be implemented on the basis of the National Testing.

60% of the 10<sup>th</sup> grade graduates are planned to continue their education in profession oriented schools. It will be necessary to open additional profession-oriented schools including those with dormitories. The majority of them will be located in rural areas. At the same time, new schools implementing the program of profession-oriented education will be established on the ground of universities. 40 basic universities have already been determined for this purpose, which will allow placing and teaching students in profession-oriented schools (11<sup>th</sup> and 12<sup>th</sup> grades)

In accordance with the experience gained and international practice, the structure of educational system of Kazakhstan from 2015 on will be brought into compliance with the stages of International Standard Classification of Education. The classifier of majors of technical and vocational, postsecondary education will be reviewed. Separate educational programs of secondary vocational education will be referred to tertiary education (applied baccalaureate) and the status of colleges will be enhanced. For the admission to applied baccalaureate program, the applicants will be required to have completed senior secondary education institution.





Stages of education according to International Standard Classification of Education

The system of external evaluation of the students' academic performance will be developed in compliance with the world experience.

The National Testing will be conducted after finishing primary, basic secondary and profession-oriented school:

- In primary school the National Testing will be held on a selective basis, with a goal to monitor the students' academic performance;
- In basic secondary school (after the 10<sup>th</sup> grade) the National Testing will be organized with a goal to determine further trajectory of education;
- In profession-oriented school the National Testing will focus on evaluation of the students' knowledge and skills.

By 2015, there will be a formed base of tests focused on revealing the students' competence including written tasks.

External exams will be conducted in a form of Computer Based Test with the application of new information technologies.

The candidates for obtaining higher education will take additional profession-oriented exams in the form of irrespectively to the National Testing.

In order to create an innovative, multilingual model of education, the number of schools rendering the education services in three languages will be increased from 33 to 700. The network of the Nazarbayev Intellectual Schools will be expanded from 6 to 20 as well. These schools will become a platform for approbation of multilingual model of education and innovations in education.

Kazakhstani school students will participate in international education quality surveys, like PISA (Programme for International Student Assessment – evaluation of quality of 15 and 16-year-old students' mathematical literacy, reading literacy and knowledge of natural science), TIMSS (The International Math And Science Study – evaluation of quality of 4-8-year-old students' mathematical literacy and natural science knowledge), PIRLS (Progress in International Reading Literacy Study – comparison of level and quality of reading and text comprehension by the students of elementary schools all over the world), TIMSS

ADVANCED (the evaluation of mathematical and natural science literacy (Physics) in classes with in-depth study of these subjects by 11<sup>th</sup> grade students), ICILS (the evaluation of computer science and information literacy of the 8<sup>th</sup> grade students).

In accordance with the requirements of the 12-year education model, the material and technical base of the schools will be renewed.

The problems of providing the school gyms with up-to-date equipment will be solved.

At the expense of local budget the schools will be equipped by new modification classrooms – the classrooms of physics, chemistry, biology, multimedia language labs with their maintenance service. The percentage of such classrooms will rise from 35.6% to 80%.

In 2011 technical conditions for the profession-oriented schools and the requirements to their equipment will be worked out.

In order to liquidate three-shift work and reduce the accident rates in schools new schools will be built.

### **Solution of the problems of ungraded schools**

The following measures will be launched to improve the quality of education in ungraded schools:

In 2011:

- A National Center for Development of Ungraded Schools will be established on the ground of the Altynsarin National Academy of Education; 14 regional centers will be opened in the organizations implementing the qualification upgrading programs for teaching employees, and model rules of ungraded schools activity will be developed.
- A standard “Provision of free school bus transportation from home to school and back to the students and foster children living in settlements without schools, will be developed and approved.

Starting from 2011:

- All ungraded schools with 10 and more students will be provided with new modification computers and access to the broadband Internet. Distance learning will be organized within the “e-learning” system.
- 160 supporting schools will be opened.

