Nazarbayev Intellectual Schools NIS

ANNUAL REPORT

NAZARBAYEV INTELLECTUAL SCHOOLS
Autonomous educational organisation

2019

PART 1
WORK OF NAZARBAYEV INTELLECTUAL SCHOOLS AEO

CONTENTS

Dear colleagues, teachers, parents and partners!

Nazarbayev Intellectual Schools Autonomous Educational Organization (hereinafter referred to as NIS) has entered a new decade with the aim of implementing NIS 2030 Development Strategy.

This report presents the results and achievements of NIS in 2019.

Intellectual schools in Kostanay and Petropavlovsk have received international accreditation, completing the process of international accreditation of Nazarbayev Intellectual Schools (CIS, Netherlands). Thus, the official instruction from the Supreme Board of Trustees was fulfilled.

> *"The process of international accreditation of all Nazarbayev Intellectual Schools is to be completed by the end of 2019"*
>
> *Minutes dated 27 May, 2017*

Nazarbayev Intellectual School of Nur-Sultan has successfully confirmed the authorisation of the International Baccalaureate Diploma Programme.

International school of Nur-Sultan has received authorisation of the International Baccalaureate Middle Years Programme and Diploma Programme.

NIS was the first in Kazakhstan to win the 2019 UNESCO Wenhui Award in the field of education.

According to PISA 2018, the results of the Intellectual school students were higher than the average of OECD countries and are among the top ten countries in reading, mathematics and science.

According to the results of the Republican competition of scientific projects, the team of the Intellectual schools was awarded the Grand Prix in the nomination "Best Team – 2019".

47 NIS students received the copyright certificates and patents for a range of intellectual products and start up projects recognised at the national and international levels.

In the 2018-2019 academic year, a team of the Intellectual school students won the 1st place at the Republican Science and Mathematics Olympiad.

The team of Intellectual schools in robotics continuously performs high in international competitions. The team entered the top three at the WRO - 2019 (World Robot Olympiad) Championship, which took place in the city of Gyor, Hungary.

The average IELTS band score of NIS students in 2019 was 6.5. Every 3rd student has an IELTS certificate with a band score of 7 and higher, 5% of students - 8 and higher.

The 2018-2019 graduates of all Intellectual schools successfully entered the leading universities in Kazakhstan and abroad, with 4 graduates having entered the Ivy League universities (USA), 32 graduates – the Top 50 and 66 graduates – the Top 100 universities according to the QS World University Rankings. More than 90% of graduates received educational grants.

Main events of NIS in the 2018-2019 academic year:

At the initiative of Yelbassy Nursultan Nazarbayev – the First President of the Republic of Kazakhstan – 2019 was declared the Year of Youth. Students of the Intellectual schools Aknazar Kazhymurat, Selimzhan Chalyshkan, Ivan Krepak and Nurdaulet Taumergenov took part in the opening ceremony of the Year of Youth in Kazakhstan.

As part of the celebration of the winners of the 2019 Nazarbayev Fund Schools Challenge, Yelbassy Nursultan Nazarbayev met with the laureates of the First President Fund Award and the talented youth of Kazakhstan. The Grade 11 students of the Intellectual School of Physics and Mathematics of Nur-Sultan Yegor Kozhin and Yelaman Moldagali took part at the meeting, as the winners of the competition. Participants designed the concept of a super-efficient line aircraft for Air Astana in an aerospace competition.

The President of Kazakhstan Kassym-Zhomart Tokayev visited Nazarbayev Intellectual School of Chemistry and Biology in Pavlodar. During the meeting, Kassym-Zhomart Tokayev got acquainted with the work of the Model United Nations school club, visited the Kazakhstan in the Modern World classroom, and the regional stage of WRO-2019 attended by more than 350 students from throughout the region.

"Education is an invaluable asset," said Kassym-Zhomart Tokayev. "Therefore one has to relentlessly strive for knowledge. And the Intellectual schools provide an excellent environment for learning."

With the support of the World Association of Kazakhs and the Otandastar Foundation, NIS organised the summer school "Heirs of the Great Steppe" to bring together 150 children of the Kazakh diaspora from 7 countries (Russia, Iran, Mongolia, Turkmenistan, Tajikistan, Uzbekistan and Kyrgyzstan. An agreement with the Swiss Education Group (SEG) has been reached to allow NIS graduates to enter the Swiss universities without foundation studies and entrance examinations based on the final exam results (NIS Grade 12 Certificate) and English language proficiency (IELTS/TOEFL).

The Intellectual schools launched a project aimed at establishing NIS-engineering creative laboratories with access to technological equipment (3D printers, laser machines, milling machines, press dies, cutting plotters, 3D scanners). For the first time in the history of the Intellectual Schools, the Mathematics teacher of the Intellectual School of Taldykorgan Sergei Polyanskikh gained the "Teacher-Master" degree of qualification.

The XI International Conference "Teachers Changing the World of Schooling" was held in October 2019. The Conference was organised in partnership with the Akimat of Nur-Sultan and attended by more than 2 thousand teachers from Kazakhstan and abroad.

Dissemination of NIS experience is carried out consistently in several areas and involves renewing the content of education and learning resources, methodological support and in-service teacher training, partnerships at the national level and international cooperation.

NIS undertakes further work as the national coordinator of Kazakhstan for the OECD Education 2030 project, the WALS (World Association of Lesson Studies) Council member.

In 2019, NIS Centre of Excellence received confirmation of unconditional international accreditation of eight teacher training course programmes by the Accreditation, Certification and Quality Assurance Institute (ACQUIN, Germany).

International cooperation is expanded through the work with UN structural departments (UNESCO, UNDP, UNICEF), the EU project "Support to the Education sector in Turkmenistan", etc.

A joint project of NIS and the Akimat of the

West Kazakhstan region aimed at modernising the content of education and the organisation of the educational process in Zh. Dosmukhamedov Higher Pedagogical College was implemented in the area of primary school teacher training.

To sum up NIS activities, it should be noted that the year 2019 was full of students' achievements, favourable for implementing new projects, recognition of the Intellectual schools at the international educational arena.

NIS continues the consistent work on implementing the main areas of the 2030 Development Strategy, taking into account new challenges and world trends in the secondary education system.

Chairperson of the Board
of the "Nazarbayev Intellectual Schools" AEO
K. Shamshidinova

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1 STUDENTS

1.1. NETWORK AND STUDENT POPULATION

At the end of 2019 NIS network includes:

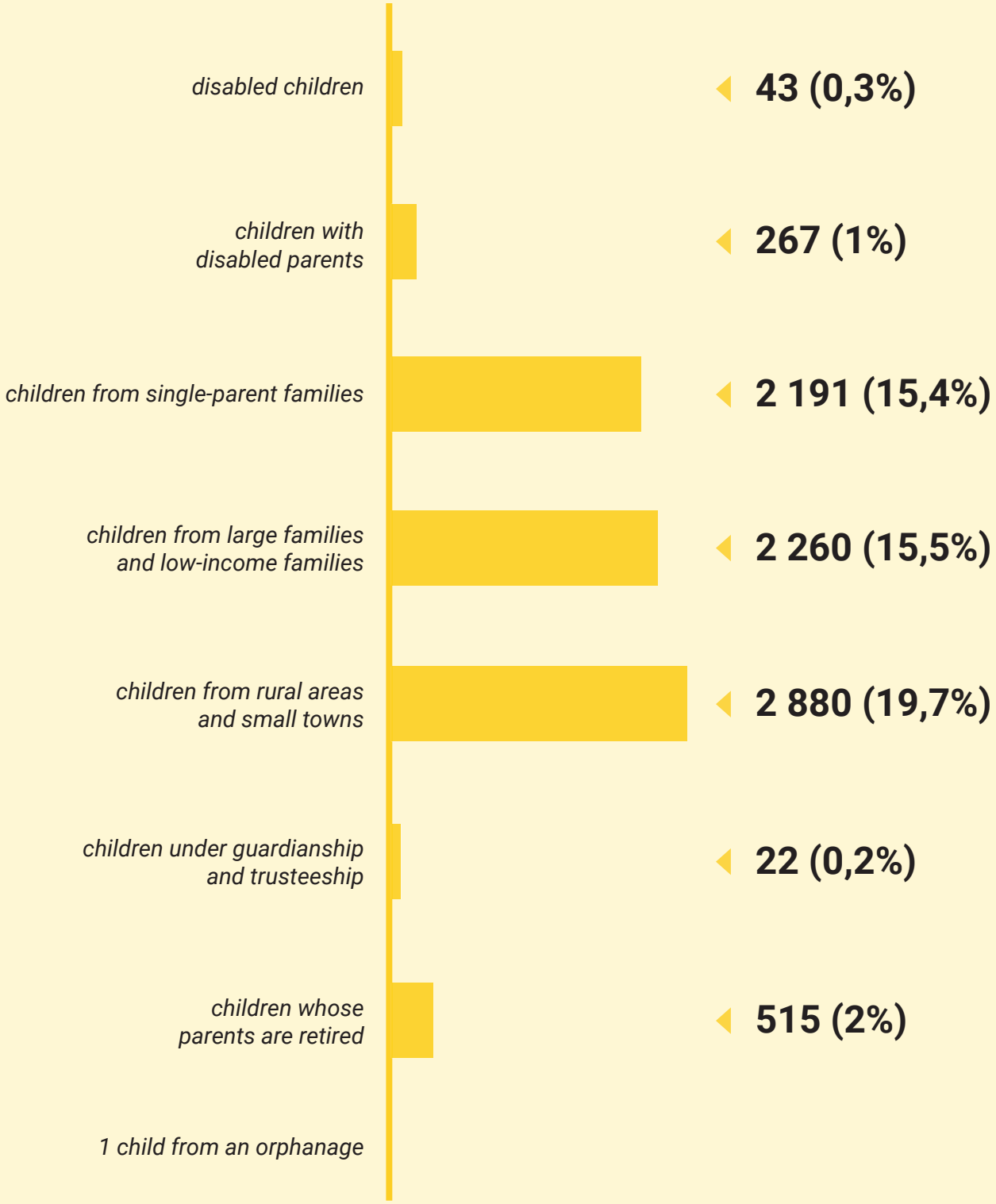
- 20 Intellectual schools with 14 750 students (see table 1.);
- the International school of Nur-Sultan with 1 368 students, including 177 children in the kindergarten;
- Republican Physics and Mathematics School with 2 150 students, including 1 180 students in the branch in Nur-Sultan.

Table 1. Number of the Intellectual school students by grades (as of the 10 December, 2019)

Schools	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	TOTAL
Nur-Sultan PhM							216	119	149	151	199	141	975
Nur-Sultan IB							144	174	187	128	156	118	907
Aktau ChB							140	98	74	124	103	160	699
Aktobe PhM							163	140	79	162	114	88	746
Almaty PhM							216	143	139	140	136	89	863
Almaty ChB							142	95	87	158	140	308	930
Atyrau ChB							128	123	73	154	113	66	657
Karaganda ChB							144	141	83	143	127	77	715
Kokshetau ChB	60	64	58	54	56	47	107	80	66	109	64	69	834
Kostanay PhM							119	93	72	86	127	120	617
Kyzylorda ChB							166	119	78	111	96	101	671
Pavlodar ChB							153	96	72	109	100	119	649
Petropavlovsk ChB							141	82	67	127	130	108	655
Semey PhM							143	99	75	141	110	63	631
Taldykorgan PhM	60	59	57	55	52	46	118	87	75	100	68	70	847
Taraz PhM							184	135	72	97	116	112	716
Uralsk PhM							160	112	79	122	112	69	654
Ust-Kamenogorsk ChB							140	92	64	119	99	97	611
Shymkent PhM							142	114	81	146	96	110	689
Shymkent ChB							144	121	91	162	91	75	684
Total	120	123	115	109	108	93	3 010	2 263	1 763	2 589	2 297	2 160	14 750

**Source: UIEE, "Students" section*

2 510 students of Intellectual schools live in the dormitories. Socio-economic status of the students:



1.2. STUDENT SELECTION PROCESS

The system of students' competitive selection has been developed and successfully implemented in the Intellectual schools.

The peculiar feature of this system is the potential to identify students' abilities to study science and mathematics, by both checking the subject knowledge and assessment of functional literacy and language competencies.

This system allows us to select students who are able to acquire the content of NIS-Programme, develop higher order skills, and solve academic problems in many applied areas.

Compliance with the international requirements for quality, validity, transparency and safety of all procedures in the competitive selection system is ensured through the strategic partnership between NIS and Cito National Institute for Educational Measurement (the Netherlands).

Competitive selection of students to Grade 7 of the Intellectual schools

Since 2019, the competitive selection of students to Grade 7 is implemented according to the updated format and content (see table 2.) due to the fact that students of Grades 6 are taught according to the renewed subject programmes since Grade 5.

The new format of students' competitive selection to Grade 7 includes two comprehensive tests:

- a test to assess students' abilities to study science and math subjects;
- a language test.

The test to assess the ability to study science and math subjects includes test tasks on Mathematics subject programme and the unit 'Quantitative reasoning'.

The language test consists of test tasks in the Kazakh, Russian and English languages.

Table 2. Updated format of comprehensive testing within the system of students' competitive selection to Grade 7

The test section	Number of tasks	Maximum score	Threshold score	Test duration (minutes)	Awarding grants based on the number of vacant places
DAY 1: TEST TO ASSESS THE ABILITY OF STUDENTS TO STUDY SCIENCE AND MATH SUBJECTS					the highest score on the comprehensive tests (the maximum score – 1300)
Mathematics	40	400	140 (35%)	60	
Quantitative reasoning	60	300	120 (40%)	30	
DAY 2: LANGUAGE TEST					
L1	20	200	-	120	
L2	20	200	-		
English	20	200	-		

As part of updating the content of the students' competitive selection, new types of tasks were added:

– in Mathematics on data interpretation (a necessary skill of critical thinking that helps to understand textbooks, graphs and tables);

– in language subjects on analysis (comparison, analysis of parts of the text/ whole text analysis, selection and processing of information, drawing up a conclusion, etc.).

To prepare for the transition to the updated format of competitive selection, the database of assessment tools, answer sheets, and video instructions for performing test tasks have been revised.

17 485 applicants – Grade 6 students of state schools – took part in the competitive selection in March 2019.

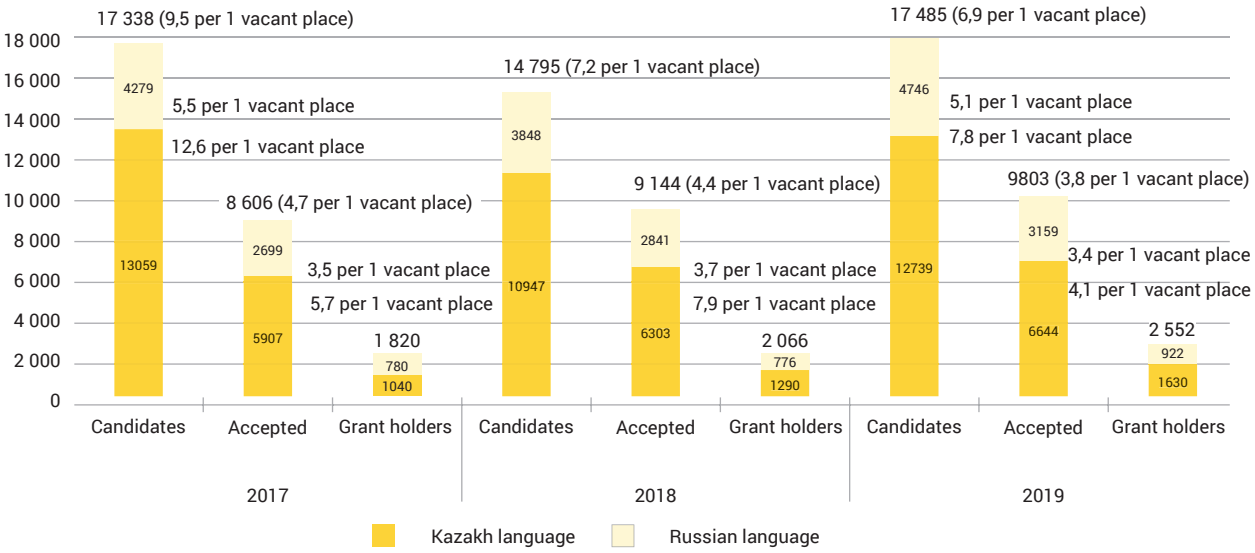
Following the results of the Republican Commission meeting for awarding the educational grant of the First President of the Republic of Kazakhstan – Yelbassy "Orken" (hereinafter – the Grant) dated 23 April, 2019, **2 552 students** were awarded the Grant;

Following the results of the Republican Commission meetings on 28 August, 2019 and 08 November, 2019, **414** and **297** applicants from the reserve lists received the Grants for learning in Grade[1].

A total of **3 263 students** were awarded a Grant to study in Grade 7 in the 2019-2020 academic year.

The percent of participants in the competitive selection of the total number of students of Grade 6 was 6%. Most of the applicants were from Almaty (16.2%), Shymkent (14.8%) and Nur-Sultan (11.9%), and the least – from Kostanay (1.8%), Petropavlovsk (2.1%) and Ust-Kamenogorsk (2.7%).

Diagram 1. Data on competitive selection of 2017, 2018 and 2019



In the reporting year the number of candidates competing for each place was 6.9. At the same time, the number of candidates competing for each place in classes with the Kazakh language of instruction is more than 1.5 times higher than that in the Russian language classes (7.8 and 5.1, respectively).

In some regions (Almaty, Atyrau, Kyzylorda, Taraz, Shymkent), the number of candidates competing for each place ranged from 8 to 11.

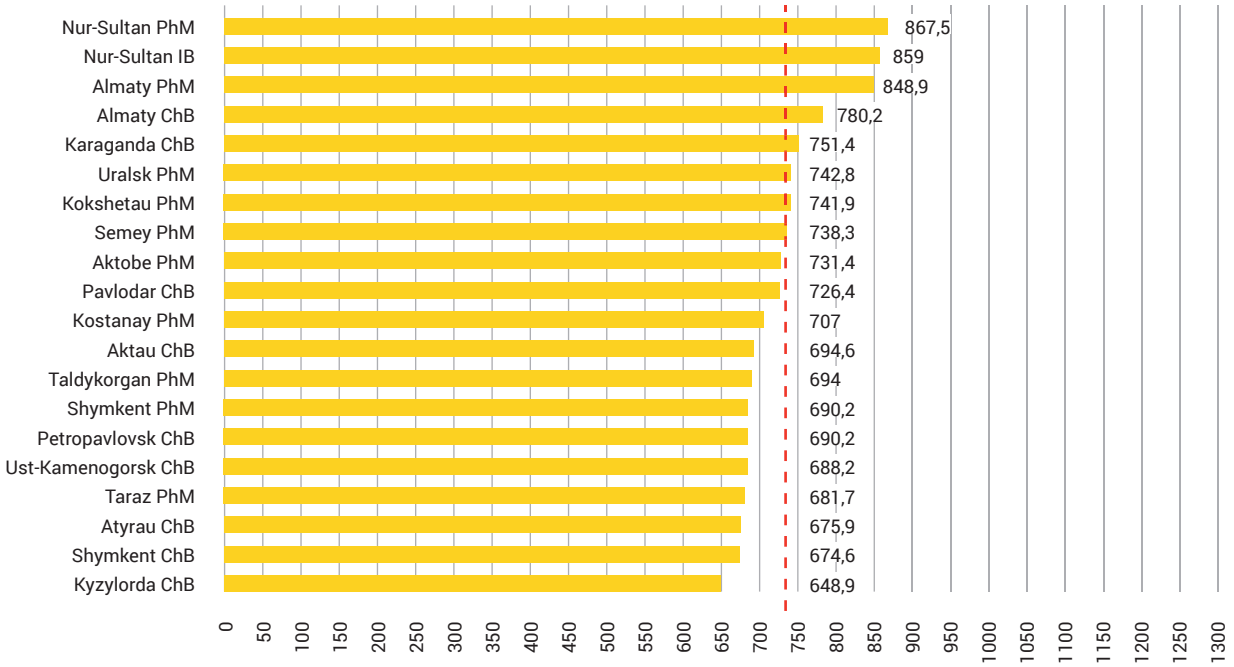
[1] Further statistics on the applicants for the competitive selection includes data on 2 552 students awarded the Grant to on 23 April, 2019 (first round).