A supporting school (resource center) is an educational organization on the base of which the educational resources of neighboring ungraded schools are consolidated. There will be several ungraded schools assigned to each resource centre. The students of ungraded schools study for 10 days three times a year in the supporting school (at the beginning, in the middle and at the end of the academic year) and pass intermediate and final examination there. During the inter-session period the teaching-learning process in ungraded schools is conducted with the participation of teachers from supporting schools and with the help of distance technologies. Thus, resource centers will provide the students of ungraded schools with the access to quality education.

By 2020 the ungraded schools will be functioning, generally, for primary

and general secondary education.

The problem of ungraded schools will be solved due to supporting schools (resource centers), boarding schools and transportation services.

### **Improvement of the inclusive education system in school**

To solve this problem, by 2015:

- modular programs of integrated education for children with disabilities will be developed
- rules of integrated education for children with disabilities in general education environment will be elaborated, and forms of integration for disabled children will be defined;
- rules of organization of distance learning for disabled children will be elaborated

By 2020 the schools will establish barrier-free zones for disabled children by means of installation of lifting devices and ramps, special equipment in sanitary rooms, installation of handrails, special desks, tables etc.

3,030 schools will create favorable conditions for ensuring equal access to teaching and upbringing of disabled children (availability of teachers-defectologists, psychological-pedagogical accompaniment of children, and special individual technical and compensatory facilities).

The disabled children studying at home will be provided with a set of computer hardware and software.

Except for the abovementioned issues there is a number of other ones requiring solution

The content of extended education will be improved.

The content of children's extended education in basic areas – artistic-aesthetic, scientific and technical, ecological-biologic, tourist and regional study, military-patriotic, social-pedagogical, educational-recreational etc. – will be renewed in order to form competitive advantages of an individual in creative activity, continuous education and vocational self-determination.

The program of training the teachers of extended education and teachers-organizers for related professions will be improved.

By 2015 the network of extended education organizations will be increased and will reach 625.

This will allow increasing the coverage of children with extended education by 23%. Nonschool forms of physical education organization will be improved by means of establishment of sport leagues in schools.

The public associations of children on encouragement of public and social activity of school students through competitions and olympiads, extended education, providing individualized psychological-pedagogical accompaniment for each student to prevent administrative offences and other asocial occurrences will be developed.

## **Ensuring effective universal compulsory education management. School nutrition and medical service organization**

### **Universal Compulsory Education**

A common interdepartmental information system of monitoring the performance of the students studying under “Vseobuch” (Universal Compulsory Education) program is to be implemented in 2015. This system will also include a database of personal registration of children “at risk” not covered with education.

The application of “Vseobuch” system will help coordinate the actions of different regulatory bodies functionally involved to the implementation of “Vseobuch” program and will allow getting real information about the children covered with compulsory secondary education.

### **School nutrition**

Since 2011 the education departments of the regions, Astana and Almaty cities will establish inter-departmental expert groups for monitoring the organization of school nutrition as well as the quality and safety of food for the students and educatees of the educational institutions.

The indicator of provision of school students with free fortified hot meals will be included in the rating of all mayors and governors: in 2012 – for the students from low-income families and in 2020 – for the students of preschool and primary education organizations.

By 2015 100% of students from low-income families and 100% of students of primary and pre-school grades will be provided with free fortified hot meals.

By 2020 100% of secondary schools in rural areas will be provided with fully functioning canteens.

By 2020 all school students will be provided with ecologically clean drinking water after the installation of stationary water purification systems, water dispensers etc.

### **Medical service**

By 2015 all school children in Kazakhstan, including those living in rural areas, will be covered with medical examination.

The percentage of school-age children who must undergo regular prophylactic medical examination will be decreased from 70% to 50%, the gastrointestinal tract diseases among the schoolchildren’s will be reduced from 28.2% to 18%, scoliosis (a violation of posture) will be decreased from 2% to 1%.

60% of medically fragile children will have an opportunity to attend physical education lessons in special medical teams.