Table 3. Results of the comprehensive testing within the competitive selection broken down by schools (max. score – 1300)

Intellectual school	The highest score	**Scores of all applicants**		Scores of applicants admitted to the consideration of the meeting of the Republican Commission		Grant holders' scores	
		The average score	The minimum score	The average score	The minimum score	The average score	**The minimum score**
Aktau ChB	1 172	694,6	293	827,9	507	980,5	871
Aktobe PhM	1 193	731,4	313	847,1	575	1 019,8	930
Almaty PhM	1 271	848,9	289	919,3	535	1 135,0	1 063
Almaty ChB	1 235	780,2	361	877,8	509	1 091,0	996
Nur-Sultan IB	1 288	859,0	346	932,1	565	1 126,1	1 047
Nur-Sultan PhM	1 285	867,5	353	927,9	484	1 126,5	1 030
Atyrau ChB	1 199	675,9	300	821,4	521	996,1	902
Karaganda ChB	1 206	751,4	392	853,0	544	1 011,6	915
Kokshetau ChB	1 206	741,9	321	849,9	488	1 012,8	871
Kostanay PhM	1 135	707,0	422	809,9	527	870,8	738
Kyzylorda ChB	1 197	648,9	271	792,0	429	960,0	860
Pavlodar ChB	1 176	726,4	341	831,5	528	964,2	852
Petropavlovsk ChB	1 165	690,2	295	790,4	480	873,5	739
Semey PhM	1 226	738,3	352	834,1	505	951,1	805
Taldykorgan PhM	1 179	694,0	324	844,4	486	991,9	845
Taraz PhM	1 216	681,7	301	822,2	528	987,4	866
Uralsk PhM	1 153	742,8	316	838,8	560	981,9	875
Ust-Kamenogorsk ChB	1 244	688,2	319	823,5	452	927,6	813
Shymkent PhM	1 241	690,2	293	822,6	519	1 018,8	936
Shymkent ChB	1 215	674,6	280	820,1	522	1 036,5	949
Total	1 288	737,4	271	859,8	429	1 016,0	738,0

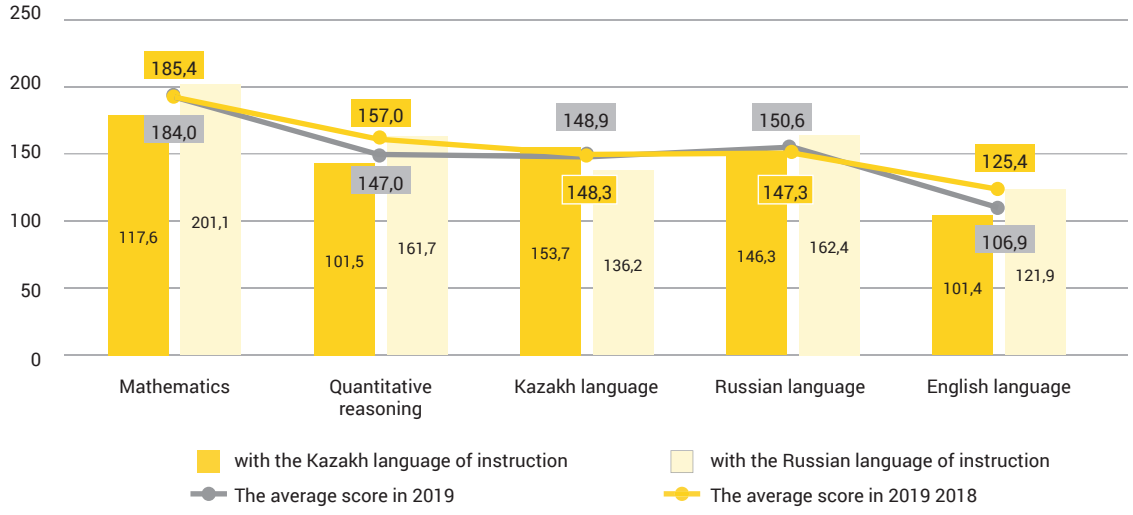
The average score in the comprehensive test of students' competitive selection to Grade 7 in 2019 was 737.4 (56.7% of the maximum score).

Diagram 2. Average scores of applicants in the 2019 comprehensive test broken down by the Intellectual schools



In terms of the average score of applicants, Nur-Sultan is in the lead (867.5 and 859.0), and the lowest average scores were registered in Kyzylorda (648.9). The difference between the highest and lowest average score is 218.6 which is statistically significant.

Diagram 3. Average scores of applicants across the sections of the comprehensive testing broken down by the language and years



Maximum scores across the subjects:

• in mathematics (400) – 46 applicants in Almaty, Nur-Sultan, Kokshetau, Ust-Kamenogorsk, Pavlodar, Taraz, Shymkent (PhM);

• in quantitative reasoning (300) – none of the applicants received the maximum score. However, 16 applicants from Nur-Sultan, Almaty (PhM), Kokshetau, Karaganda, Kyzylorda, Pavlodar, Shymkent (PhM) received scores 290 to 299;

• in Kazakh as L1 (200) – 45 applicants in

Nur-Sultan, Almaty, Aktau, Aktobe, Kokshetau, Karaganda, Kostanay, Kyzylorda, Uralsk, Ust-Kamenogorsk, Semey, Taraz, Shymkent;

• in Kazakh as L2 (200) – 121 applicants in all of the Intellectual schools except Karaganda, Uralsk, Ust-Kamenogorsk and Petropavlovsk;

• in Russian as L1 (200) – 15 applicants in Nur-Sultan, Almaty, Atyrau, Karaganda, Pavlodar, Petropavlovsk;

• in Russian as L2 (200) – 24 applicants in Nur-Sultan, Almaty, Aktau, Karaganda, Kyzylorda, Pavlodar, Petropavlovsk, Taraz, Shymkent (PhM);

• in English, applicants with the Kazakh language of instruction (200) – 45 applicants in Nur-Sultan, Almaty, Kokshetau, Karaganda, Kyzylorda, Ust-Kamenogorsk, Pavlodar, Semey, Taldykorgan, Shymkent;

• in English, applicants with the Russian language of instruction (200) – 93 applicants in all cities, except Kostanay, Kyzylorda, Ust-Kamenogorsk, Petropavlovsk, Shymkent (PhM).

Analysis of the applicants' results in Mathematics has shown that most of the students have difficulties in solving problems within the following learning objectives:

- solve text problems on finding the percent;
- perform identical transformations of algebraic expressions;
- compare rational numbers;
- use the largest common divisor and the smallest common multiple when solving text problems.

Analysis of the results of answers on Kazakh language, Russian language, English language showed that the greatest difficulties of the applicants were related to the performance of tasks associated with the text and structure analysis, defining the style of the text and its role, the semantic relationships between paragraphs in a text, search for detailed information with in-depth text analysis, drawing conclusions by detailing the information of the text and determining the main idea of the text.

In 2019, the competitive selection to Grade 7 was characterised by the following features:

• the comprehensive testing was administered according to the updated format and content;

• the duration of the language test made up 120 minutes without limitations for individual sections;

• the results of the two testing days were processed by the strategic partner the Institute of pedagogical measurements, Cito (the Netherlands);

• video instructions were used to perform the comprehensive testing tasks;

• the system of online broadcasting of testing was introduced to provide access to the stakeholders to observe the competitive selection process;

• an online training course on "How to prepare for admission to the Nazarbayev Intellectual school and assess own capabilities" was developed and launched on the website www.academia.kz prepared jointly with Knowledge Engineering LLP.

Trial testing within the competitive selection of students to Grade 7

To provide an opportunity to get acquainted with the format and conditions of competitive selection to Grade 7, 3 trial tests were conducted during the year (in January, February and December) in the Intellectual schools and International school of Nur-Sultan attended by the total of 7 207 secondary school students.

The trial testing included the following sections: mathematics, quantitative reasoning, the Kazakh, Russian and English languages.

Table 4. Comparative table of average scores of students who participated in the trial testing in January, February and the competitive selection in March 2019

The average score of applicants:		
mathematics – 184.0		
did not participate	participated once	participated several times
176,1 [-14,2]	**209,0** [+12,6]	**237,5** [+58,4]
quantitative reasoning – 147.0		
30,2 [-10,6]	**34,6** [+9,7]	**38,2** [+43,1]
languages – 406.6		
381,4 [-15,5]	**416,7** [+18,1]	**440,1** [+58,1]

Participating in the trial testing had positive implications on the results of the competitive selection (the more often applicants take part in the trial testing, the higher the average score in the real competitive selection).

As a result of introducing the trial testing procedure, NIS is implementing the activities aimed at ensuring equal rights for applicants, accessibility and transparency of the competitive selection procedures.

Competitive selection of students to primary grades of the Intellectual schools in Kokshetau and Taldykorgan

This year, an annual competitive selection of students to Grade 1 of the Intellectual schools was held in Kokshetau and Taldykorgan and was attended by 633 applicants. Of them, 103 students were accepted to study in the 2019-2020 academic year.

The interview included psychological and pedagogical examination and a listening test to determine phonemic hearing of students (for the Kazakh language immersion group).

The database of assessment tools for selecting students to Grades 1-6 of Intellectual schools was revised to ensure constant updating of the tasks for competitive selection.

Additional competitive selection of students for fee-based education in the Intellectual schools

An additional competitive selection of students to Grades 8, 9 and 11 of the Intellectual schools in Aktobe, Taldykorgan, Uralsk, Aktau, Atyrau, Karaganda and Shymkent (ChB) was administered for tuition fee-based education in the 2019-20 academic year. 30 students took part in the selection, with 11 accepted.

1.3 VIRTUAL AND VACATIONAL SCHOOLS

The work on the organisation of a virtual and vacational school is based of the Instructions approved by the decision of the NIS Board.

Registration of Grade 5 students of state schools to the

virtual school was held in March 2019. A total of **1 704 students took part in the work of the school.** The vacational school was attended by 1 179 students of Grade 5.

As part of the implementation of the "Virtual and vacational schools" projects, a system has been developed to allow for evaluating the updated format of the virtual school, the types of tasks, the format of performing tasks and providing feedback, and the criteria for transition to a vacational school.

Instructional video lessons, test tasks for the assessment and final test

of the participants of the virtual School in Mathematics, Kazakh language, Kazakh language and literature, Russian language, Russian language and literature, English language have been developed for the updated format of the virtual school for students of Grade 6.

Registration of Grade 6 students of state schools to the virtual school was administered in the period from 15 October to 25 December, 2019. A total of **1 951 students took part in the work of the school.** The vacational school was attended by **1 532 students** of Grade 6.

2 TEACHERS

As of 1 December, 2019, 2 898 teachers work in the Intellectual schools, 2 729 of which are Kazakhtani and 169 are foreign teachers.

2.1. TEACHER SELECTION PROCESS

Recruitment of teaching staff in the Intellectual schools is carried out through open selection process consisting of three stages in the case of vacancies. In 2019, the need for teaching staff was 184 (7%) vacancies.

One of the main principles of the selection process is to ensure openness and equity, which helps identify the most appropriate candidates to work in the Intellectual schools.

To keep teachers informed, announcements about the selection are published on NIS website – www.nis.edu.kz, in the running line on Kazakhstan TV channel, in newspapers ("Kazakhstanskaya Pravda" and "Yegemen Kazakhstan") in the Kazakh and Russian languages.

According to the analysis, vacancies appear due to the child care leave, academic leave, change of residence due to family circumstances, transfer to educational organisations of new formats.

80% of the 184 vacancies are teacher-interns and young teachers starting families and/or pursuing masters/doctoral studies.

As of the 1st of December, 2019, 11% (292) of teachers are on child care leave and 8% (221) are on academic leave.

Young women comprise 45% (1233) of the total number of teachers.

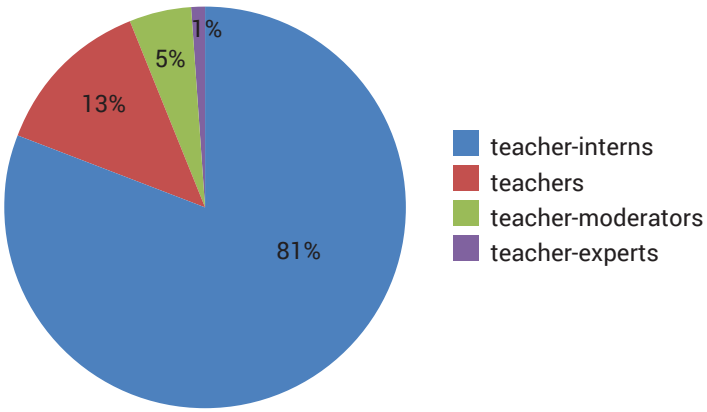
The Intellectual schools successfully implement a system of professional development actively forming and developing teaching staff with international level competencies to ensure they are in demand of educational organisations of new formats.

Teacher selection process includes three stages: the first stage is testing the academic knowledge, the second is writing an essay, and the third is an interview.

According to the results of selection, 306 of 1692 participants showed good results, 184 of them were employed to Intellectual schools and 122 were recommended for candidates' pool.

Of the 184 employees, 149 (81%) were employed as teacher-interns, 23 (13%) as teachers, 10 (5%) as teacher-moderators, and 2 (1%) as teacher-experts. Of the total number of teachers employed, 35 (19%) teachers have bachelor's and 145 (79%) master's degree, 4 (2%) are PhDs and 2 (1%) are candidates of sciences.

Degrees of teachers employed



Degrees of teachers employed

Bachelor's degree	19% (35 teachers)
Master's degree	79% (145 teachers)
PhD	2% (4 teachers)
Candidates of sciences	1% (2 teachers)

According to the decision of the NIS Board, based on the materials provided by the Methodological Council of Centre of Excellence, containing data on the experience and professional achievements of teachers, 10 teachers-moderators and 2 teachers-experts were employed to the vacant positions without selection process to identify the degree of their pedagogical qualification.

16 graduates of Nazarbayev University who took part in the teacher selection process were recommended for the position of teacher.

Out of 588 graduates of Kazakhstani universities who took part in the selection, 37 applicants were recommended for the position of teacher, 27 of them completed pedagogical internships in the Intellectual schools of Atyrau, Petropavlovsk,Nur-Sultan, Aktau, Aktobe, Pavlodar, Taraz.

According to the results of 2019, the number of vacancies fell by half – 184 (7%), compared to 375 (14%) in 2018.

The reduced teaching staff turnover is a result of ongoing work on creating and developing a sustainable system of professional development in the Intellectual schools.

Successful professional development and practical implementation of the acquired skills in the educational process are related to the key performance indicators set to award bonus payments based on the results of work and allow for the incentive bonuses (for example, bonuses for teaching in English).

Measures have been taken to attract graduates of the Bolashak programme, Nazarbayev University, and master's degree holders from Kazakhstani HEIs who have been trained in English to work in the Intellectual schools. During the year, job fairs were held, and announcements about the vacancies for teachers were posted on the Nazarbayev University website.

The system of motivation of the Intellectual school teachers is a set of measures that stimulate staff to work and achieve high results.

Of the 1386 not recommended applicants, 87% (1228 people) demonstrated an insufficient level of subject-specific knowledge and 13% – the lack of meta-subject skills. The most challenging part of the teacher selection process is subject test (round 1), based on the content of the school programme. The threshold score is 13 out of 25 possible. Each correct answer in the test is one point and each incorrect answer – 0. The essay designed to assess the ability of applicants to express their thoughts clearly and cohesively and prove their arguments, is evaluated by the members of the selection board and the experts involved to ensure compliance with the rules and the criteria. The interview is conducted by the selection board, the professional and personal qualities of the candidates are evaluated based on their results.

The work on updating the methodology of teacher selection, improving the quality of assessment tools and automation of the selection procedures is carried out in cooperation with Centre for Pedagogical Measurements and NIS IT Centre.

In 2019, Centre for Pedagogical Measurements revised and approved test specifications in 9 subjects, developed 925 test tasks in 7 subjects. It undertakes the further work on modernising the platform for independent testing.

The introduction of an HR management system is planned for 2020, which will significantly improve the processes of search, selection, evaluation and adaptation of staff.

International teachers

As of 1 January, 2020, 169 international teachers work in the Intellectual schools, which is 6% of the total number of teachers.

Work on attracting international teaching staff was further carried out. NIS corporate website is also available in the English language to ensure direct contact with the candidates and recruitment of international teachers.

International teachers are employed based on their qualification and work experience. Personal documents of each international teacher are reviewed, which includes verification of recommendation letters, confirmation of qualifications, as well as a certificate of no criminal record, medical examination for work.

During the reporting period, 54 international teachers were employed to work in the Intellectual schools. The contract with 115 international teachers was extended.

Of 169 international teachers, 12% (20) are assigned to the Intellectual school of International Baccalaureate and 6-7 teachers to each of the 19 schools implementing NIS Programme. The majority of teaching staff, 101 (60%) teachers are subject teachers: 32 teachers of physics (19%), 29 teachers of chemistry (13%), 22 teachers of biology (13%), 18 teachers of computer science (11%). 13 (8%) mathematics teachers and 40 (24%) English teachers.

Active professional interaction is an integral part of team teaching with Kazakhstani teachers in terms of preparing students for the SAT, IELTS through elective courses and educational events.

The geography of international teaching staff includes 30 countries:

49 teachers (29%) – Australia and Africa (South Africa, etc.);

43 teachers (25%) – North and South America (USA, Canada, etc.);

41 teachers (24%) – Europe (UK, France, Netherlands, etc.);

36 teachers (21%) – Asia (Singapore, etc.).

The UK dominates among the countries with 29 teachers (17%).

Of international teachers, there are 3 PhDs and 174 Master's degree holders, 50 have International certificates IBDP, TESOL, ESL, TEFL and certificates of IELTS, CELTA, DELTA language test administrator.

In 2019, the Intellectual schools will continue to teach a second foreign language through the elective courses (German, French, Chinese, Korean, and Japanese). Therefore, 10 foreign language teachers were employed to teach languages at students' choice.

In 2019, NIS continued its cooperation with the Embassies of France and South Korea to involve native speakers to Kazakhstan so that to teach French and Korean as the second foreign languages. As a result of this work, 1 teacher of French and 2 teachers of Korean were employed in the Intellectual schools. All of them are native speakers with an expertise in teaching the second foreign language. Further work is planned within this project.

International teachers work with local colleagues and support them in teaching subject content in English, conducting joint lesson studies and action research.