Thus, according to the “Secondary education” direction, by 2020:

- A 12-year-old model of education will be implemented in all schools;
- The infrastructure of secondary education will be developed and the material-technical base of the schools will be improved;
- Ungraded schools will be included in one common information network;

- Extended education will become prestigious for students and will promote professional growth of a person. 30%-50% of students will be covered with extended education;
- The system of inclusive education will be introduced;
- The percentage of schools that have created favorable conditions for inclusive education will be increased to 70%;
- The percentage of schools that created “barrier-free access” for disabled children will make 20% (of total amount of school);
- The percentage of children covered with inclusive education – 50% (of the total number of disabled children);
- The medical service and school nutrition management will be organized;
- The students will have the opportunity to receive high-quality medical service. The measures on the opening of medical stations in general secondary-education schools and provision of their functioning, will be assumed;
- 16 energy-saving school nutrition facilities will be built on the basis of PPP in Astana and Almaty cities; material-technical base of school nutrition facilities in 50% of the country’s schools will be modernized; the system of monitoring the organization of fortified and safe school nutrition will be introduced.

### **Technical and vocational education**

#### **Aim:**

modernization of the system of technical and vocational education in accordance with the demands of society and industrial-innovative development of economy, integration into the global educational space;

#### **Objectives:**

1. Updating the structure of technical and vocational education content in accordance with the requirements of industrial-innovative economic development.
2. Development of infrastructure of staff training for sectors of economy.
3. Enhancing prestige of technical and vocational education.

#### **Target indicators:**

Share of technical and vocational school graduates who passed independent assessment of qualification in the employers’ associations at the first try (out of the total number of assessment participants) to make: 60% - in 2015 and 80% – in 2020.

Share of working and employed graduates of technical and vocational schools in the first year after graduation who have studied under the government grant scheme: 78% – in 2015, 80% – in 2020

Share of colleges which passed national institutional accreditation to make: 10% – in 2015, 30% – in 2020.

## **Updating the structure of technical and vocational education content in accordance with the requirements of industrial-innovative economic development**

The structure of staff training will be regulated according to the National and sectoral qualifications framework.

Staff training will be carried out in compliance with forecasting demands of labor market.

In conformity with the requirements of professional standards:

- The State Compulsory Standards of technical and vocational education and educational programs will be renewed;
- Model curricula on special subjects as well as special literature will be developed;
- Modular programs for obtaining several qualifications will be worked out, a databank of modular programs will be created.

To develop practical skills of students the percentage of vocational practice in the curriculum will be increased to 60%. For this purpose the base for practice will be extended through establishment of partnership with the employers.

The modern educational technologies forming the required competence in students will be introduced to educational process.

The scientific and methodological basis of technical and vocational education system will be improved on the basis of the best world experience and results of applied researches. Republican and regional teaching and methodical training rooms will be functioning countrywide, and the libraries of technical and vocational education organizations will be refilled with necessary academic literature.

## **Development of staff training infrastructure for sectors of economy**

In order to ensure the availability of vocational education to the young people the number of places in vocational lyceums and dormitories will be increased due to construction of new educational facilities and dormitories. 4 interregional vocational centers will be functioning in: Atyrau – for O&G, Elibastuz – for fuel and energy sector, Shymkent – for processing industry sector, and in Ust Kamenogorsk – for mechanical engineering sector.

The educational institutions will be assigned, on a contractual basis, to major enterprises for industrial placement and internships.

More than 70% of public technical and vocational education institutions will be refitted with modern teaching-industrial and technological equipment, and information technologies. The funds for renewal and re-equipment of educational institutions will be taken from the local and national budget, employers and borrowings from international organizations.

The quality of highly-qualified staff training, including “apprenticeship”, will be regulated through the implementation of an independent system of certification of specialists’ qualification in the sectors of economy.

To provide the competitiveness of the staff and attract additional funds, the technical and vocational education institutions will be assigned to national

holdings and companies, transnational enterprises and foreign investors, according to the profile of specialist training, by means of co-establishment as well.

The targeted financial support system of educational institutions implementing the innovation programs of development within the World Bank's loan will be created.