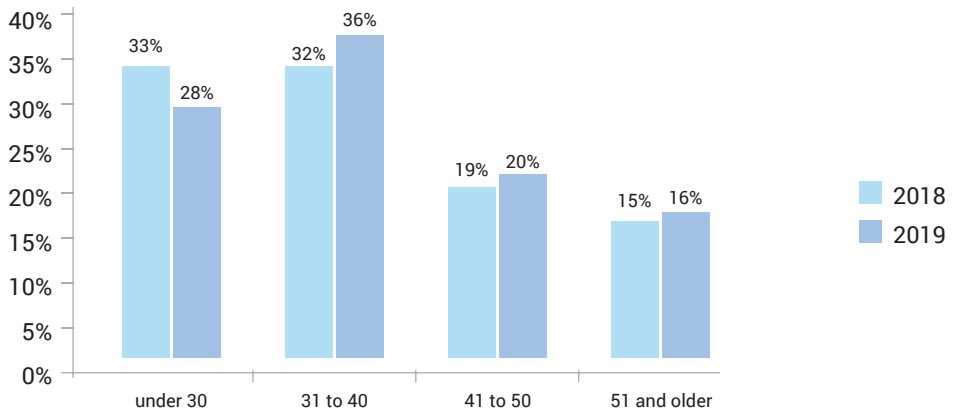
2.2. QUALITATIVE COMPOSITION

Age structure of teachers

The analysis of the qualitative composition of the Intellectual school teachers by age showed that the number of teachers from 31 to 40 years has increased (110 people), which is a positive trend in attracting young and experienced teachers to the Intellectual schools. At the same time, there is a 5% decrease in the number of teachers under the age of 30 compared to the previous year, and a 3% increase in the number of teachers between the ages of 31 and 40, which is a natural process of transition of the major part of teachers from one age category to another.

The percentage of teachers under 40 is 64%, and over 40 - 36%, which provides the appropriate balance between the experienced professionals and promising young teachers.

Information on the age of teachers in the period of 2018-2019



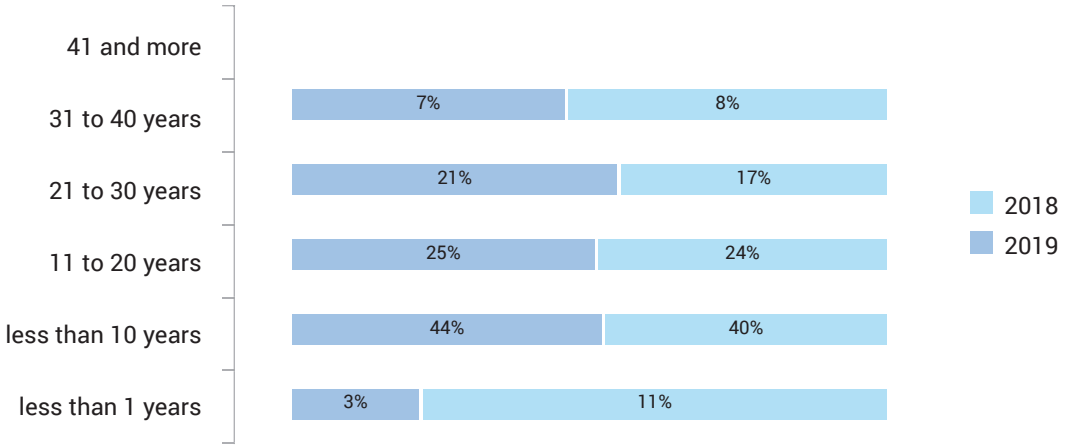
Work experience of teachers

To date, due to the natural movement and staff turnover, the indicators for teachers' length of service remained the same as in the previous reporting period with minor changes.

The proportion of teachers with work experience less than 10 years decreased by 4% due to the transition of the major part of teachers to the next age group. Transition of teachers from one category to another with the increase of work experience is a natural process.

51% of teachers have work experience less than 10 years and 49% - more than 10 years. This is indicative of a balanced composition of teachers and the result of the mixed teaching staff policy.

Information on the work experience of teachers in the period of 2018-2019



Teaching excellence

In terms of teaching excellence, in 2019, as compared to 2018, there is an increase in the number of teachers-moderators by 11%, teachers-experts by 2% and a decrease in teachers-interns by 1.7%, and in the number of teachers by 5%. One teacher-researcher became a teacher-master.

Number of educators broken down by the degrees of qualification

Year	total number of pedagogic workers with the degree of qualification	broken down by the degrees of qualification					
		intern	teacher	moderator	expert	researcher	master
2018	3039	481 *(15,8%)*	1177 *(38,6%)*	1088 *(29,7%)*	287 *(9,4%)*	6 *(0,2%)*	-
2019	3020	427 *(14,1%)*	1011 *(33,5%)*	1233 *(40,8%)*	343 *(11,4%)*	5 *(0,2%)*	1 *(0,03%)*

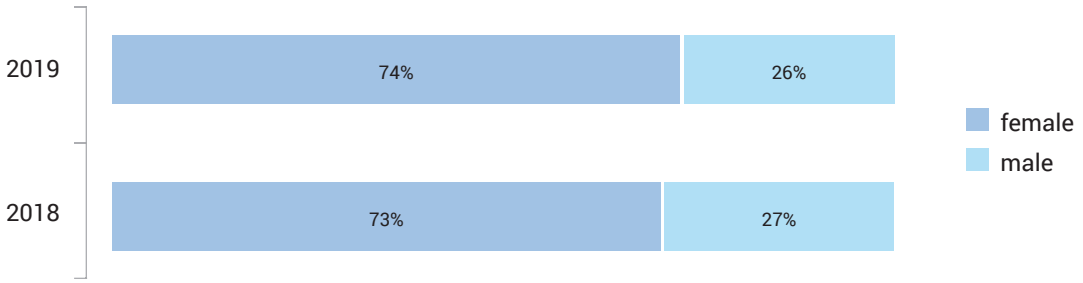
Gender composition

In 2019, of the total number of teachers working in the Intellectual schools 748 (27%) are male and 1 981 (73%) are female teachers.

In comparison with 2018, the ratio of male and female teachers has changed by 1% with the reduction in the number of female and, accordingly, the increase in the number of male teachers.

At the same time, it should be noted that within the period of 2012-2019, the gender ratio changed by an average of 5-6% indicating the increase in the number of male and reduce in the number of female, respectively. The increase in the number of male teachers has a positive effect on the educational process.

Information on the gender ratio of teachers in the period of 2018-2019



Academic and scientific degrees

Today 30% of the Intellectual school teachers have an academic (Master's, PhD) or a scientific degree. 29% of NIS AEO employees have an academic Master's degree.

In the period of 2018 to 2019, the number of teachers with a degree increased by 18. Almost every third teacher of the Intellectual schools has a scientific or academic degree.

Academic and scientific degrees of the Intellectual school teachers in the period of 2018-2019

Academic and scientific degree	2018	2019
PhD	5	12
Candidate of Sciences	18	22
Master of Science/Arts	779	786
TOTAL	802/30%	**820/30%**

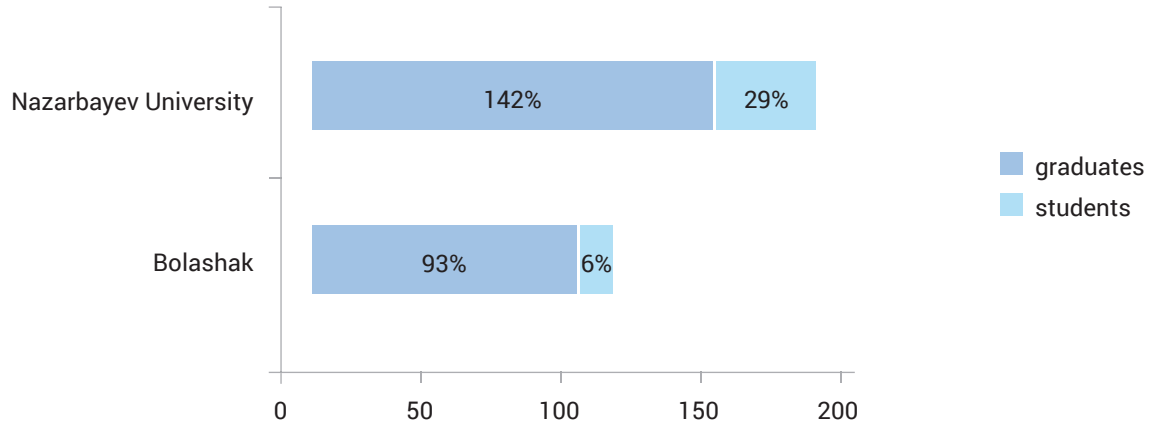
Certified trainers

Work on the development of the in-house expertise – a pool of certified trainers among the teachers of the Intellectual schools has been continued. The task of trainers is to support colleagues through various forms of professional engagement in the context of teaching practice.

In 2019, the number of trainers increased by 240 – 30 subjects teachers completed internships on CLIL methodology in secondary schools of the UK; on the Blended Teacher Training Programme – 160 subjects teachers who teach in English in high school; on CPM programme to support the professional development of teachers – 50 Deputy Directors and heads of methodological associations of the Intellectual schools.

Thus, by the end of 2019, there are 921 trainers working in the Intellectual schools. Of them, 334 (36%) are trainers in teaching English and subject content in English (CELTA, DELTA, TKT, CLIL, CELTYL); 181 (20%) are trainers in developing action reflection skills and leadership skills of teachers (CoE and CPM programmes); 75 (8%) are trainers in robotics; 187 (20%) are trainers in implementing subjects programmes (Triple Science, Nxplorers, IB programmes, probability theory, PISA, CITO, renewed content of education, Microsoft); 121 (13%) are trainers in the development of critical thinking and abilities of students.

93 teachers of the Intellectual schools are the Bolashak programme graduates, and 142 are Nazarbayev University graduates. 6 teachers are currently pursuing studies under the Bolashak programme, 29 teachers are completing their Master's degree studies at Nazarbayev University.

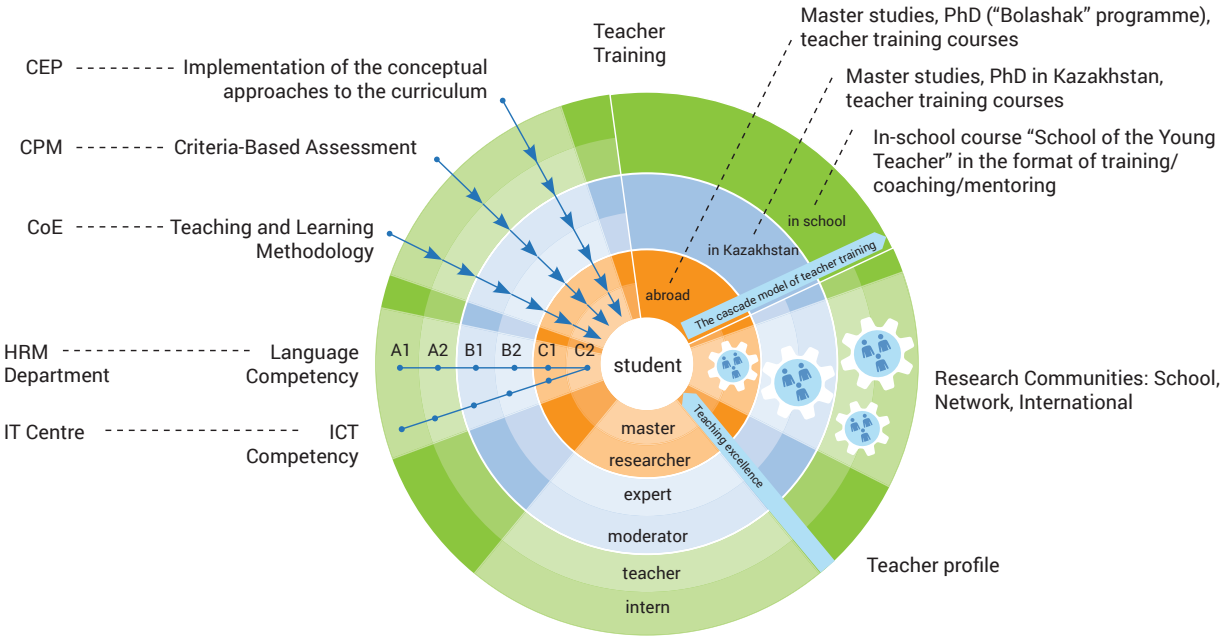


2.3. PROFESSIONAL DEVELOPMENT SYSTEM

Professional development is implemented on the basis of the analysis of CIS recommendations, results of teacher appraisal, students' summative assessment, SAT/SAU results, monitoring students' performance, and determining professional needs of teachers in the following areas:

- support in the implementation of NIS-Programme and the International Baccalaureate (IB) programmes (SP and GP in school, ERP, CEP methodological support, improving academic knowledge, Master's and PhD degrees);
- support in the implementation of the assessment of students' academic achievements (CPM methodological support, action research);
- developing the skills of teaching subject content in English (school-based courses, teacher training courses, internships, reporting the results of action research in English);
- development of professional reflection on the lesson and practice through the research activities of teachers ("Action Research", "Lesson study");
- psychological and pedagogical support of the educational process;
- implementation of the programme on educating gifted children.

We provide full-time, online, mixed school-based courses across the country and abroad. The dates are aligned with the educational process.



Within the framework of the current system of professional development of NIS employees, 5834 teachers were trained in reporting period, including 5029 in schools, 800 across the country, 5 were trained abroad, and 30 completed international internships.

School-based courses

In the Intellectual schools, teacher professional development is carried out through the network and school cooperation. Teachers formulate professional development goals for every year and develop an individual plan to achieve these goals. The system of school-based courses includes various forms of professional cooperation: training, coaching, mentoring, workshops, conferences, facilitated sessions, methodical hours, and methodical days.

The total of 5029 teachers were trained

within the school courses, including 545 in the module on the Kazakh language, 1069 - the module on the English language, 579 - in the module on ICT, and 2836 - in the module on Pedagogical knowledge.

Courses at the country level

35 courses were held across the country to train 800 NIS employees. Professional development was aligned with the main areas of activity:

"Development of teaching theory and practice" – 49 teachers

No	Name of the course	Number of trainees
1	"Mathematics: Applications and interpretation, within the diploma programme, category 2"	1
2	"ITGS, category 2"	1
3	"The role of the supervisor in extended essays, category 3"	6
4	"History: focus an internal assessment, cat 3"	1
5	"Arts: Delivering the MYP programme", category 2	1
6	"Design: Delivering the MYP programme", category 2	1
7	"Individuals and societies: Delivering the MYP programme", category 2	3
8	"Physical and health education: Delivering the MYP programme"	1
9	"Sciences: Delivering the MYP programme"	1
10	"Mathematics - Delivering the MYP programme"	1
11	"Mathematics: analysis and approacher, within the diploma programme, category 2"	1
12	"Mathematics: aplication and interpretations, category 2"	1
13	"Film, category 1"	2
14	"Geography, category 1"	1
15	Heads of School/IB coordinators: Delivering the MYP programme", category 2	2
16	"Building self-directed learners through approaches to learning, category 3"	1
17	Teacher training course on "Building projects based on phenomena in NIS"	24

"Psychological and pedagogical support of the educational process" – 194 teachers

Professional development in the field of pedagogy and psychology contributes to the creation of methodological products, so the course "Basics of children's counseling in school" was developed for psychologists of the Intellectual and general educational schools. The adapted version of the UNODC "Strong family" programme was piloted and recommended for parents and children of Grade 7 of the Intellectual schools since 2019.

No	Name of the course	Number of trainees
1	"Developing students' scientific creativity and moral principles"	43
2	"Modern approaches to spiritual and moral education"	46
3	"Understanding children"	52
4	"Training of trainers"	28
5	Course for trainers in the framework of the UNODC Strong family programme	25

"Development of language skills" – 11 teachers

No	Name of the course	Number of trainees
1	"Language acquisition: Delivering the MYP programme", category 2	2
2	"Language and literature: Delivering the MYP programme", category 2	1
3	"Language A: Exploring literature in translation, category 3"	5
4	"Language A and literature, category 2"	2
5	Participation in the XIV Congress of the International Non-Profit Partnership of Teachers of the Russian Language and Literature "The Russian Word in a Multilingual World"	1

"Professional skills in various areas of activity" in accordance with the legislation of the Republic of Kazakhstan (medical workers, press secretaries, procurement, etc.). – 546 people

No	Name of the course	Number of trainees
1	Professional development of courses "Trafficking, storage and use of narcotic drugs, psychotropic substances and precursors"	440
2	Training of pediatricians	5
3	General nursing technologies/ Medical nutrition	19
4	Professional development courses for dentists	1

5	IFRS and application practices, introduction of new IFRS	20
6	Inventory and fixed assets, features of accounting and tax recognition	3
7	Management accounting. Tax recognition of income of a private entity	20
8	Introductory seminar-practice of working on the Eurasian Electronic Portal (EEP)	20
9	Information and PR priorities in the work of the press secretary	18

Due to the introduction of a new programme for initial military training in the Republic of Kazakhstan in 2018, the course of "Initial military and technological training" was provided for 20 teachers.

International courses

The majority of international courses were conducted in accordance with the requirements of the International Baccalaureate for teaching staff of Nazarbayev Intellectual school in Nur-Sultan. 5 teachers were trained in five areas.

No	Name of the course	Venue and dates	Number of trainees
1.	Developing service learning MYP category 3	UAE, Dubai	1
2.	Language B (English B), within the diploma programme category 2	UAE, Dubai	1
3.	Language A (English A): Language A and literature, category 2	Czech Republic, Prague	1
4.	Coordination (Coordinator of the Diploma programme), category 2"	UAE, Dubai	1
5.	Participation in the summer school of research practitioners with the support of the European Educational Research Association	Masaryk University, Brno (Czech Republic)	1

Developing research skills through the research community

Professional development of teachers is carried out through the synthesis of various forms of training: organisation of school-based courses, mentoring and coaching within the framework of Action research, Lesson study projects to facilitate the professional development as part of teacher appraisal.

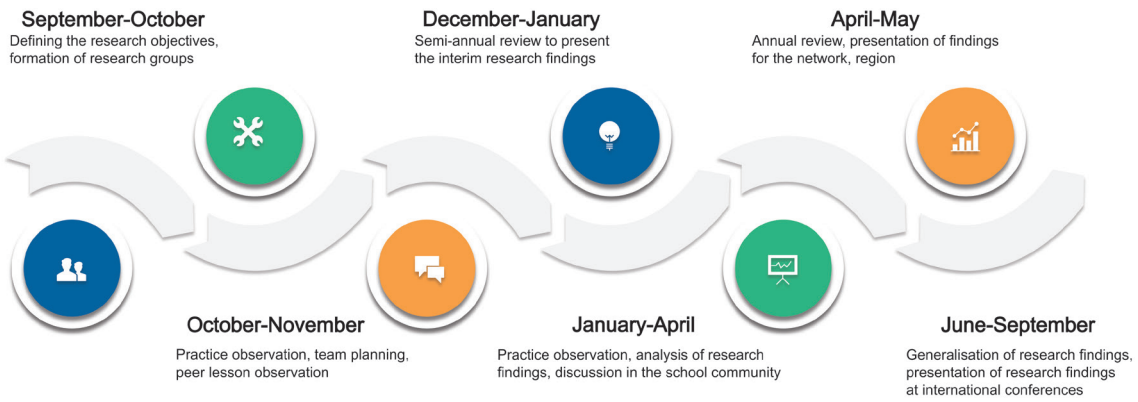
The research community of Intellectual schools includes more than 2000 teachers. Thus, 77% of Intellectual school teachers implement Action Research and Lesson Study. The degree of involvement in research activities in each individual school varies from 63% to 93% which shows that teachers understand the need to conduct research to improve own practice. The correlation between the number

of teachers involved in Action Research and Lesson Study and the students' performance is reported based on the results of external summative assessment. (Reference: Ust-Kamenogorsk – AR and LS – 71%, Taraz – AR and LS – 90%).

There is an increase in the activity of teachers in presenting the results of their research projects at various conferences. Thus, more than 600 teachers took part in school, regional, and national conferences in 2019 delivering presentations in various formats (poster sessions, presentations, reports). The "Teacher-researcher" journal is published annually, with this year's issue to include more than 100 papers by the Intellectual school teachers.

In order to develop the research skills of teachers and the school research culture, a training course for trainers on action research was organised in cooperation with CoE to train 300 teachers of the Intellectual schools.