### **Enhancing prestige of technical and vocational education**

For the purpose of enhancing attractiveness and prestige of obtaining technical and vocational education:

- Career guidance centers (structural subdivisions of educational organizations) will be founded in technical and vocational education institutions experiencing lack of social-pedagogical service;
- Republican competitions such as "The Best Educational Institution" and "The Best in Profession" will be organized among the students, masters of vocational training and teachers of special subjects;
- The best students will participate in international competitions of professional skills.

The gifted students inclined to inventive and rationalization activity and to technical creativity, will be revealed and supported (through grants, employers' scholarship programs, competitions organized and funded by employers).

The database of certified graduates will be created in interrelation with the base of vacancies in labor market in order to render assistance in employment of the graduates.

The interaction of republican, regional and sectoral boards on the development of technical and vocational education will ensure active involvement of business and professional association in technical and vocational education development, staff training and employment through concluding a contract between an educational organization, an enterprise and a student.

By 2020:

- Staff training on the basis of national qualification system will fully conform to the requirements of labor market.
- Teaching and industrial workshops and laboratories of educational institutions will be equipped with modern educational-manufacturing and technological facilities and information technologies.
- Cooperative learning will be widely implemented
- Technical and vocational education will be attractive and prestigious for the youth.
- Business and professional associates will take an active part in development of technical and vocational education and staff training.
- Independent centers of qualification certification with the participation of employers will be functioning in the sectors of economy.

### **Undergraduate, graduate and postgraduate education**

**Aim:**

achievement of a high level of higher education quality meeting the demands of labor market, the objectives of industrial-innovative development of the country, satisfying the needs of a person and conforming to the world's best practice in education

**Objectives:**

1. training staff for undergraduate and post-graduate degrees and meeting the demands of the country's industrial-innovative development;
2. integration into European higher education space;
3. integration of education, science and industry; creation of conditions for commercialization of intellectual property products and technologies. Training highly-qualified scientific and scientific-pedagogical staff;

**Target indicators:**

- Share of university graduates who have passed independent assessment of qualification in the associations of employers at the first try (out of the total number of participants) – 80% in 2020;
- Share of university graduates who completed education under the government grant scheme and employed within their specialization in the first year after graduation – 78% in 2015 and 80% in 2020;
- Number of Kazakhstani universities listed in the ratings of the world's best universities – 1 in 2015, 2 in 2020;
- Share of universities that passed independent national institutional accreditation according to international standards – 50% in 2015 and 65% in 2020;
- Share of universities that passed independent national specialized accreditation according to international standards – 20% in 2015 and 30% in 2020.
- Share of universities carrying out innovative activity through integration of education and science and implementation of domestic research results into production – 2% in 2015 and 5% in 2020;
- Share of faculty and pedagogical workers who have published their works in impact-factor scientific journals in the past 5 years – 2% in 2015 and 5% in 2020.

**Training staff for undergraduate, graduate and post-graduate degrees, meeting the needs of innovative and industrial development**

The structure of the government educational grant scheme will be changed in accordance with the needs of forced industrial innovative development.

The government educational grant scheme will be expanded in the majors, which correspond to the priorities of the State Program of Forced Industrial-Innovative Development for 2010-2014.

The educational organizations, enterprises and students studying on the government educational grant scheme in the higher educational institutions, focusing on training the professionals for the projects of the State Program of Forced Industrial-Innovative Development, enter into agreements on organization of internships and further employment.

100% of the Bolashak Program fellows will study under the master's and PhD degree programs, will do research internships for the duration of one term to one academic year.

Training of specialists with undergraduate, graduate and post-graduate education based on inter-department ties between the universities is planned to be organized.

The internships for the students of teaching and technical professions at the industrial enterprises will be extended.

Consortiums of higher educational institutions, profession-oriented scientific organizations and enterprises are planned to be established on the ground of universities for creation of science-intensive products and services.

Social partners will allocate grants and scholarships (5 grants/ scholarships per each project of the State Program of Forced Industrial-Innovative Development) for training the staff for the Program's implementation.

The enterprises implementing the Forced Industrial-Innovative Development projects will launch industrial placement.

### **Integration into the European higher education space through bringing the content and structure of higher education into compliance with the Bologna process**

The following obligatory and non-binding parameters will be performed within the frames of the Bologna process:

- Academic freedom – the share of elective courses in the content and structure of curriculums will rise up to 70% for bachelor's degree, up to 80% – for master's degree and up to 90%-95% – for PhD.
- For the purpose of development of academic mobility as a principle of the Bologna process, the students will be sent abroad for studying at least for one academic term within the entire education period, which includes also studying under the Bolashak Presidential Scholarship Program.
- Upbringing work in universities will be enhanced;
- Corruption level will be decreased;
- The principles of university autonomy in academic, financial and management activities will be implemented;
- The share of general education disciplines in the structure of the curricula for baccalaureate will be reduced from 25% to 15% under the 12-year education program;
- A mechanism of quick respond of the universities' educational programs to the labor market's demands will be implemented – modular curricula will be developed;
- A Center for the Bologna Process and Academic Mobility will be established.

A National Qualification System will be established by the authorized labor and employment body together with branch ministries and employers

- The existing qualifications of different levels of education will be combined in multileveled system of qualifications which will be recognized at the national and international labor markets.

- The employers' associations will develop professional standards corresponding to the qualification requirements within the certain major.

- The system of independent quality assessment and certification of the professional skills and qualifications of the specialist will be introduced.

The educational programs developed by the higher educational institutions will correspond to the requirements of the National Qualification System.

The system of classification of the higher educational institutions of the Republic depending on the implemented educational programs and scope of scientific-research activity will be created: national research universities, national higher educational institutions, research universities, universities, academies and institutes.

The principles of autonomy of the higher educational institutions will be developed. University autonomy is the independence of a university in carrying out its educational, scientific, financial, international and other activity, on the model of the Nazarbayev University. The state higher educational institutions will become autonomous noncommercial organizations. Alongside, the universities will be subordinated to the boards of trustees which will be established too. Besides, mechanisms of ensuring transparency of the universities' activity will be developed.

A mechanism of appointment of rectors at the state universities will be improved.

Stage-by-stage granting of autonomy to the country's universities is planned. Since 2015 autonomy will be granted to the national research universities, since 2016 – to national higher education institutions and since 2018 – to other higher educational organizations.

The work on development of curricula in accordance with the priority directions of the Forced Industrial-Innovative Development Program will be continued beginning from 2016.

### **Ensuring high efficiency of the system of higher education quality assessment**

The accreditation of the higher educational institutions will be conducted by the accreditation organizations, included in the Register of an authorized body.

By 2020 the national accrediting bodies will be included into the Register of Accrediting Agencies (European Quality Assurance Register).

Since 2012 the accreditation will be carried out by the noncommercial non-government accrediting agencies.

The conditions motivating the higher educational institutions to pass the National Accreditation will be developed. In particular, the higher educational institutions, which have already passed the institutional and specialized accreditation in the agencies included into the Register of the authorized body, will be released from the state certification on accredited programs during the period of accreditation. They will be able to issue diplomas of their own pattern, to implement higher level programs, to provide educational services under the Public Educational Contract.

Since 2015 the state certification system will be fully replaced by National Institutional Accreditation for the higher educational institutions and colleges. The state control will be carried out by the state bodies in the form of license checking.

The national higher educational institutions will have to undergo an international specialized accreditation together with the national one.

65% of Kazakhstani higher educational institutions will pass the independent National Institutional Accreditation in accordance with international standards. The higher educational institutions will also pass the independent National Specialized Accreditation.

The state financial support will be rendered for conducting the national independent ratings.

The higher educational institutions of Kazakhstan will also participate in the ratings of the best universities of the world. At least 2 universities will be listed in the world's best university rankings.

### **Development of material-technical base of the higher educational institutions**

Beginning from 2014 the share of higher educational institutions renewing their educational and laboratory base will be increased by 10%. The funds for the development of material and technical base of universities will be provided under the PPP scheme.