Research activity



Establishing practice based on the result of ongoing research, problem solving through lesson study and lesson practice

The quality of research conducted in the classroom is also evidenced by the significantly increased number of abstracts approved by international academic committees of ECER (32 abstracts) and WALS (47 abstracts).

The traditional conference of the World Association of Lesson Studies **(WALS)** on the most relevant issue of "Creating a sustainable pedagogy for teaching and learning" was held in September in Amsterdam (Netherlands) and gathered more than a thousand teachers from 40 countries. "Nazarbayev Intellectual schools" AEO was represented by a delegation of 32 people, including 9 employees of Centre of Excellence. All the reports evidenced the effectiveness and validity of Lesson Study in different educational structures, the importance of Lesson Study as a means of

continuous improvement of the school, that contributes to the development of teacher-researcher collaboration.

Four teachers of the Intellectual school of Nur-Sultan shared their experience of conducting lesson studies in the context of the International Baccalaureate programme: teacher of the Kazakh language and literature Zhadyra Seisembayeva told how she improved students' writing skills through the LS cycles; Dana Kassymbayeva - how Lesson Study facilitates the learning process in chemistry classroom; English teacher Tatyana Mashinets - about the place of Lesson Study in the professional development of a young teacher; Karlygash Jarbulova - how Lesson Study contributed to the development of metacognitive skills of students. Natalia Kim, a computer science teacher of the Intellectual school of Taldykorgan, presented a poster on the use of ICT technology in the development of analytical skills, and Gulzhan Nussipzhanova, a biology teacher from Aktau, delivered a report on the role of modeling in understanding biological processes and concepts. The Department of Human Resources Management (senior manager Irina Madeyeva) presented the consolidated experience of the Intellectual schools in Lesson Study and Action Research as a strategy for professional development.

Presentations of the Kazakh delegation were distinguished as the most professional ones. All the speeches were of great interest and received positive feedback of foreign colleagues.

For the first time, the best practice of organising the educational process in the Intellectual schools was presented in the "Panorama of successful practices" organised at the August conference of NIS teachers in 2019. Demonstration of effective projects in the main areas of activity: subject knowledge, STEM-technologies, leadership and school management, methods of teaching subject content in English, individual development paths of students, attracted genuine interest of the conference participants. The opportunities for experience exchange and implementation of successful projects were discussed. Materials of the Panorama were published in the "Pedagogical dialogue" journal.

Developing skills of teaching subject content in English

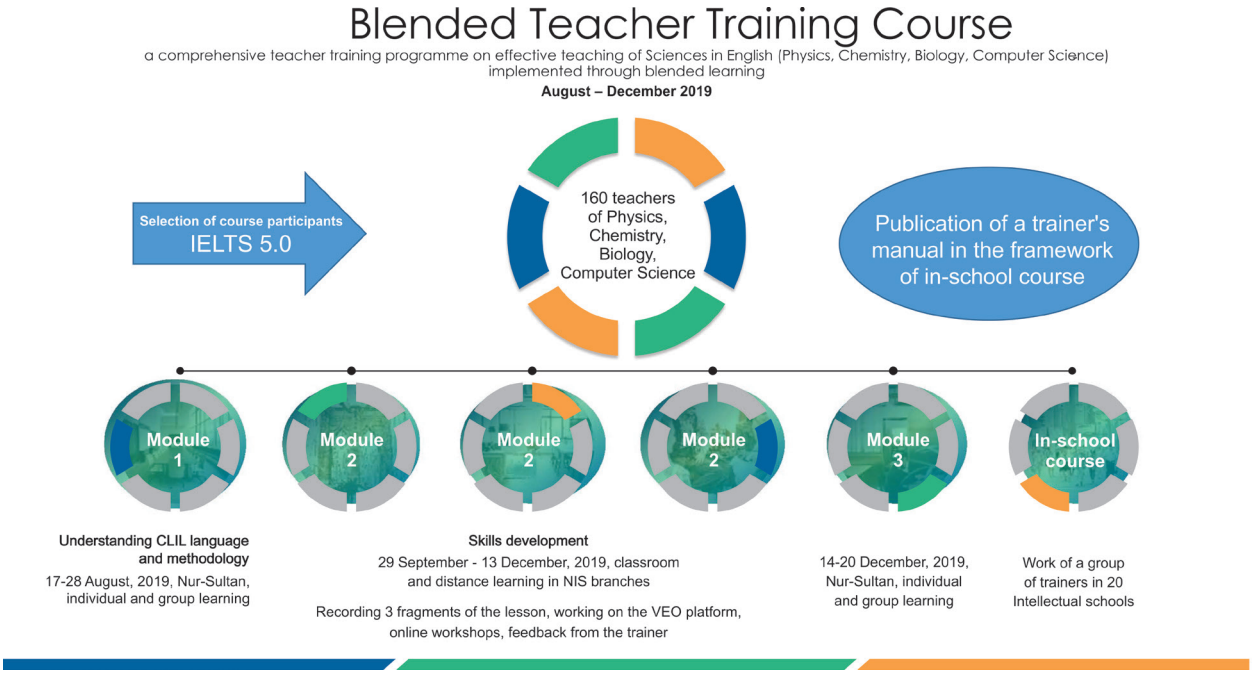
The professional community of NIS teachers of physics, chemistry, biology and computer science includes 894 teachers, and 430 or 43% of them teach subject content in English in Grades 11-12. During the reporting period, 217 subject teachers completed training in various professional development courses.

1) To develop language skills and prepare to teach subject content in English, **30 teachers** of physics, chemistry, biology, and computer science completed **a two-week internship** on Content and Language Integrated Learning (CLIL) in London (UK).

During the internship, participants were introduced to the peculiarities of using the CLIL methodology in teaching, and had the opportunity to take part in the teaching process in secondary schools of the UK. As a result of the internship, the author team of teachers developed manuals on the use of CLIL in teaching subject content, which include lesson plans, the results of piloting CLIL techniques in the classroom. At the end of the course, all the participants were certified as CLIL trainers.

2) To improve the language skills of teachers who teach subject content in English in high school, a comprehensive professional development programme on effective teaching of physics, chemistry, biology, and computer science in English (Blended Teacher Training Program) has been organised. **160 teachers** were trained for 5 months (August to December 2019) in terms of group/individual and full-time/distance learning. Full-time modules included the active use of English as a tool for teaching subject content and the methodology of the Content and Language Integrated Learning (CLIL). The distance learning module included support of students in their professional activities by course trainers, tape recording of lessons with

the use of CLIL, commenting and discussing colleagues' lessons during online workshops on the VEO educational platform. The course was organised by British Study centers (UK), which coordinates the work of 10 international trainers on CLIL methodology.



In addition to improving the quality of teaching subject content in English, the course was also aimed at reinforce the pool of CLIL trainers, who after completing the course would be able to train colleagues in the framework of school-based courses and become coordinators of implementing the CLIL methodology in the Intellectual schools. The course was positively evaluated by teachers and school administrators, who emphasised its high practicality and efficiency.

3) To increase the effectiveness of integrated learning within NIS Programme, 27 subject teachers and 2 employees of CPM and CEP took a training course on phenomena-based learning (PhBL), organised jointly with Centre for Educational Programmes on 18-22 March, 2019. The course was delivered by the experts from EduCluster Finland (University of Jyväskylä Group, Finland). The course programme combines theoretical knowledge and practical experience of chemistry, biology, physics and computer science teachers. During the course, participants created their own models of lesson plans using the phenomena-based approach.

The development of science teaching skills allowed them to successfully present their teaching practices at the international professional competitions. For example, those teachers who won at the national festival for STEM teachers "Science on stage Qazaqstan 2018" with the summary of results of the project work for several years became the participants of the largest educational festival "European Science on Stage 2019" in Cascais, Portugal, held in November 2019 under the motto "Skills for the future". This educational platform hosted more than 450 teachers from 36 countries of the world who presented innovative projects in sciences.

Projects of the Intellectual school teachers attracted the interest of European teachers of STEM subjects and were marked in a range of categories: "Sustainable development in science teaching", "Digital literacy and science teaching", "Accessible and 'recycled' science".

Physics teacher of Nazarbayev Intellectual school of Chemistry and Biology in Shymkent Ainur Smagulova presented methodological

materials on teaching STEAM subjects following the results of four years of work within the school Action Research project.

The jury recognized the "Air Garden" project of NIS teachers Serik Mukanov and Kymbat Dyusembayeva as the best in the nomination "Highly Commended Award". The project demonstrated the integration of subject knowledge in biology, chemistry, physics, robotics, engineering, and design. In this work, teachers presented the process of vertical growing plants based on an automated aeroponic installation created in collaboration with students using various improvised tools and the Lego EV3 microcomputer.

Among the successful projects presented on the international arena there is the work of Inna Aksyonova, the biology teacher of Intellectual school in Taraz, "Training biology teachers to use methods of integrating technology and subject knowledge". The project was awarded the 1st degree diploma at the IX International conference-competition "Innovative information and pedagogical technologies in IT education", held from 21 to 24 November 2019 at the Faculty of Computational Mathematics and Cybernetics of the Moscow State University. The conference was aimed at producing a working professional information technology designed to create and develop a public electronic library of the best teaching practices and innovative pedagogical solutions that use new information technologies in education.

The project of Inna Aksyonova revealed the opportunities for continuous education of teachers in the field of information technology, which allows increasing their professional competence and motivation of students to learn the subject. A learning process organised in this way prepares students for the challenges of modern society (VUCA) and meets their educational needs. Participants and the jury were interested in the experience of Nazarbayev Intellectual schools in the organisation of learning process and professional development of teachers.

Implementation of the programme on educating gifted children

28 teachers from 17 NIS branches take part in the online course "School education of gifted children", which involves considering the ways to identify gifted students in school, developing an understanding of differentiation, improving the skills for using differentiation strategies in teaching and learning, and studying and using effective models of teaching and assessing gifted students.

Monitoring the implementation of the programme "School education of gifted children" and training of trainers

Centre for Pedagogical Measurements conducts annual monitoring of the implementation of the programme "School education of gifted children" in order to observe the practice of 60 trainers and provide methodological support to teachers on teaching and assessing gifted children.

As part of the monitoring, 20 Nazarbayev Intellectual schools were visited in 2019. During the visits, 57 consultations with trainers and teachers, 5 observations of training sessions, 86 lesson observations, and a survey of 159 teachers and 42 trainers were conducted. An analytical report with recommendations for further work was drafted on the results of the monitoring.

A panel discussion was organised at the annual NIS August Conference to discuss the results of monitoring the implementation of the programme, to conduct a survey on the organisation of research work at school, and to plan activities and share experience in working with gifted students.

See below the comparison of the monitoring results for 2018 and 2019.

Table. Comparative data on monitoring results for 2018 and 2019

Indicators		2018	2019
Teacher training (coverage)		62%	69%
Creative groups		6 - Nur-Sultan IB, Atyrau, Aktau, Kokshetau, Karaganda, Pavlodar. A school network community was established	Petropavlovsk, Nur-Sultan IB, Atyrau, Aktau, Kokshetau, Karaganda, Pavlodar.
Application in classroom (teacher coverage)		70%	79%
Action Research on issues related to giftedness (teacher coverage)		9% (2017-2018 academic year) 12% - 16% (2018-2019 academic year)	18%
Experience dissemination	1. Workshops and master classes	31	37
	2. Presentations at conferences	4	3
	3. Publications	3	2
	4. Development of methodological materials	7	9

An analysis of the monitoring results showed that teacher coverage increased by 7% on average across schools. The number of creative groups engaged in research on the development of children's talents and their education has increased (creative groups were created and operate in 11 out of 18 schools). There was an increase in the number of teachers (by 6%) whose aims of professional development are related to the study of the impact of using differentiation principles on students' academic performance and on the development of their abilities.

At the same time, areas for developing teachers' research practices were identified:

– on the application of argumentation, survey, and problem-based learning models and their impact on the quality of students' knowledge;

– on the application of the principles of differentiation in classroom;

– on subject-specific integration.

Monitoring has shown that in order to improve the quality of the programme outputs, it is necessary to have a sufficient number of trained trainers in the school (taking into account the language of instruction).

A remote course on the programme "School education of gifted children" was organised for 28 teachers from 19 schools and 23 employees of Centre for Pedagogical Measurements. According to the results of the portfolio evaluation, 1 trainer was certified and 32 were recertified. Methodological recommendations for the use of differentiation in classroom were developed.

Centre for Pedagogical Measurements took part in the AEA-Europe international conference with a poster on the monitoring research: “The impact of differentiation on the quality of education of gifted children.”

2.4. PEDAGOGICAL EMPLOYEES' PERFORMANCE APPRAISAL

Appraisal (attestation) of teaching staff and equated persons was carried out in order to determine the compliance of teaching staff and equated persons with the qualification characteristics through evaluation of their professional competence, identifying professional achievements and abilities to pursue continuous professional development. Teacher appraisal includes three stages: school-based evaluation based on lesson observation, independent evaluation of the reflective lesson report, the final stage of decision-making including presentation and interview.

The first stage is school-based evaluation. Lesson observation on the implementation of peer assessment and providing feedback focussed on planning, teaching, student assessment and a comprehensive analysis of the lesson in progress.

The second stage is independent evaluation. Centre for Pedagogical Measurements carries out the independent evaluation, which includes checking reflective reports for plagiarism, independent evaluation of reports against the criteria, moderation of the independent evaluation results, and providing evaluation sheets with individual feedback.

An analytical report with recommendations for improving teaching and learning practices and professional development of teachers was drafted based on the results of the independent evaluation of reflexive reports.

The third and final stage includes a review of portfolios and a presentation of practice analysis on the quality of teaching, student achievements, professional cooperation and management of own professional development.

According to the results of the appraisal, of 493 teachers, 381 meet the requirements for the claimed degree; 34 – do not meet; and the evaluation of 17 teachers was postponed for valid reasons.

The following degrees of teaching excellence were assigned: 'teacher' – 59 people, 'teacher-moderator' – 260 people, 'teacher-expert' – 61, 'teacher-master' – 1.

For the first time in the network of Intellectual schools Sergei Polyanskikh, teacher-researcher of mathematics of the Almaty Nazarbayev Intellectual school of Physics and Mathematics approved the highest degree of pedagogical qualification teacher-master. This was the result of effective and purposeful work of the teacher, the leader of the mathematical Olympic movement, who trained students-winners of prestigious international Olympiads using the proprietary methodology.

Appraisal of persons equated to teaching staff is implemented in two stages. Of the 157 pedagogical workers, 132 meet the requirements for the claimed degree; 13 – do not meet; and the evaluation of 12 educators was postponed for valid reasons.

Table. Qualitative analysis of the results of reflexive report evaluation

Degree of qualification	Strengths	Areas for development
Teacher	determining cause-and-effect relationships between the difficulties aroused during the lesson	determining the effectiveness of teaching and assessment strategies based on the needs of students

Teacher-moderator	- explanation of differentiation by level of support, choice of resources - analysis of strengths and weaknesses of the used teaching and assessment strategies	- reasoning the choice of teaching and assessment methods, resources, considering the abilities of students - defining actions to improve practice using the results of the lesson study
Teacher-expert	- substantiation of the problem of action research in relation to the aims of professional development - defining strengths and weaknesses of teaching strategies	- evaluation of teaching methods, resources in the context of the research topic; - evaluation of the effectiveness of assessment strategies for developing students' research skills; - evaluation of the effectiveness of lesson study
Teacher-researcher, Teacher-master	- drawing conclusions on the effectiveness of teaching and assessment as consistent with the aims and expected outcomes of the proprietary methodology	- evaluating the effectiveness of the proprietary methodology - forecasting the possibility of using the proprietary methodology by other teachers

Additional certification of 50 trainers on teacher professional development was conducted, and remote training of 47 trainers was started in 2019 to support teachers in preparing for the appraisal.

An analysis of the results of independent evaluation, expert reports, feedback from the school administration and certified teachers was carried out in 2019 as part of the study of the implementation of new teacher appraisal model. The results were presented at the conference of the International Association for Educational Assessment in Baku, Azerbaijan.

2.5. TEACHERS' ACHIEVEMENTS

One of the outcomes of the activities on professional development is the success and achievements of the Intellectual school teachers in professional competitions at the national and international levels.

Three teachers of the Intellectual schools won in the Republican contest "Best teacher - 2019" for the system of preschool and secondary education of Kazakhstan: teacher-expert of biology Inna Aksyonova (Taraz), teacher-moderator of mathematics Nurtay Gulmanov (Karaganda) and PE teacher of the Intellectual school of Physics and Mathematics in Shymkent Yerbol Tleulov.

Participation of Kazakhstan in the Global Teacher Prize became possible thanks to the support of the Foundation for Development of Socially Significant Initiatives – the official representative of the Global Prize in our country, founded by the Varkey GEMS Foundation. The top ten candidates were selected out of the 48 finalists of the Republican 'Best teacher' contest organised by the Ministry of Education and Science.

The Intellectual schools teachers are among the nine teacher-applicants for

participation in the selection round of the Global award 'Teacher of the world' – the analogue of the Nobel Prize for teachers. These are the 'Best teacher-2018' of Kazakhstan, Physics teacher of NIS PhM Semey Askhat Zhumabekov and the 'Best teacher-2019', PE teacher of NIS PhM Shymkent Yerbol Tleulov.

In 2019, 5 teachers of Nazarbayev Intellectual schools were awarded 2nd and 3rd degree diplomas and a merit certificate of the Republican contest "Festival of pedagogical ideas", 4 teachers were awarded 1st, 2nd, and 3rd degree diplomas and a merit certificate of the Republican contest "Best proprietary programme". The team of NIS PhM Almaty took the 2nd place, and the team of NIS PhM Taraz – the 3rd place in team competition of the VII International mathematics, physics and computer science teacher contest. In the individual competition, 1 teacher took the 2nd place, and 2 teachers – the 3rd place.

Also during the reporting period, 95 employees of the Intellectual schools received the following awards and titles:

Appreciation letters of the President of the Republic of Kazakhstan – 3;

The award pin named after Y. Altynsarin – 8;

The award pin "Bilim beru isinin kurmetti kyzmetkeri" – 7;

Certificate of recognition of the MoES RK – 41;

Letters of appreciation of the MoES RK – 36.



"Best teacher" contest



"European Science on Stage 2019", Cascais, Portugal

Methodological support of the Intellectual school teachers by Centre of Excellence

In 2019, Centre of Excellence (hereinafter referred to as CoE) carried out comprehensive work on training and providing methodological support to teachers of Nazarbayev Intellectual schools in Nur-Sultan.

In the period from 19 to 30 August, 2019, CoE organised a training course for psychologists of Nazarbayev Intellectual schools according to the training programme for psychologists of educational institutions on the "Approaches and practices of counseling children and adolescents in school." The total number of participants is 30 people.

Within the work on the introduction of Lesson Study approach into the practice of NIS teachers in March 2019 CoE organised a visit of Toshiya Chichibu – a leading researcher of the National Institute for Educational Policy Research of Japan – to NIS Nur Sultan, NIS PhM Nur Sultan, NIS PhM Almaty, NIS PhM Kokshetau.

On 7 June, 2019, the II Regional Research-to-Practice Conference on 'Lesson Study: experience of Kazakhstani schools', was held in Nur-Sultan and was attended by NIS teachers.

In August 2019, the trainers of CoE delivered a workshop for teachers included in the Lesson Study group of NIS PhM. The total number of participants is 15 people.

On 19-20 August, at the August conference of NIS teachers in Nur-Sultan, trainers of CoE conducted master classes and trainings for Directors and Deputy Directors of Nazarbayev Intellectual schools, heads of methodological associations and invited guests.

With the aim of professional development of teachers of extracurricular education, the trainers of CoE held a workshop on "Formative assessment in the work of the curator" for the curators of the Nazarbayev Intellectual school of Nur-Sultan, NIS PhM Nur-Sultan. The total number of participants is 25 people.

Network professional interaction builds on the work of professional community of Intellectual school teachers 'Learn and share!' and of the educational portal www.cpm.kz.

Thus, in 2019, CoE performed complex work on the development of professional capacity of the Intellectual school teachers.

Table. Number of events organised by CoE for teachers of Intellectual schools in 2019

Post-course support for NIS teachers in 2019

No	Branch	Post-course support of NIS teachers								
		Lesson observation	Workshops	Master classes	Coaching, training	Webinars	Round tables	Individual consultations	Conferences	Total number of training events
1	Almaty	42	28	10	37	4	9	47	4	181
2	Aktau	49	14	3	4	6	3	23	0	102
3	Atyrau	55	8	3	7	4	5	33	1	116
4	Aktobe	48	28	23	36	24	24	65	1	249
5	Karaganda	12	10	16	76	0	4	81	1	200
6	Kyzylorda	60	7	5	17	2	3	10	0	104
7	Kokshetau	74	2	0	9	0	2	58	0	145
8	Kostanay	44	9	130	44	2	13	35	1	278
9	Nur-Sultan	20	12	3	4	2	2	18	1	62
10	Pavlodar	41	5	3	12	0	1	46	1	109
11	Petropavlovsk	23	14	6	12	0	1	5	1	62
12	Taraz	123	4	2	12	3	0	8	0	152
13	Taldykorgan	29	1	8	32	0	3	107	2	182
14	Uralsk	31	7	9	29	1	3	31	0	111
15	Ust-Kamenogorsk	30	12	9	9	3	6	64	1	134
16	Shymkent	85	27	27	37	11	14	27	0	228
	TOTAL:	766	188	257	377	62	93	658	14	2 415

3 CONTENT OF EDUCATION

3.1	3.2	3.3	3.4	3.5
Educational programmes	Educational resources	Pastoral work	Supplementary education	Medical and psychological services

3.1. EDUCATIONAL PROGRAMMES

Educational programme of "Nazarbayev Intellectual schools" AEO – NIS-Programme

The educational programme of "Nazarbayev Intellectual schools" AEO – NIS-Programme (hereinafter – NIS-Programme) in the 2019-2020 academic year was introduced and implemented in Grades 1-12 in 19 Intellectual schools.

NIS-Programme is focused on in-depth study of science and mathematics, development of functional literacy, research and communication skills, critical thinking, use of information and communication technologies (ICT) and implementation of trilingual education.

During the reporting period, the following activities were carried out within the framework of educational process organisation on NIS-Programme:

- monitoring the implementation of subject programmes, medium-term plans, and their revision based on the results of monitoring;
- continuous methodological support for teachers;
- introduction of subject programmes designed for personalised learning on a trial basis.

Monitoring the implementation of subject programmes, medium-term plans, and their revision based on the results of monitoring

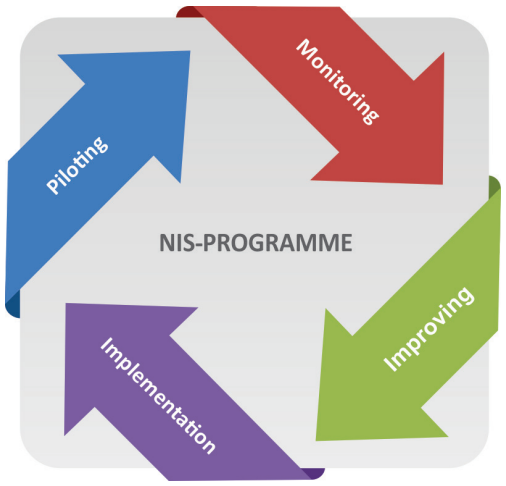
In the 2018-2019 academic year, the subject programmes and medium-term plans within NIS-Programme were piloted in all grades of Intellectual schools.

Over a 7-year implementation period:

- the content of the programmes has been aligned with state and international educational standards;
- the wording of the learning objectives has been corrected taking into account the continuity of knowledge and skills between the levels of education;
- academic workload has been optimised;
- cross-curricular links and profilisation in high school have been strengthened.

To determine the gap between the desired and achieved curriculum , which is one of the priorities of NIS 2030 Development Strategy, a deeper study of the implementation of subject programmes is needed.

The annual monitoring of the implementation of NIS-Programme, conducted by Centre for Educational Programmes, is an important tool for identifying the causes of the gap and ways to solve problems.



Monitoring in 2019 covered **20 primary, secondary and high school subjects.** As part of the monitoring, **11 Intellectual schools** were visited and **363 lessons** were observed.

Based on the results of monitoring, frameworks of reducing the gap between the desired and achieved curriculum have been developed in all subjects, which provide specific and system recommendations for improving teaching practice. Frameworks for reducing the gap, as well as recommendations for improving teaching practices, the possibility of implementing STEM learning, and recommendations for developing integrated homework were provided to schools as part of the Methodical Guidelines for organisation of educational process in Nazarbayev Intellectual schools in the 2019-2020 academic year.

Based on the results of the monitoring, 92 documents were revised (19 subject programmes for secondary and high school, 73 medium-term plans for Grades 1-12, Figure 1).

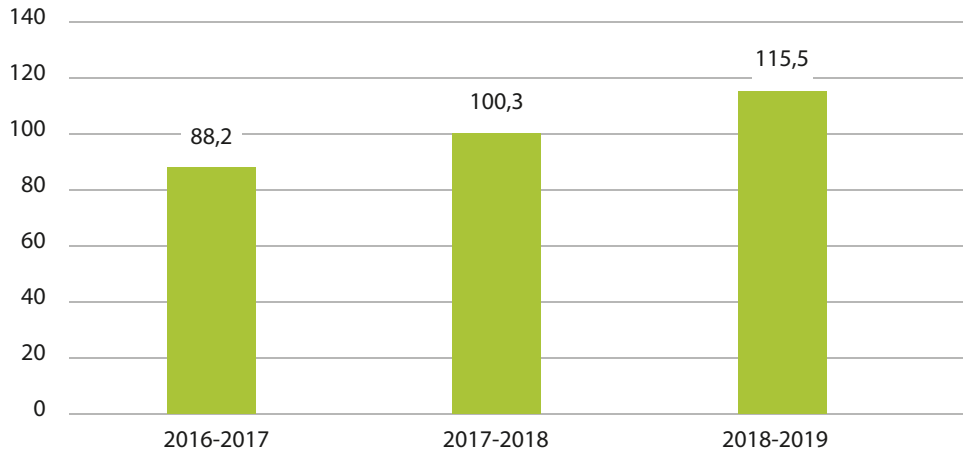
[2] Van den Akker, J., Fasoglio, D., & Mulder, H. (2008). A curriculum perspective on plurilingual education. Netherlands institute for curriculum development, 1 – 17.

Figure 1. Number of revised subject programmes and course plans for 2019

Methodological support for teachers in implementing NIS-Programme

Research on improving the quality of school education show that teachers remain the most important factor influencing students' effective achievement of expected learning outcomes[3]. Therefore, the implementation of NIS-Programme since 2012 has been accompanied by constant methodological support for teachers through the organisation of subject-specific trainings, Skype calls, consulting at an online forum, and the annual development of Methodical Guidelines for organisation of educational process in Nazarbayev Intellectual schools. All the above-mentioned areas of methodological support for teachers are the most important factors resulting in positive dynamics of students' achievements in internal and external summative assessment in all subjects. For example, in Mathematics the average score of students in Grade 12 on the results of external summative assessment increased from 88.2 to 115.5 out of 200 possible over the last three years.

The average score of Grade 12 students according to the results of summative assessment in Mathematics



[3] Abbott, 1988; Hattie, 2003; Barber and Mole, 2007

In the period from July to August 2019, the curriculum developers conducted **26 subject-specific trainings** for **493 teachers** of the Intellectual schools.

During the training sessions on science and mathematics, teachers received methodological support on teaching the strands of the high school programmes that contribute to further studies of graduates in HEIs. Approaches to the implementation of STEAM learning and problem-based learning, practical and laboratory work were considered with a focus on analysis, processing the data obtained and formulating conclusions.

Within the framework of the microteaching methodology, successful lesson planning practices were conducted taking into account individual educational opportunities and needs of students. Examples of solving tasks aimed at assessing the knowledge and understanding of students, their abilities to apply these knowledge, consolidating the understanding of basic mathematical concepts, formulas, statistical data processing, developing skills to apply methods and techniques that require the integration of knowledge in mathematics and science when solving applied problems were considered.

The content of the trainings on **arts and humanities** was focused at concept-based learning, development of students' historical thinking skills, understanding the nature of historical events, processes and phenomena. Subject teachers were introduced to changes in subject programmes according to NIS-Programme, the general methodological framework of defining and organising the content of education, and effective pedagogical approaches in teaching.

The content of the trainings on complex aesthetic subjects was focused at introducing teachers to the methods and techniques for using a differentiated approach and adapting tasks to perform project work, using elements of STEAM, ICT technology to develop students' creative thinking, as well as methods for developing emotional intelligence through the system of learning objectives. Methods and strategies that allow for effective organisation of creative cognitive activity in the classroom through the achievement of subject learning objectives were demonstrated in the format of active learning.

Trainings on **language subjects** were aimed at providing methodological support to teachers in implementing a communicative approach, in particular, when creating a written product of a certain style and genre, developing reading literacy, and selecting effective resources based on the learning objectives.

Introduction of subject programmes designed for personalised learning on a trial basis

In order to provide an opportunity for the most capable students of Nazarbayev Intellectual schools to cover the educational programme in a shorter period of time with respect to the individual capabilities and students' level of knowledge.

Since the 2nd term of the 2019-2020 academic year, personalised subject programmes have been implemented on a trial basis. These subject programmes are designed to cover the educational programme for Grades 8, 9, and 10 within 2 years.

For this purpose, in the reporting period Centre for Educational Programmes has developed:

18 subject programmes and 35 medium-term plans for Grades 8-10 in Mathematics, Chemistry, Biology, Physics, Geography, Computer Science, Kazakh language (L1), Kazakh language and literature" (L2), Kazakh literature, Russian language (L1), Russian language and literature (L2), Russian literature, English language, Arts, World History, History of Kazakhstan, Human. Society. Law (Basics of Law) and Physical Education.

In the 2019-2020 academic year, personalised learning is implemented in two directions on a trial basis:

- according to the educational programme for Grades 8, 9, and 10, which allows to cover the programme of three grades in 2 years
- studying individual subjects according to the individual educational path.

Today, about 200 students of Nazarbayev Intellectual schools study according to the programme of personalised learning.

3.1.1. IMPLEMENTATION OF TRILINGUAL EDUCATION

Teaching in three languages is one of the most important features of NIS-Programme, which is comparable to the world-class programmes of secondary education.

Trilingual education in the Intellectual schools builds on the idea of bringing up a multilingual and multicultural graduate who speaks three or more languages, has subject knowledge in these languages, is aware of the importance of own culture and the culture of other nations in the world, and is able to learn throughout the life (lifelong learning).

In the reporting period the work on implementing trilingual education was carried out in 4 areas:

- monitoring the implementation of trilingual education;
- teacher professional development;
- methodological support;
- coordinating the process of introduction of a second foreign language.

Monitoring the implementation of trilingual education

During the reporting period, the implementation of trilingual education was monitored with the focus on CLIL, and on language support of students in non-language subjects taught in English (L3) in high school.

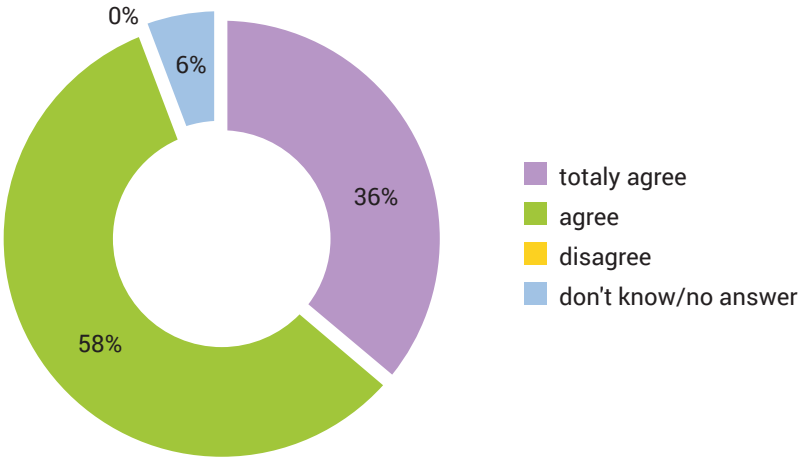
Language support of students in studying subjects in the second and third languages is one of the key mechanisms for developing communicative competence and subject-specific knowledge and skills.

'Language support' refers to any support, 'scaffolding', pedagogical techniques and strategies intentionally provided by teachers in the form of: various templates and constructions for speaking, adapting a text, etc.

Dias and Requejo (2008) argue that teachers who trust and have a positive attitude to CLIL and teaching in an additional language use their conviction, perception, and knowledge as a powerful tool for building students' knowledge. The teacher's belief in the success of CLIL is a cornerstone for self-reflection, motivation, and teacher readiness for change (Banegas, 2012, Hilyard, 2011).

A survey of 200 teachers of Intellectual schools who teach non-language subjects in high school in English shows that the majority of respondents (84%) like teaching in English. Moreover, 94% of respondents agree that CLIL contributes to the development of students' language skills.

CLIL contributes to the development of students' language skills



Thus, it can be assumed that the positive attitude of the majority of Intellectual school teachers (94%) to using CLIL is an excellent prerequisite for quality teaching of the subject content in L2 and L3.

However, the monitoring results showed a direct relationship between the level of English proficiency and the ability of teachers to develop students' language skills in general, and to provide language support in particular. Most of the teachers who took part in the survey are able to provide extensive language support to students in learning the subject content in L2 and L3.

Adjustments were made to the activities planned for 2019 to address the problems identified during the monitoring. For example, the workshops with participation of international trainers Peeter Mehisto and Rosemary Tanner were aimed at developing teachers' skills to work with vocabulary, the skills of providing language support to students.

The monitoring data was considered when determining the content of teacher training courses and methodological support for trilingual education in 2020. It is planned to develop a workshop on "Classroom instruction and language" for teachers of non-language subjects.

Professional development of teachers in the implementation of trilingual education

In the reporting period, training courses were organized for 178 teachers of Nazarbayev Intellectual schools on the following aspects of CLIL:

– Developing students' vocabulary and thinking skills, effective strategies for asking questions – 20 teachers;

– Various methods and techniques for applying scaffolding strategies - 21 teachers;

– Conceptual frameworks of CLIL - 137 teachers.

The workshop in English on CLIL for science teachers delivered by Rosemary Tanner has been held for the second year. Rosemary Tanner, author of the popular books CLIL Skills and CLIL Activities, has developed a special programme and resources aimed at developing students' vocabulary and teachers' skills in asking questions to develop students' thinking skills. During the workshop, participants use various educational applications that contribute to the effective organisation and delivery of lessons.

The workshop delivered by Peeter Mehisto for teachers of Physics, Chemistry, Biology, Computer Science, GPPW, who teach the subject content in English, is aimed at improving the professional competence of teachers in using CLIL, developing skills of formulating language and subject-specific expected outcomes. Particular attention is paid to the development of skills for using scaffolding strategies through various activities. During the workshop, participants had the opportunity to observe and apply techniques and strategies, and to develop their own resources under the guidance of Peeter Mehisto.

Methodological support of trilingual education

Methodological support is provided through the development of teaching aids. The following teaching aids were adapted and published on the online platform cep-forum.nis.edu.kz:

– "Guidelines for Teachers on Using Scaffolding Strategy in Content and Language Integrated Learning (CLIL)";

– manual for teachers of language and non-language subjects on enriching and developing students' vocabulary.

Development of multilingual education

The second foreign language is being taught in the Intellectual schools. The pilot project for learning a second foreign language has been amended to reduce the educational workload of students. Thus, since the 2019-2020 academic year, the study of a second foreign language has been replaced from the core component of the course plan to electives.

Teaching a second foreign language is carried out in close cooperation with international partners. During the reporting period, partners from the French Alliance in Nur-Sultan developed a textbook "Le Français en action!" on teaching the French language, which consists of a student's book, a workbook, a teacher's guide and teaching materials (audio, video materials) for the lesson. The textbook is designed for level A1-A2.1.

The main advantage of this textbook is its compliance with the curriculum of the Intellectual schools, and consideration of Kazakhstani context.

Dissemination of experience in implementing trilingual education

The work on disseminating the experience of trilingual education into the state secondary education system has been continued.

Within the framework of teacher training, 2 workshops were organised to train 39 teachers on the application of CLIL and modern approaches to teaching languages in primary school.

Participants of the workshop acquired new knowledge, and enriched their pedagogical expertise with effective techniques, strategies and resources developed during the workshops.

With the aim of effective implementation of trilingual education in the secondary education system of Kazakhstan, NIS developed the "2019-2024 development roadmap for teaching in three languages in the

secondary education system of the Republic of Kazakhstan" and submitted it to the MoES.

The Roadmap provides a review of world practice, analysis of the current situation and complex measures to improve the effectiveness of teaching in three languages, including pilot projects.

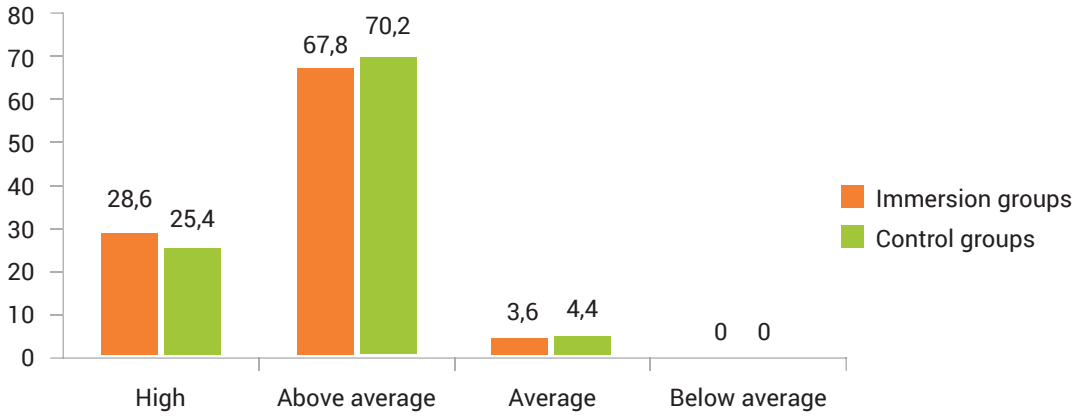
Project of the Kazakh language immersion

Since 2013, Nazarbayev Intellectual schools of Kokshetau and Taldykorgan have been implementing the Project of the Kazakh Language Immersion (hereinafter, the Project) as part of NIS-Programme. 174 primary school students took part in the Project during the reporting period.