4 centers will be established on the ground of higher educational institutions:

- Business Innovation Center (high science and innovations)
- Center for Non-Occupational Professions and Welding Center
- Center for Food Security with a Mini Workshop for Food Technologies
- Translation Agency

Teaching-methodical manuals will be developed and published; the schoolbooks will be translated into the Kazakh language; the university libraries will be provided with all necessary educational literature. The best foreign school books will be used in educational process as well, in particular, those related to economics, engineering and science.

### **Ensuring integration of education, science and production. Creation of conditions for commercialization of intellectual property products and technologies. Training highly-qualified scientific-pedagogical staff.**

The research universities will be involved in the organization and implementation of the fundamental and applied scientific researches and other

scientific-technical, experimental-design work, development program of which is certified by the Government of the Republic of Kazakhstan. The main objective of the research universities will be the integration of scientific activity and educational process at all levels of higher and postgraduate education. A research university has the right to develop and implement educational programs of higher and postgraduate education and also to set additional requirements of professional orientation while admitting to study.

The integration of education and science will be implemented through transfer of separate scientific research institutions to the leading research universities with the right of legal independence.

Certain mechanisms of selecting the universities will be developed for establishing the following innovative structures:

*Business- incubators:*

For Power Engineering sector – in 2013, for Oil Processing and O&G Infrastructure – in 2014, and for Chemical Industry – 2015;

*Technological Parks:*

For Metallurgy and Manufacture of Fabricated Metal Products – in 2013, for Mechanical Engineering – in 2014, and for Light Industry – in 2015.

*Centers for Commercialization of Scientific Research Results and Technologies*

With the goal of training highly-qualified scientific-pedagogical staff and development of innovative activity, the leading universities of the country will open joint structural subdivisions of scientific and research-design organizations for conducting various researches, creating competitive products of intellectual property with further protection of intellectual property rights: in 2011 there will be 5 joint structural subdivisions, in 2012 – 8, in 2013 – 10, in 2014 – 12 and in 2015 – 5.

The measures of economic stimulation of private sector and its engagement into scientific and innovative activity have been developed.

Beginning from 2015 the first graduates of the Nazarbayev University will join the highly-qualified specialists and young scientists of the country. The experience of the Nazarbayev University will be gradually applied in the existing higher educational institutions of the country.

Beginning from 2016:

-the university curricula will be developed together with the leading foreign higher educational institutions-partners;

- scientific researches in the priority sectors of economy will be conducted for establishment of high technological and science-intensive productions.

-cooperation with partner universities and foreign scientific centers will be established

As a result, the scientific potential of the universities will be more efficiently used for expanding the fundamental and applied researches; their complexity and effectiveness will be raised.

## **Lifelong education**

### **Aim:**

ensuring life-long education

### **Objective:**

Creation of conditions for lifelong education, education for all

### **Target indicator**

Implementation of various forms and types of education for all ages.

Lifelong education will become possible due to provision of opportunities for satisfying human's educational needs at all levels of study.

By 2020 the country will create favorable conditions for lifelong education regardless of the level of education and professional qualification.

The entire population regardless of age and social status will be able to acquire and improve the basic skills through various forms of teaching in technical and vocational education, higher education and those provided by private suppliers of educational services (distance learning, short-term refresher courses, formal, informal, inclusive). Part-time study will be provided jointly with the educational institutions as well as social partners.

Since 2016 the educational institutions of Kazakhstan will start creating conditions for professional training of people with disabilities, and modular curricula will be developed.

Voucher system of refresher courses for adult population will be developed.

Working in production sector a person will be able to choose the types, paces and terms of education himself and individualize the process of education obtaining. Efficient measures on recognition of the results of study provided by public and private suppliers of educational services will be developed through an assessment of their qualification in independent non-commercial agencies issuing also certificates.

Lifelong education will let the people get education beginning from preschool to post-retirement age including the whole range of formal and informal forms of study and inclusive education.

Establishment of advisory-practical centers in universities training the specialists for a certain profession will promote development of lifelong education.

The employers will be involved in co-financing of educational programs and development of flexible schemes allowing each employee joining lifelong education.

A new system of continuous learning of the Kazakh language "kindergarten – school, vocational lyceum, college – higher educational institution" will be created which will allow every Kazakhstani citizen acquire the state language in full.