Grade	School	Immersion groups	Control groups	
			with the Kazakh language of instruction	with the Russian language of instruction
5	Kokshetau - A	I5.1A – 14 students	C5.1A – 16 students	C5.2A – 19 students
5	Taldykorgan - B	I5.2B – 14 students	C5.3B – 15 students	C5.4B – 20 students
4	Kokshetau - A	I4.1A– 17 students	C4.1A – 22 students	C4.2A – 22 students
4	Taldykorgan - B	I4.2B – 19 students	C4.3B – 14 students	C4.4B – 23 students
3	Kokshetau - A	I3.1A– 17 students	C3.1A – 21 students	C3.2A – 23 students
3	Taldykorgan - B	I3.2B– 15 students	C3.3B – 21 students	C3.4B – 24 students
	Total	**96**	**109**	**131**
	Total	**336**		

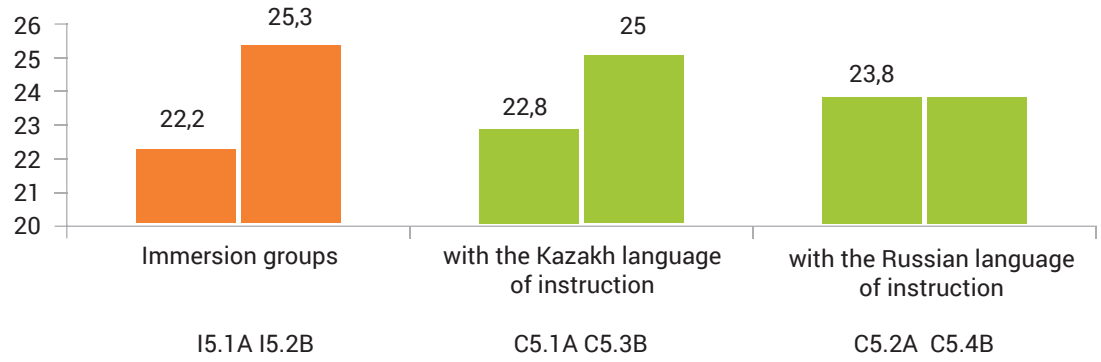
The diagnostics carried out within the study shows that students in language immersion groups have a sufficient level of intellectual development and equal positions with students from groups with Russian and Kazakh language of instruction (Table 3). Students of immersion group in Grade 5 showed higher results than those in control group in 'high' level (+ 3.2%), and lower results in 'average' (-0.8%) and 'above average' levels (-2.4%).

Comparative diagram of the level of students' cognitive skills in immersion and control groups in Grade 5 (%)



96.4% of students in immersion groups and 95.6% of students in control groups score high and above average. This fact proves that students of the immersion group develop and perform at the same level as students who learn in L1.

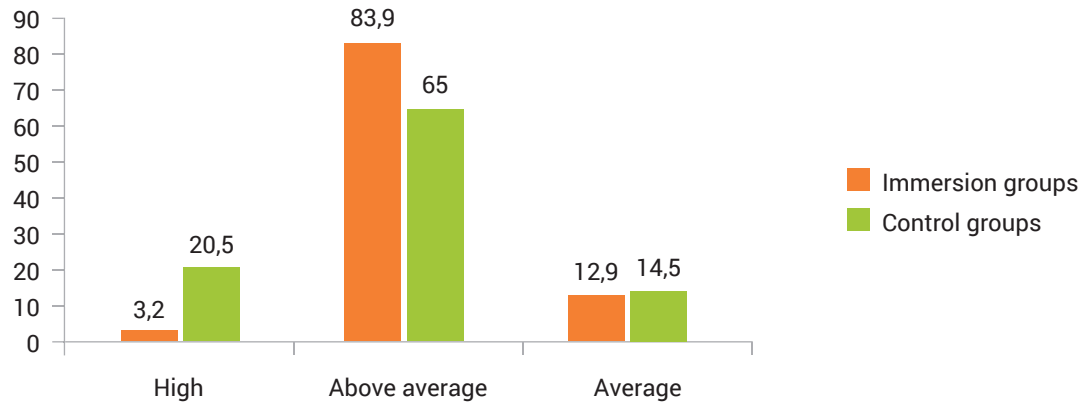
Development of students' cognitive skills in Grade 5 (average score out of 30 maximum)



As can be seen in table 4, in the immersion group I5.2B the average score in terms of the development of students' cognitive skills is the highest (25.3), and in group I5.1A it is lower as compared to that of the control groups.

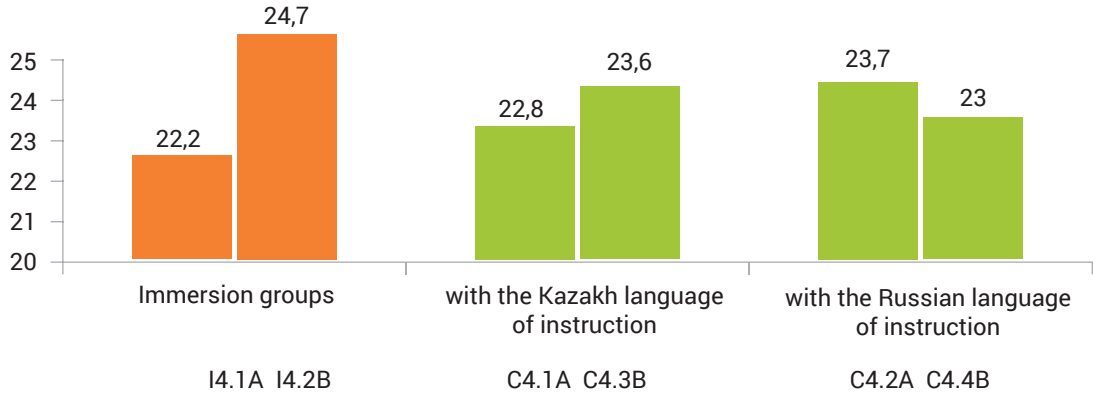
Students of the language immersion group in Grade 4 achieved positive results in the development of cognitive skills. 87.1% of students in immersion groups and 85.5% of students in control groups score high and above average (table 5). Intellectual development of students in the immersion group is of the same level as that of those who learn in the first language.

Comparative diagram of the development of students' cognitive skills in Grade 4 (by level of development, %)



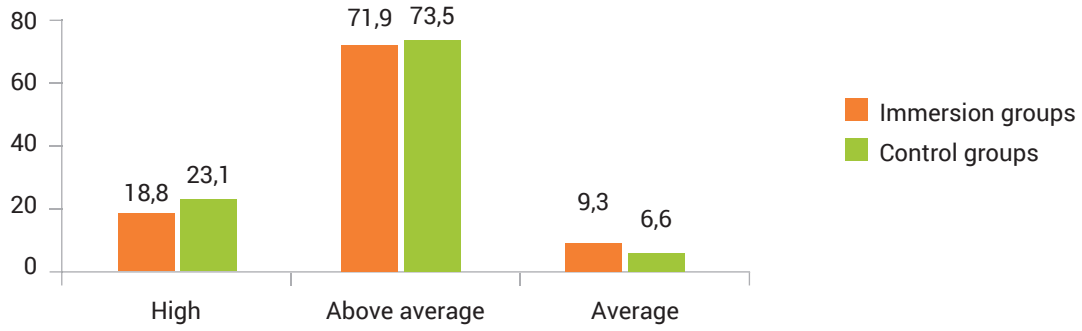
Comparative analysis of the average scores proves that the development of cognitive skills of students in the immersion groups is at the same level as that of their peers in control groups. This fact contributes to the development of speaking skills in the Kazakh language (table 6).

Development of students' cognitive skills in Grade 4 (average score out of 30 maximum)



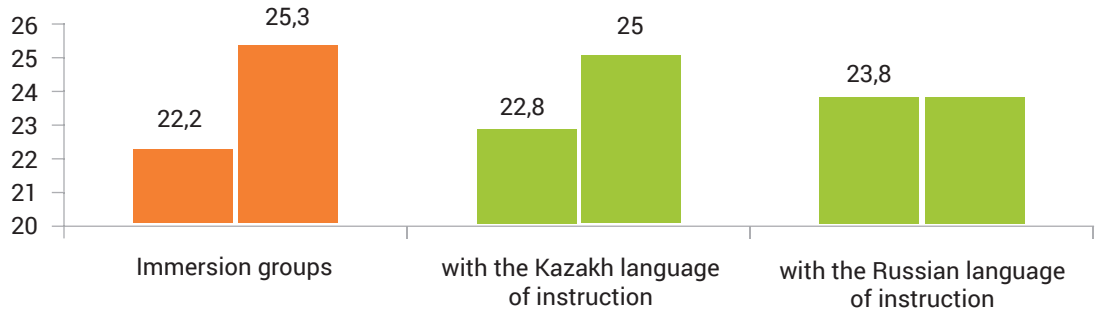
90.7% of students of immersion group in Grade 3 and 96.6% of students of control groups score high and above average (table 7). Gradually, along with mastering the target (Kazakh) language, students of the immersion groups reach the level of control groups.

Comparative diagram of the development of students' cognitive skills in Grade 3 (by level of development, %)



Comparative analysis in terms of average scores (table 8) shows that students of of immersion group in Grade 3 perform better than students in groups with the Russian language of instruction (+1.2; +0.3 points), but worse than groups with the Kazakh language of instruction (-1.5; -1.4). According to international studies in early language immersion, students significantly lag behind in speaking skills and academic performance, particularly in the first 2 years. "As soon as you start learning the first language, students of language immersion groups rapidly catch up the students of regular groups and often even get ahead of them." [Position paper of the coordination center, Georgetta Bolger, 48 pp. Tallinn, 2009].

Development of students' cognitive skills in Grade 3 (average score out of 30 maximum)



Implementation of the Kazakh language immersion project does not impact negatively on learning the subject content according to the curriculum.

During the years of the Project implementation, the development of students' speaking skills is being diagnosed according to five criteria: listening comprehension, pronunciation of specific sounds of the Kazakh language, vocabulary, application of grammar rules in oral speech, development of coherent speech. Results show that teachers support the development of language skills of students in immersion groups (table 9), focusing on the development of academic language.

Diagnostics of language development in the 2018-2019 academic year demonstrates:

1) stable vocabulary expansion;

2) correct pronunciation of specific sounds of the Kazakh language by students;

3) knowledge and proper application of grammatical categories of the language;

4) understanding of the text read by another person (listened);

5) the ability to produce a logical speech, which is indicative of the level of language development.

Table. Comparative indicator of the level of the Kazakh language skills development of children in language immersion groups of NIS Taldykorgan and Kokshetau

2013-2014	2014-2015		2015-2016		2016-2017		2017-2018		2018-2019	
Senior group Taldykorgan	Grade 1		Grade 2		Grade 3		Grade 4		5 класс	
	Taldy-korgan	Kok-shetau	Taldy-korgan	Kok-shetau	Taldy-korgan	Kok-shetau	Taldy-korgan	Kok-shetau	Taldy-korgan	Kok-shetau
71,9%	75%	78%	84%	84%	86%	83%	Grade 5	93,7%	88,7%	72,5%
Middle group, Taldykorgan	Senior group Taldykorgan		Grade 1		Grade 2		Grade 3		Grade 4	
75,2%	76%		78%	80%	80%	81%	85,2%	83,3%	73,4%	74,8%
Junior group Taldykorgan	Middle group Taldykorgan		Senior group		Grade 1		Grade 2		Grade 3	
63,8%	65%		66,2%		83%	77%	93,1%	82,6%	71,7%	78,3%
	Junior group Taldykorgan		Middle group Taldykorgan		Senior group Taldykorgan		1 класс		2 класс	
	49%		54%		75%		89,4%	76,8%	79,7%	73,7%
			Junior group Taldykorgan		Middle group Taldykorgan		Senior group Taldykorgan		1 класс	
			56%		66%		82%		78,9%	82,5%
					Junior group Taldykorgan		Middle group Taldykorgan		Senior group Taldykorgan	
					42%		80%		71,4%	

The outputs of the introduction of the language immersion approach prove its effectiveness, the quality of students' subject knowledge, and the development of language and cognitive skills. This is due to the efforts of teachers experimenters who strictly adhere to the principles of language immersion, create an integrated language environment, work closely with subject teachers, and jointly plan the educational process within cross-curricular themes.

Further implementation of the Project involves preparation for the transition of the Kazakh alphabet to the Latin script. A workshop on the revision of the integrated textbook "Menin ortam" for grade 1 according to the principles of language immersion was held in the reporting period. The content plan of the textbook was developed to ensure alignment with the long-term plan, the subject programme, the cross-curricular themes and the lexical and grammatical minimum of the Kazakh language.

A comparative analysis of the quality of knowledge in immersion groups and in parallel grades that were not involved in the Project shows an equal level of achievement of the expected learning outcomes by all students in almost all subjects.

Monitoring carried out to determine the impact of the educational process on the intellectual and cognitive development in preschool organisations traced the dynamics in the development of children's mental operations during the academic year with the help of 'growth' indicators. The monitoring brought in positive results: the level of development of cognitive processes have been raised, the differences between the levels are insignificant.

Thus, the results of implementing the language immersion method evidence of its effectiveness, understanding of subject knowledge by students, the development of language annd cognitive skills.

3.1.2. OECD PROJECT "FUTURE OF EDUCATION AND SKILLS: EDUCATION 2030"

NIS continues to work as a national coordinator from Kazakhstan in the OECD project "Future of Education and Skills: Education 2030" (hereinafter – Project).

The project is aimed to adapt school education to the unpredictable conditions of the modern world (the VUCA world), and 'outline' the image of the school-2030. The project involves more than 35 countries, including Singapore, Germany, South Korea, Finland, Russia, Japan, as well as international organisations (International Baccalaureate, European Commission, etc.).

During the reporting period, NIS took part in the final stage of the

Phase 1 of the project on renewing the curriculum and developing a conceptual learning framework 2030. Materials for curriculum content mapping (CCM) were prepared and submitted.

In the area of "Mathematics Curriculum Document Analysis" (MCDA), two NIS employees took part in a workshop for experts. The workshop provides tools for in-depth study of the encoded material provided by participating countries in order to conduct the curriculum content mapping.

To prepare for the transition to Phase 2 of the Project, aimed at implementing curricula and developing the conceptual learning framework 2030, a questionnaire on the alignment of pedagogy and assessment with changes in the curriculum was completed and sent to the OECD Secretariat. The OECD Secretariat prepared a preliminary report based on the data received. The analysis involved 13 countries/jurisdictions.

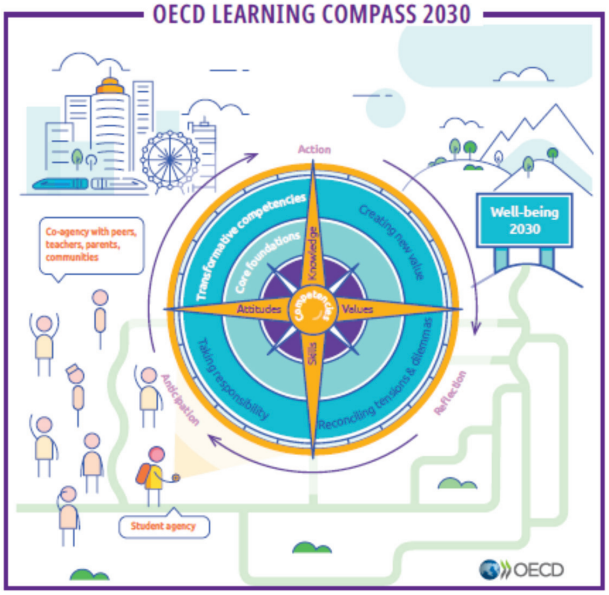
In addition to remote work, NIS representatives participated in two meetings of the informal working group in Vancouver, Canada, and in Seoul, South Korea. The following issues were discussed at the meetings:

- the difficulties in the implementation of renewed curricula;
- the role of social partners in the development of the education system;
- the need for comprehensive development of students and ensuring their well-being;
- consistency of pedagogy and assessment with changes in curricula, etc.

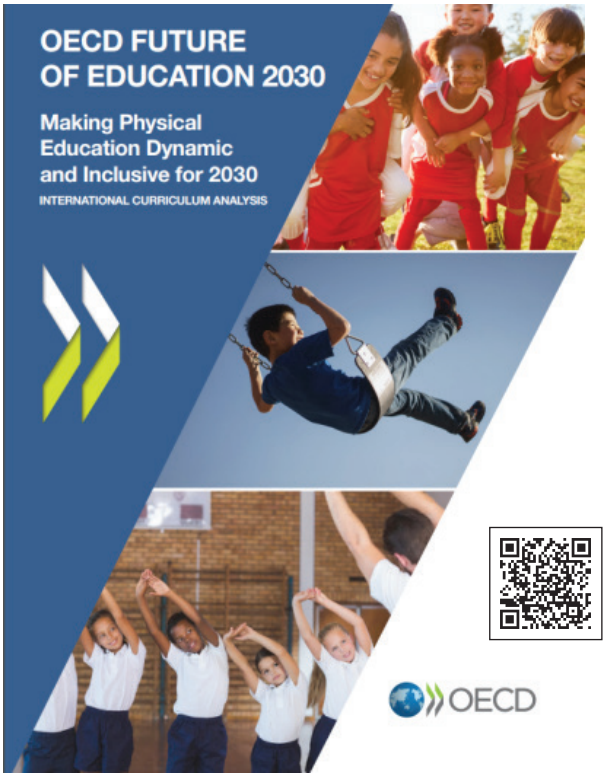
During the meetings of the informal working group of the Project, the OECD 2030 Learning Compass was presented as a visual representation of the OECD framework document "Future of Education and Skills 2030".

The Compass is an evolving learning system that sets out a long-term vision of the future of education. The Compass supports

broad educational goals and provides guidance to the younger generation for the future we want: individual and collective well-being.



The final report on the international physical education curriculum analysis was presented at the meeting in Korea.

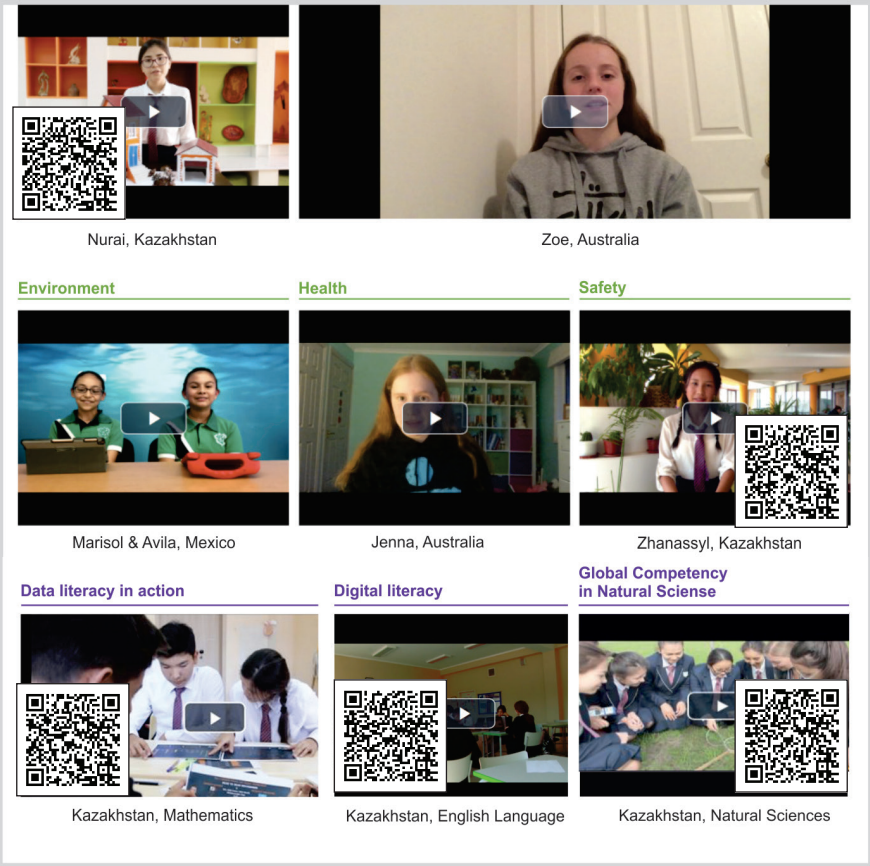


To review the implementation of the Project ideas in practice, teachers and students from all over the world engage in creating videos for the OECD Secretariat. In 2019, students and teachers of the Intellectual and general education schools of the Republic of Kazakhstan took part in a competition of videos and essays based on the key ideas of the project.

As a result, 5 videos from Kazakhstan were selected and published on the official website of the OECD Education 2030 project.

Nuray Bektay, a student of NIS Kyzylorda, in her video shared her own vision of the architecture of future, and Zhanassyl Bakyt from Ust-Kamenogorsk raised the relevant issue of saving people in floods with the help of robotics.

Teachers Nodir Rassulov from Intellectual school of Shymkent (PhM) and Dinara Onerkan from Ust-Kamenogorsk delivered speeches on digital literacy training. Katarina Wolf, an international teacher of NIS Petropavlovsk, demonstrated how to integrate global competencies in science subjects.



In order to spread the Project ideas, the video about the Learning Compass 2030 was translated into Kazakh and Russian. The main ideas of the Project were introduced at NIS August conference "System analysis of management and sustainable development". A third brochure with Project materials has been published.

OECD Project "Future of Education and Skills: Education-2030" allows NIS to be aware of the main trends in the curriculum development and renewing the content of education, to discuss strategies and issues of curriculum revision and implementation internationally. The Project provides an opportunity to compare the process of reforming the educational programme in Kazakhstan with similar reforms in countries performing high in education.

3.2. EDUCATIONAL RESOURCES

3.2.1. TEXTBOOK DEVELOPMENT FOR NIS PROGRAMME

In order to implement 2030 NIS Development Strategy in terms of NIS Sustainable Development, NIS develops textbooks in accordance with NIS educational programme – NIS-programme.

Grade 8 Textbook Development

The following Grade 8 textbooks were piloted in NIS schools in the 2018-2019 academic year: Mathematics, Physics, Chemistry, Biology, Art, Computer Science, Geography, History of Kazakhstan, World History in Kazakh and Russian.

According to the piloting results, textbooks were changed by 20% to improve the quality of content, presentation, design and tasks dedicated to the development of critical and logical thinking.

Applied tasks related to student everyday life prevail in the Mathematics textbooks. In order to develop geometry spatial thinking, tasks related to space and modern architecture were included.

World History textbook invites students to make an analytical assessment of the world picture of the twentieth century and assess the impact of political players on world events. Historical figures and the formation of their leadership qualities are visually presented through authentic illustrations from the world photo banks and archives.

Biology textbook features ("Do You Know?", "Discussion", "Extension Activities") can be effectively utilised in the lesson to establish curricular and cross-curricular links. These features contribute to the development of skills.

The reflection of current trends and needs of modern science is a special feature of the textbook theory component, which helps students to choose their future profession. Each biological nano-element is illustrated with unique photos taken through a microscope, as well as vector images developed by international photo banks to demonstrate scientific research.

The main focus of Art pedagogy is engaging students in new types of fine and applied arts: micro-images, images in 2D and 3D, pop art, batik, gratuity, aircraft design, board game design.

Based on the study of subject materials, much attention is paid to the development of artistic vision, the ability to analyse works of fine, decorative and applied art, the ability to think critically and express feelings in creative works using means of artistic expression.

To achieve these goals, extend and deepen the knowledge, an extensive work was done to find illustrations and obtain permission to use the works of Ernst Haeckel (microimages), photos from the Welcome Image Awards 2017 (microimages), illustrations of paintings by Georgia O'keeffe, Bernd Lutz, Roy Lichtenstein, Andy Warhol, Kazakh artists, etc.

It took a lot of time and effort to select illustrations for the History of Kazakhstan, as international photo banks do not have resources that display Kazakh content. Some historical paintings and archival photographs are in museums of the Russian Federation, archaeological and local history museums of the Republic of Kazakhstan, and even in the collections of libraries in the United States. Maps and collages have been created to replace some of the missing images.

NIS signed 15 agreements, obtained 112 permits for reproductions of creative works and photographs, singed a Memorandum with the Institute of Zoology and Geogebra to create mathematical graphs, and purchased more than 250 unique photo images from 5 world photo banks in order to comply with non-exclusive rights.

Grade 8 textbooks are embedded in the educational process and used in NIS schools since the 2019-2020 academic year. The total circulation amounted to 23 294 copies.

Grade 9 Textbook Piloting

2019-2020 academic year saw the piloting of eight Grade 9 textbooks in Kazakh and Russian developed in accordance with NIS-programme: Physics, Chemistry, Biology, Art, Computer Science, Geography, History of Kazakhstan, World history.

The piloting takes place in 19 NIS schools, involving 494 teachers and 1 682 students.

For budget-saving purposes, NIS approved a plan of providing the Intellectual schools with printed textbooks.

Centre for Educational Programmes pilots textbooks on certain subjects in a certain grade. For example, textbooks for Geography and History of Kazakhstan were piloted in Grade 9A with Kazakh language of instruction; textbooks for Chemistry and Biology were piloted in the Grade 9B; textbooks for Physics and Art were piloted in the Grade 9C. Thus, the textbooks were replicated in 25 copies for each subject: Mathematics, Chemistry, Physics, Art, Geography, World History, History of Kazakhstan, Computer Science, Biology in Kazakh and Russian (12*25 = 300 copies for each NIS school), according to the letter NIS Development Department, incoming number 224 dated April 23, 2019.

Teacher Guides for 8 subjects were provided for NIS school piloting in electronic form along with access to Pedagogical Database.

Electronic versions of textbooks are available at the website.

Grade 10 Textbook Development

Grade 10 textbook are being developed for eight subjects: Physics, Chemistry, Biology, Art, Computer Science, Geography, History of Kazakhstan and World history.

43 authors with different textbook writing background are involved in textbook development process. A training workshop was organised for the authors. The workshop participants learned the business process of textbook development based on previous experience Grade 7-9 textbook development, approved the textbook content plan, developed three spreads for Student Book and received the feedback from methodologists and editors.

Additional activities will be developed for the Grade 10 textbook. These activities will help learners to prepare for external assessment based on subject-oriented upper-secondary education.

Grade 11 Textbook Development

Within the Grade 11 textbook development project for History of Kazakhstan (Kazakhstan in the Modern World), Geography, Kazakh Language and Literature, Russian language and literature, NIS organised competition-based selection of authors, developed author writing templates, author and editor briefs.

Language textbook development started for the first time. The textbook defined general approaches to teaching language and literature that allow learners to develop reading skills (artistic, non-artistic), listening, speaking, writing and grammar skills in full. Also, the textbook provides for differentiated tasks and a list of additional literature to cover the topics in full.

3.2.2. DIGITAL EDUCATIONAL RESOURCES

During the reporting period, CEP developed Digital Educational Resources (DERs) for primary and secondary schools.

These DERs are used in the teaching as the main and supplementary learning tools. They contribute to the intensification of the educational process, individualisation of training and partial automation of teacher's work.

In 2019 CEP developed 30 DERs for the following Grade 4 subjects: Science, Mathematics and World Understanding. 120 DERs were developed for the following Grade 9 subjects: Biology, Physics, Chemistry, Mathematics, Informatics, History of Kazakhstan, and Geography.

A distinctive feature of the DERs are as follows:

– gamification of the learning process – learning material is given in a form of a game backed up by a bright design;

– interactivity – real time learning;

– multilingualism – opportunity to choose one of three languages: Kazakh, Russian, English;

– multiplatform - support any browser based on Webkit and Gecko;

– accessibility – online and offline modes.

Prior DER piloting allows for quality check and improvement based on piloting results.

NIS Grade 3 and 8 students and teachers took part in 2018 DER piloting.

97% of students note that DERs improve their understanding of the topic and confirm the feasibility of DER development as well as subject programme alignment.

Most of the students said they liked 'doing practical tasks', 'tasks or questions with animation and drawings'. DER allows for 'convenient pace of study at a comfortable level', 'better understanding'.

Teachers especially noted:

- appropriateness (subject, pedagogical),
- compliance with the educational standard and its reasonable extension;
- scientific accuracy (no factual errors);
- visibility and aesthetics;
- accessibility (age appropriateness);
- efficiency (lower labour costs);
- technical comfort (DER does not require a high level of software and technical equipment and user training).

Based on the piloting results, including NIS teachers' feedback, the content, software, and design of the resources have been completed.

Thus, DER allows teachers to enhance content, methods, and forms of training qualitatively.

Ready to use DER are available at NISPlay website for piloting and use in the educational process of NIS schools.

A statistical data on DER at NISPlay website as of 31.10.2019 is as follows:

– number of DERs 1 386;

– number of users 12 976;

– number of uses 474 843.

Unified Information and Education Environment (UIEE)

UIEE is a complex of information systems for automating administrative and educational processes in NIS, which has been functioning and developing since 2011. Within the UIEE development, NIS worked on the phased development of an updated version of the School Management System (SMS) in 2019, which is a school component of the UIEE and is located in each NIS school.

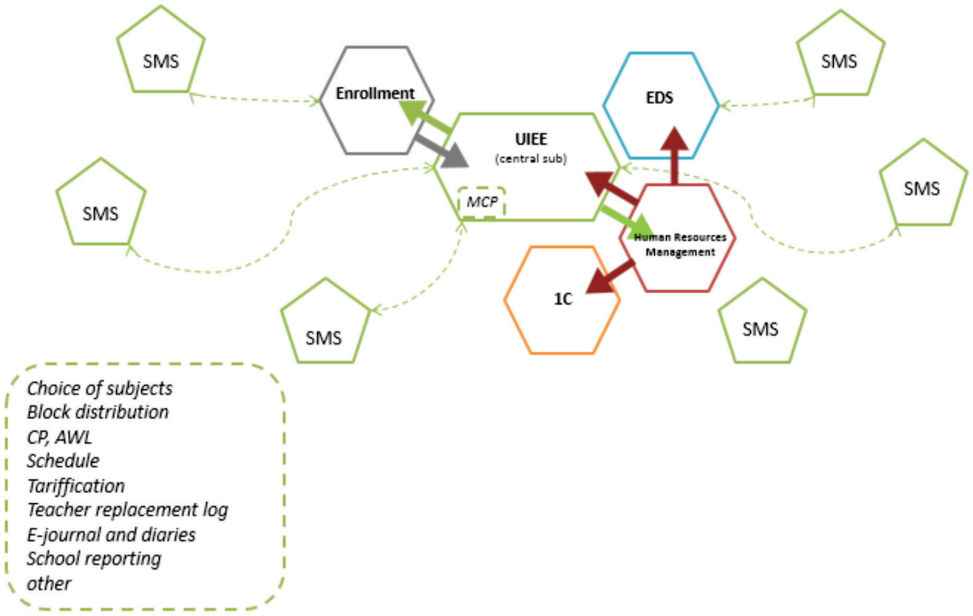


Figure 1. Scheme of administrative and educational processes in UIEE

At the moment, SMS has been piloted in 19 NIS schools. The following main functionality was implemented during the main stage of development:

- preparing and managing the Model Course Plan (MCP), which is the basic plan of the educational process;
- preparing and managing the Course Plan (CP) in the context of learning stages based on MCP;
- managing the selection of subjects in upper-secondary school, including making a block allocation and assigning students to subgroups;
- preparing and managing the academic work load (AWL) and allocation of CP hours among teachers, depending on the subject and the level of excellence;
- preparing a Course Schedule Planning (CSP) for the distribution of the learning content provided by the programme;
- scheduling classes based on AWL and block distribution considering long-term and short-term replacement of teachers and classrooms;
- integrating with the criteria assessment journal and diary, as well as the ICBAM journal and Grade 12 diary;
- implementing an electronic traditional log for class attendance;
- ability to monitor student progress, generate various progress reports, and academic load of teachers.

On the third and final stage of SMS implementation, it is expected to improve the functionality in terms of user convenience and optimisation of business processes based on feedback of SMS users.

Within UIEE development for external system integration, namely with the portal Alumni Nazarbayev Intellectual schools, NIS specialists developed a special gateway to obtain the necessary data from UIEE.

In order to automate and ensure transparency of NIS student transfers, the functionality of the “Students” section of the UIEE has been expanded as follows: online transfer application for legal representatives, online check and application for transfer, automatic notification on transfer progress, the mechanism of queue progress and reporting forms.

A new version of Virtual School Project has been developed on the basis of the Moodle LMS platform. This change is related to the radical update of the business processes of the system. This allows providing learning materials for the subjects and conducting intermediate and final exams for students with feedback.

Uniform Employee Profile system was developed as a unified database that stores quality data of NIS and its branches and subsidiaries for further integration with the external personnel management system and the UIEE. Integration of these systems will allow better monitoring of teacher performance and display data on their workload. The strand of further development of this system are defined.

In order to modernise NIS official website, a new version of NIS corporate portal (nis.edu.kz) has been developed. The new website is featured by a modern-looking design, a wider set of features and flexible interface settings.

"NIS Centre for Information Technologies" Private Entity provides technical support for 24 information systems and portals of NIS. In 2019, the Centre processed 7845 user requests, conducted 18 training sessions on working with functioning systems, and approved technical documentation.

Library Fund

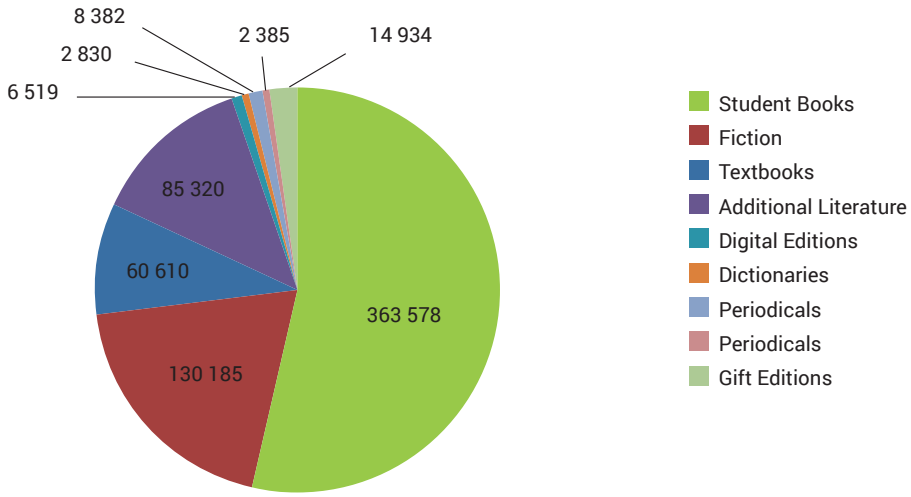
The Library Fund of NIS schools is formed in accordance with the "NIS-Programme", taking into account the requests, needs, interests of teachers and students, analysis of the national and international book market.

In order support the educational process with modern educational, methodological and scientific publications, the libraries work with national and international publishers to supplement the fund.

The total book fund is 674 038 copies of educational, methodological, fiction, scientific and educational literature.

No	School	Total fund	Student Book	Fiction	Textbook	Supplementary literature	Electronic edition	Dictionaries	Encyclopaedias	Periodicals	Gift books
1	**NIS PhM Aktobe**	32 219	15 764	5 211	7 182	2 714	520	129	443	256	730
2	**NIS ChB Aktau**	21 532	12 483	4 925	1 255	2 043	179	77	390	15	180
3	**NIS PhM Almaty**	25 723	14 231	6 029	239	3 420	300	84	219	41	1 160
4	**NIS ChB Almaty**	25 379	15 034	5 050	1 538	2 965	168	38	204	23	359
5	**Nur-Sultan IB**	26 988	11 992	8 686	357	4 656	199	211	240	329	318
6	**Nur-Sultan IS**	60 186	30 391	11 701	12 500	4 974	203	64	160	22	193
7	**NIS PhM Nur-Sultan**	29 952	14 139	5 723	1 782	5 427	214	217	792	34	1 624
8	**NIS ChB Atyrau**	27 142	13 091	5 349	3 095	3 007	251	128	391	71	1 759
9	**NIS ChB Kokshetau**	43 064	22 986	7 926	1 595	8 570	469	142	565	24	787
10	**NIS PhM Kostanay**	23 290	13 433	5 419	715	2 481	186	33	869	24	130
11	**NIS ChB Kyzylorda**	25 808	14 978	4 622	2 916	1 558	175	82	562	150	765
12	**NIS ChB Karaganda**	21 918	9 653	5 210	1 349	4 252	310	113	277	254	754
13	**NIS ChB Petropavl**	22 060	11 731	5 281	828	3 055	178	56	312	15	604
14	**NIS ChB Pavlodar**	27 938	15 861	5 318	1 366	3 851	278	188	317	16	427
15	**NIS PhM Semey**	34 095	17 653	6 457	1 887	6 321	366	243	245	376	547
16	**NIS PhM Taldykorgan**	58 336	31 568	9 090	7 558	8 058	663	181	426	191	601
17	**NIS PhM Taraz**	30 784	17 641	5 157	3 063	3 485	307	139	426	274	292
18	**NIS PhM Uralsk**	39 264	23 890	6 403	2 029	5 744	401	249	252	24	272
19	**NIS ChB Oskemen**	38 184	22 999	6 904	3 266	3 260	392	161	262	19	921
20	**NIS ChB Shymkent**	28 353	17 249	5 267	1 137	2 721	349	137	525	189	779
21	**NIS PhM Shymkent**	31 823	16 811	4 457	4 953	2 758	411	158	505	38	1 732
	Total	**674 038**	**363 578**	**130 185**	**60 610**	85 320	6 519	2 830	8 382	2 385	**14 934**

NIS Library Fund



Developing culture of reading and reading literacy

Within the modernisation of school libraries, NIS school libraries are forming reading and functional literacy using various active game techniques.

11 NIS schools conducted "Book Taste" festivals where students prepared desserts and pastries based on the following books: "My Family" by B. Momysh-uly, "The Book of Words" Abay Kunanbayev, "Twenty Thousand Leagues Under the Seas" by Jules Verne, "Alice in Wonderland" by L. Carroll etc.

The READx project continues to be a very popular platform where students, teachers, parents, and prominent figures meet. Each

participant tells about his or her favourite book and what impression it made. The READx conference is a unique method of sharing information about books, communicating and discussing their ideas. READx has become a traditional event for all NIS schools. Books of different genres and strands like fiction, socio-political, scientific and educational literature are submitted for discussion. The books by the national writers listed in "100 books recommended for NIS students", bestsellers of modern literature and works of the first President receive special attention from the participants.

On September 15, NIS libraries celebrated the International Dot Day, when students read and discussed "The Dot" book contributing to their creativity development.

The Book Surprise Event "Book Conquers the World" is an annual event held on the World Children's Book Day. As part of the event, students and the entire school community have the opportunity to receive an interesting book as a gift from a stranger. During the event, the participants exchanged 8600 books.

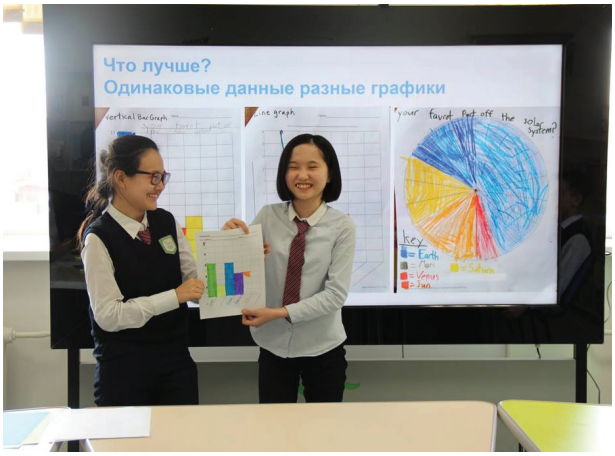
The "Reading Man" event was held in 11 NIS schools. Students and teachers completed interesting mini-quest for a small reward.

Within MEMORO project NIS students try themselves as researchers and television directors, inviting and interviewing older people about various events from their lives. This project allows you to maintain communication between generations, the younger generation has the opportunity to listen to life situations, past events, and absorb the wisdom of the older generation.