The system of evaluation of the level of the Kazakh language– KAZTEST – will be introduced. The given system provides for issuance of certificates for the

citizens of Kazakhstan (school students, university students, graduate program students, employees of various organizations) and foreign citizens working in Kazakhstan.

## **Upbringing work and youth policy**

### **Aim:**

encouragement of active citizenship social responsibility, sense of patriotism, high moral and leadership qualities among young people

### **Objective:**

implementation of a package of measures on patriotic education, encouragement of active citizenship, social responsibility and a mechanism of revealing youth potential;

### **Target indicator:**

Share of young people actively involved in implementation of the measures in the sphere of youth policy and patriotic education will reach 27% in 2015 and 55% in 2020 (out of the total number of youth).

Implementation of youth policy will be based on upbringing of Kazakhstan patriotism, moral and spiritual culture, formation of national identity.

### *Since 2011:*

- regional and national social services carrying out their activities within the non-governmental youth organizations under the public social contract will be developed further with the goal of rendering advisory, information-analytical, teaching and other services;
- as part of the public social contract, the volunteer, military-patriotic organizations, military-sports, military- reconnaissance and sports-technical clubs will be expanded from 20 to 30
- the network of sports clubs in educational institutions will be expanded
- popularization of state symbols, building knowledge in history, traditions and the Kazakh language will be regularly organized for upbringing Kazakhstan patriotism
- concerted measures aimed at development of culture of charity among the young people of Kazakhstan will be launched through the implementation of various projects;

For the purpose of establishment of a centralized system of coordinating the activity of the non-governmental youth organizations and youth, by the example of Almaty city, a Department for Youth Policy will be established.

The work with children with deviant and delinquent behavior will be enhanced. Prevention of deviant behavior will be possible due to interaction of

various factors, namely, families, schools, leisure environment and society.

Besides, particular attention will be given to the activity of special organizations and special educational structures providing education and upbringing, social rehabilitation of the children with deviant and delinquent behavior.

Since the centers for temporary isolation, adaptation and rehabilitation of minors are transferred to the system of education, they will be reorganized into the centers for adaptation of minors (hereinafter - CAM).

The main objective of the CAMs will rendering assistance in overcoming a crisis situation and reuniting the child with his/her family and further support of the family.

In general, the upbringing work will be in spotlight of the Program.

### **Implementation of mechanisms of youth potential revealing**

In order to ensure more active participation of the youth in solution of problems in the sphere of youth policy, the presence of young people in representative bodies is necessitated.

Active young people with good organizational and leadership skills as well as heads of youth organizations are expected to undergo training under the various social projects.

With the aim of supporting creative youth, it is proposed to hold annual national competitions, games, tournaments, the Club of Funny and Inventive, the Delphic Games and ensuring participation of Kazakhstan's national teams in international competitions, tournaments and games.

Thus, support of creative youth aims at increasing the number of participants of the Delphic Games up to 2000 people by 2020.

In order to strengthen the scientific-technical potential of the republic, it is planned to attract the unions of creative and innovative young people to the work of scientific organizations and universities.

The inter-departmental work on development of long-term competition projects in culture, arts, science and information technologies will be intensified.

In 2020:

- share of young people running for representative bodies will reach 15%;
- 29% of youth will be engaged in the activity of youth organizations
- share of youth organizations involved in implementation of socially important projects under the public social contract will make 24%.

## **6. Stages of implementation of the program**

In today's conditions labor productivity should make a long-term basis for economic prosperity and competitiveness, which strategic resource is human capital. State should contribute to the development of this resource.

Development of modern infrastructure, establishment of an effective state mechanism and creation of a favorable business environment are impossible without educated people.

Political will and comprehensive state support will underlie these reforms.

The program will be realized in two stages: 2011 - 2015 and 2016 -2020.

The first stage of the program's implementation (2011-2015) provides for elaboration of the models of education development in separate directions, their approbation as well as launch of large-scale events and experiments.

The second stage (2016-2020) will focus on implementation of the events aimed at acquisition of equipment, investing in solution of the education development tasks (modernization of education infrastructure and other high-value works, staffing, information and methodical support), implementation of the measures on introduction and dissemination results gained at the previous stages.

The indicators characterizing the course of the Program's implementation for every year and the impact of the program events on education system are to be changed at each stage.

#### **Expected results:**

In 2015, the transition period will be completed, and the education system of the Republic of Kazakhstan will correspond to the models of developed countries in its structure, content, management and financing mechanisms.

Kazakhstan will rank among the leading CIS states in education development results.

By 2020 the reforms in education system will result in high-quality education and high level of human capital development which will be confirmed by international indicators.

The following socio-economic effect will be reached:

#### **By 2015**

1. Development of a new financial-economic mechanism.
2. Establishment of e-learning system.
3. Transition to 12-year model of education began.
4. Basis for National Qualification System established.
5. School and university education programs integrated.
6. Integration of higher education, science and production started.

#### **By 2020**

1. Competitiveness and effectiveness of economy of the country will be increased, due to improvement of human capital quality and rational use of labor resources

2. Material-technical base of educational institutions will be strengthened due to use of new principles of design, construction and reconstruction. Old and dilapidated educational facilities will be liquidated. Technological and social infrastructure of education (renewed kitchens and gyms, car park, computers, etc.) will be modernized.

3. More efficient use of budgetary funds.

4. Access to education, its quality and transparency will be increased, corporate governance principles will be implemented.

5. A new financial and economic mechanism will be implemented; financing of secondary, technical and vocational education institutions will be

based on per capita normative principles while qualification upgrading system will be financed on a voucher basis.

6. Implementation of various forms of preschool upbringing and education, formation of children's readiness to school, ensuring early positive socialization.

7. Creation of the model of a profession-oriented school with the use of individual trajectories of student learning.

8. Provision of all students with online access to worldwide educational information resources.

9. Implementation of a regional system of education quality assessment.

10. Creation of a system of inclusive education, ensuring an appropriate level of pre-school education and upbringing, school education and vocational training for disabled children and adults.

11. Training of teachers of new formation across the republic in sufficient number and appropriate qualification. Implementation of the system of economic and social motivation of teachers' work, flexible system of teacher' wages raising it to average wage level in the country and stimulating the quality of teaching activity.

12. Increase in share of education in the internal market, increase in the volume and structure of export of educational services to the education system of the country.

13. Formation of a flexible system of continuing vocational education meeting the labor market needs, contributing to the professional, career and personal growth of citizens.

14. Implementation of PPP in education.

15. Increase in the number of vocational education programs and universities that passed national and international accreditation.

16. Training of teaching staff with advanced scientific knowledge and capable to contribute to the innovative development of the country.

17. Creation and implementation of competitive scientific and technical products.

18. Participation of young people in youth policy activities will increase up to 55%.

## **7. Required resources**

In 2011 - 2020 stage-by-stage increase in budget expenditures for education is expected; by 2020 their share in GDP is planned to be raised to the average level of developed countries.

A new differentiated system of labor payment with the consideration of teaching activity specifics will be developed and implemented.

A set of measures aimed at support of ungraded school teachers will be launched.

### **Estimated cost (capital and current)**

The expenditures on development of information and communication technologies and e-learning system, construction of new schools instead of 3-shift and old ones, profession-oriented schools, Nazarbayev Intellectual Schools, attraction of foreign scientists and consultants to the leading universities of the country, government educational grants for admission to master's degree and PhD programs dominate in the structure of expenditures.

KZT 461.1 bln is to be allocated from the national budget for implementation of the first stage of the Program, including:

KZT 59.7 bln - in 2011

KZT 62.3 bln - in 2012

KZT 52.8 bln - in 2013

KZT 145.9 bln – in 2014

KZT 140.4 bln – in 2015

Financing the activities under the current Program from the local budget will be provided within the funds envisaged annually in the corresponding local budgets for education development.

The volume of financing the Program in 2011-2015 will be specified while approving the national budget for corresponding fiscal year in conformity with the legislation of the Republic of Kazakhstan.