The students of three NIS schools took part in ISLM Bookmarks Exchange, a traditional international project organised by the International Association of School Libraries, held annually in October to celebrate the Month of International School Library. This year, students exchanged their hand made bookmarks with students from Rua da Escola Preparatoria School (Portugal), Turceni School (Romania), and Bal Bharti School, Delhi (India). Students decorated their bookmarks with national symbols and flags and wrote warm wishes to their peers.

All NIS libraries have reading clubs, family reading clubs, and volunteer clubs operating during the school year. These clubs are visited by students, teachers, parents and librarians.

NIS libraries are actively implementing new active and playful methods to promote reading and develop PISA information and functional literacy. The librarians learned about PISA technology during special workshops organised by NIS in cooperation with international experts: “Book Frenzy”, “Poem in Your Pocket”, “Poe-Tree”, “Literary Jam”, “Favourite First Page”. Such events have a positive impact on the social and adaptive skills of students, as they are exciting and engaging. They develop critical thinking, skills of working with various types of resources and instil the ability to search for the information in the library independently.



NIS libraries prioritise the development of information literacy in students. In order to develop searching, analysing, information processing, research and critical reading skills, information literacy lessons are held in all libraries.

These lessons are aimed at developing skills of individual work with various sources of information, forming project work skills and research abilities.

NIS schools conducted 21 Sciku library lessons in collaboration with teachers of Natural sciences and Mathematics, lessons on working with statistical information, Q-Focus, News literacy, Three Column Notes etc.

All NIS libraries conduct training sessions on EBSCO international information databases, Twig-bilim and BilimLand educational resources for students and teachers of Intellectual schools in order to develop reading and information literacy through subject integration motivate interest in reading through information support for lessons, conduct active game techniques with the involvement of library resources during the school year.

In 2019, all schools held online training sessions with EBSCO and BilimMediaGroup representatives and trainers for students and teachers.

To celebrate the Day of Philosophy with UNESCO school club members, teacher-librarians of NIS PhM Taldykorgan held an integrated lesson on Idioms with English and Art teachers using dictionaries and collections of English idioms. This lesson increased the motivation for learning due to the unusual form of the lesson. This allowed them to consolidate the material in a creative way (by drawing idioms and writing examples for them).

NIS Shymkent library delivered an integrated lesson on Genetics with Biology teachers and on Gas with Physics teacher for Grade 11 students. During the lessons, the following methods were used during the lessons: Keyword Hexagon, as well as Kahoot, Learning Apps and Bilim Land educational resources, an integrated lesson Chain Reading method together with the PE teacher for Grade 7 students.

NIS Ust-Kamenogorsk library delivered an integrated lesson with English teachers as part of the 100 Books project. Students inspired by Shakespeare's Romeo and Juliet composed their own versions of the poem. The integrated lesson provided students with a fairly broad and vivid idea of the work of Shakespeare, about the existence of a diverse world of artistic culture.

NIS Kyzylorda library delivered an integrated English lesson Fashion, Silhouette and Style in Clothing for Grade 8 students. ICT teachers used Write Around method during an ICT lesson at the library for Grade 10 students. The lesson was built around Piktochart – creating infographic with the help of digital tools. Using www.pictochart.com app Grade 11 students created infographics on various topics during an integrated English lesson on Magazines in the Classroom. 3-Column method was used as a practical activity during the lesson. The method implies working with text from periodicals, an integrated physics lesson in the library. Discoveries and Inventions - production of Time Line cards. As a result, students become more interested in the subject; they acquire certain functional, research skills, develop their critical thinking skills; students' desire to study is strengthened and they learn to work with educational electronic resources.

NIS ChB Almaty library delivered an integrated biology lesson Evolution of Human was held using the Keyword Hexagon method.

NIS PhM Almaty library delivered a lesson on poems and Abay's Book of Words. The aim of the lesson was to understand the educational value of Abay's Book of Words, to learn to understand the importance of philosophical review moral education and teach the content of Book of Words.

Such lessons allow us to consider concepts that are used in different subject areas and organise purposeful work with thought operations such as comparison, generalisation, classification, analysis and synthesis, to show crosscurricular links and their application in solving various problems. The lessons allow showing the connections between events, facts, and phenomena to draw reasoned conclusions. The joint work of the library and the teacher makes it possible to use the library's capabilities more fully in the educational process and to reveal new forms of engaging students in active learning.

PROFESSIONAL DEVELOPMENT

NIS libraries strive to update their practices in working with students, parents and teachers constantly. This makes it possible to maintain the intellectual and resource potential of libraries, turning them into methodological centres for region school libraries. In this regard, much attention is paid to the organisation of advanced training courses, as well as the independent study of new methods

of work. Professional development course on ***"Developing Scientific Creativity and Moral Principles in Students"*** were organised for teachers-librarians and teachers-facilitators of NIS PhM Taraz on 20-22 of February 2019. The course was delivered by specialists from South Korea. Experts noted the high level of professional development of NIS libraries.

NIS libraries continue conducting book market research which ensures more relevant collection of books and provision of better resources. NIS employees took part in the 48th London Book Fair, which was held on March 12-14, 2019 in London. In order to supplement NIS library fund with a diverse collection, NIS continues following world trends in the field of educational resources.

On October 21-25, 2019, NIS employees of Kokshetau and Kostanay attended the **48th annual IASL international conference and the 23rd International Forum on Research in School Library** science in Dubrovnik, Croatia. The topic of this year's conference is ***"Convergence-Improvement-Transformation".*** Participants from 129 countries attended the conference.

Our colleagues spoke about the pastoral work in NIS schools, new methods of work of school libraries. A special part of the presentation was the practical work of Reading Man combined with the form "Favourite First Page" and "Power of the Question". The presentation was received with great interest and active participation from librarians from different countries.

3.3. PASTORAL WORK

NIS schools have an integrated system of educational process that integrates education with learning based on Mangilik El values and Rukhani Zhangyru objectives, aimed at forming a competitive, pragmatic, strong creative, patriotic and proactive personality.

NIS continues the work on the implementation of social, research, creative, sports projects and events.

COMMUNITY SERVICE

Social projects for community service contribute to the development of civic engagement and social responsibility of NIS students.

NIS students organise the projects in the form of volunteer assistance to socially vulnerable population. Schools have accumulated some experience in

implementing social projects such as: volunteer work in orphanages, hospitals, kindergartens, nursing homes, city parks and other social facilities, socially useful work.

On the eve of the Volunteer Year, the schools approved action plans, which were launched in September 2019. The following events were held: "Start the Year with a Good Deed", "Three Thanks!", "Hearth of Kindness", "Get a Child to School!"; festive concert programmes to celebrate the Day of Elderly People; charity events to raise funds for low-income families, etc.

The number of students who participated in this project in 2019 increased by 12.5% compared to 2018.

SOCIAL PRACTICES

Every year NIS students undergo compulsory summer practice. Parents of students provide a great help in organising these events.

In the reporting year, the following practices organised:

- "Take You Child to Work" - 4079 (99.6%) Grade 9-11 students;
- "10 days in at parent's workplace" – 7 280 (99.7%) Grade 9-11 students;
- "Two Weeks in the Village" – 11 359 (99,6%) Grade 7-9 learners.

Since September 2019, **3 new projects** have been launched in NIS schools:

Poets of the Great Steppe – the project focuses on in-depth study of the rich heritage of the classic Kazakh literature and the work of poets of Independent Kazakhstan. NIS school community created Young Poets, White Feather clubs, organised creative meetings of young poets and writers; organised meetings with young poets and writers; prepared collections of poems and stories of club members.

Proverbs I Use in my Life project. Project objective: the moral education of students through proverbs and sayings; promotion of national heritage and national values; development of language skills of students, promotion of native language; teaching resourcefulness, public speaking skills and the use of proverbs in everyday life. Every month, students learn new proverbs, quote proverbs, compete at proverb and drawing contests (about the Motherland, friendship, knowledge, human qualities, work, family, etc.).

The project **Continuity of Generations** is carried out in order to preserve the continuity of generations; to form a positive image of older people; to educate students about morality, spirituality, and hard work through communication with older people. In addition, the project is aimed at increasing the social activity of older people, the level of physical and mental development. Once a week, lonely retired people come to schools to communicate with students.

"A BOW TO THE MOTHERLAND" LOCAL HISTORY RESEARCH EXPEDITION

In order to implement "Rukhani Zhangyru" state programme, the head of state's article "Seven Faces of the Great Steppe", the research expedition "A Bow to the Motherland" was conducted on 17-24 June 2019.

240 NIS students and **40 NIS teachers** participated in the expedition. The expeditions were **conducted along 10 routes.**

The route of the expeditions included national sacred sites, shrines, museums dedicated to famous personalities, historical and local history museums, theatres, state national natural parks and natural tracts.

Participants of the expedition looked at archival documents in higher educational institutions and regional archives, got acquainted with the features of industrial production in the region, met prominent people of the region, etc.

Results of the expeditions were documented in reports and videos prepared by students.

Forum for leaders of NIS student self-government

On December 5-6, 2019, 21 leaders of the student self-government of NIS and teachers-organisers and facilitators who coordinate the work of the student self-government met on the basis of NIS school in Nur-Sultan. Forum topic: "Development of Spiritual and Physical Culture of NIS Students in the Healthy Lifestyle Framework".

The participants were able to share their thoughts on the topic: "The Uniqueness of My School in Solving Current Problems"; listen to the speeches of Ayan Birimzhan, the founder of the company "Health Project": "Health Project" about proper nutrition; Amir Davletov, fitness trainer - about a healthy body; Erkin Azhar, a student of the 12th grade of the Nur-Sultan Intellectual school - about the role of the cultural Kazakh heritage in the treatment of autoimmune diseases.

SUMMER SCHOOL "HEIRS OF THE GREAT STEPPE"

NIS together with the Otandastar Foundation Non-Profit JSC, created on the initiative of the First President of the Republic of Kazakhstan – Yelbassy N. A. Nazarbayev, organised the summer school "Heirs of the Great Steppe" on 10-24 July, 2019.

The main goal of the Summer school is to develop and strengthen the ties of ethnic Kazakh students living abroad with their historical homeland, develop Kazakhstan's patriotism, provide them with academic support in learning their native language, traditions and customs, and strengthen friendly ties between ethnic Kazakh students and their peers from NIS.

12-17 years old children of the Kazakh Diaspora who live in the Islamic Republic of Iran, Mongolia, the Russian Federation, Uzbekistan, Kyrgyzstan, and Tajikistan were invited to attend the Summer School. The total of 175 students attended the school.

The Summer school programme included academic lessons:

- STEM subjects: Chemistry, Physics, Biology, Mathematics, Robotics;
- History of Kazakhstan, Kazakh language and Literature, Design of thinking, Theory of Inventive Problem Solving , Global Perspectives and Projects;
- additional subjects: playing national instruments, pottery, art design, making national jewellery and household items (Kurak-korpe, wool felting technique, spindle);
- study tours.

During the history lessons, the following topics were studied: Seven Faces of the Great Steppe; Mangilik El: One Nation – One destiny; Alash Movement and Kazakh Educators; Youth of the Great Steppe; Thinkers of the Great Steppe; The Age of the Ancient Turks; Transit Transport Corridor; Western Europe – Western China; where children learned about the main stages of development of Kazakhstan, the economic and political role of our country in the world.

The following events are organised for Summer School participants:

- Shadow Poetry, The Story of a Song, an evening of "kyui" history, the intellectual game "Eltanu";
- Meetings with Turkology Professor Karzhaubay Sartkozhauly Ph. D., Aidie Aidarbekov, winner of the "100 New Faces of Kazakhstan" project, employees of the "State Nature Reserve Korgalzhyn" etc.

The children visited National Museum of the Republic of Kazakhstan, Library of the First President of the Republic of Kazakhstan – Yelbassy, Palace of Peace and Accord, Bayterek monument, Central mosque Hazret Sultan, TV and radio Kazmedia Centre, Kazakhstan Gharysh Sapary, Ethno-memorial

complex Atameken - Map of Kazakhstan, IT Hub Astana the international tech park of startups, Nur Alem pavilion, national center of biotechnology, ethnical village, ALZHIR" Museum and memorial complex of victims of political repressions and totalitarianism, Rodina agrarian firm, "Akkayyn" forest nursery "Zhasyl Aimak", "Burabay" State national natural park, and national leading universities: Nazarbayev University, L.N.Gumilyev Eurasian National University

KAZGUU, K. Akyshev Archaeological Research Institute.

During the Summer school, the children learned the folk song "Erkem-AI" on dombra, learned how to make pitchers from clay on a potter's wheel, draw and embroider on fabric, prepare layouts and crafts from improvised materials.

As a result of the two-week training on vocal, dance, and dombra lessons, students showed a bright performance at the closing ceremony of the Summer school.

Each participant received:

- a certificate of participation in the Summer school and souvenirs;
- a photo album "A day in Astana" and a DVD with photos;
- a video about participation in the Summer school and a book for studying the Kazakh language.

SPARTAKIAD

To form a healthy lifestyle and increase the level of physical development of NIS students, school sports contest on futsal, volleyball and basketball was held.

Grade 7-8 students attended the **futsal** competitions; Grade 9-10 students - volleyball; Grade 11 students – **basketball**.

The games were organised in two stages: regional and final.

<u>The winners of the competition:</u>

BOYS TEAM

FUTSAL	VOLLEYBALL	BASKETBALL
1ts place NIS Pavlodar	1ts place NIS Pavlodar	1rd place Shymkent ChB
2nd place NIS Karaganda	2nd place NIS Petropavlovsk	2nd place NIS Uralsk
3rd place Shymkent ChB	3rd place Almaty PhM	3rd place NIS Karaganda

GIRLS TEAM

FUTSAL	VOLLEYBALL	BASKETBALL
1ts place Almaty ChB	1ts place NIS Nur-Sultan	1rd place NIS Aktobe
2nd place NIS Nur-Sultan	2nd place Almaty ChB	2nd place NIS Karaganda
3rd place NIS Karaganda	3rd place NIS Aktau	3rd place NIS Nur-Sultan

NETWORK CHESS TOURNAMENT AND SPARTAKIAD FOR THE NATIONAL GAME TOGYZKUMALAK

On September 27-28, Baldauren Republican educational and health centre of Akmola region hosted a traditional chess tournament and a sports contest for the national game Togyzkumalak among NIS students.

The event was aimed to promote sports and intellectual games among students.

The main Secretary of the International Federation for Togyzkumalak and the head coach of the youth teams – Shotayev M.E. and the current licensed FIDE referee – Meteleno E. S. represented the referees of the games.

84 students competed in a chess tournament and 40 students in the togyzkumalak tournament.

The winners of the Spartakiad for the national game Togyzkumalak:

Among boys:

1st place – Mametan Abylai, NIS Uralsk;

2nd place – Raymbek Dosymzhan, NIS Kyzylorda;

3rd place – Seidahmet Ilyas, NIS Kostanay.

Among girls:

1st place – Zhardem Zhansaya, NIS Aktau;

2nd place – Munaytbasova Zhuldyzay, NIS Kyzylorda;

3rd place – Khamzieva Gauhar, NIS Kostanay.

The winners of the online chess tournament took part in the **XIV Republican chess tournament among schoolchildren,** following the results of which NIS national team of was awarded 2nd place in the team competition.

In total, the team has four bronze medals in the following age categories:

Girls under 9 years old – Alima Omirserik, NIS Taldykorgan;

Girls under 13 – Aruzhan Kaymoldina, NIS Semey;

Boys under 17 – Aibek Katenov, NIS Nur-Sultan PhM;

Girls under 17 – Lanysh Zhandaulet, NIS Almaty PhM.

Cooperation with the Kazakhstan National Federation of UNESCO Clubs

All the Intellectual schools and the International school of Nur-Sultan have created UNESCO clubs, which are part of the Kazakhstan National Federation of UNESCO Clubs. 15% of students are members of these clubs.

In 2019 these students participated in the following projects of the Kazakhstan National

Federation of UNESCO Clubs:

- IV Academy of Creativity of UNESCO Clubs of the Republic of Kazakhstan (UNESCO clubs of NIS Kokshetau, Kostanay, Taldykorgan, Taraz, Ust-Kamenogorsk);
- III International Internet Contest of Children's Drawing "AK Bastau" (UNESCO clubs of NIS Taldykorgan, Ust-Kamenogorsk);
- XX International Children's Drawing Competition in Japan (1 finalist - member of the UNESCO club of NIS Taldykorgan);
- International Competition ""Children draw the world" (UNESCO clubs of NIS Taldykorgan, Pavlodar);
- International art competition "Join the Forces for a World of Nuclear-Free Testing" (UNESCO club of NIS Ust-Kamenogorsk).

In October 2019, in Almaty NIS participated in the Republican Reporting and Election Conference of the Kazakhstan National Federation of UNESCO Clubs and joined the Board of the Federation.

3.4. SUPPLEMENTARY EDUCATION

The system of additional education is an important condition for personal development, health promotion, professional self-determination and creative work of students, taking into account their individual abilities, motives and interests.

NIS schools implement elective courses, clubs, sports clubs, Summer school and Partner schools projects.

3.4.1. SCHOOL-BASED ELECTIVE COURSES

Elective courses are an integral part of the variable school component of the curriculum, aimed at the implementation of the Intellectual school development plan and contributes to the completion and extension of NIS-Programme.

Elective courses are available for Grade 1-12 students in accordance with their needs and choice, provide a higher level of development of one or more academic subjects; serve to form skills and methods of activity for solving practically significant tasks; provide continuity of career guidance; contribute to satisfying cognitive interests, solving vital problems and acquiring educational results for students to successfully advance in the labour market.

NIS implement elective courses equated to the invariant component and elective courses on the interests of students in three areas:

– Extending academic knowledge and research skills;

– Developing language skills, preparing international exams, foreign language learning;

– Development of IT skills.

Elective courses, equated to the core component. They are delivered in order to prepare students for international exams, Olympiads in specialised subjects, and to deepen their knowledge of nanotechnology, biotechnology, engineering, robotics, and information and communication technologies. During the reporting period, NIS schools delivered about 130 424 hours of elective courses on the following topics:

- Preparation for international exams IELTS, HSK, TOPIC, DSD;
- Preparation for the international SAT exam in Mathematics, Chemistry, Biology, and Physics;
- Preparation for exams (CIE, NUFIPET, SAT);
- Preparation for the Olympiad in Mathematics, Chemistry, Biology, Physics, and Computer Science;
- Astrophysics and cosmology;
- Analytical and mathematical knowledge of physics;
- Grammar for advanced learners;
- Statistics;
- Web Design basics;
- Programming in C#;
- Smart technologies based on the Arduino IDR platform.

Elective courses based on students'

interests - play an important role in the system of pre-professional training, and allow students to realize their personal cognitive interests in their chosen educational field, form skills and ways of activity for solving practically important tasks, support their motivation and satisfy the natural curiosity of the student in some area of knowledge that is not represented in the curriculum. During the reporting period, NIS schools conducted elective courses on the interests of students in the amount of about 100 024 hours on the following topics:

- Medicines: benefits and harms;
- Beryllium ceramics modified with nanopowders;
- Probabilistic models and statistics;
- Development of fuel briquettes and "warm house";
- Circuitry;
- PHP web application development;
- Mobile app development;
- Research at the intersection of sciences;
- Development of geography related content in Kazakh on YouTube;
- STEAM - there is no limit to imagination etc.

The 2019-2020 academic year saw the introduction of Second Foreign Language subject as an elective course for Grade 7-12 students. As of November 29, 2019, 4 840 NIS students are learning a second foreign language (German - 1 780, Chinese - 1 386, French - 983, Korean - 579, Japanese - 69, and Italian - 43).

The coverage of students attending elective courses is 100%.

3.4.2. STUDENTS' INTERESTS CLUBS

732 coteries, 21 clubs, and 23 sports sections function to develop the creative needs and interests of NIS students. More than 90% of students attend one of the extracurricular group classes.

Coteries are popular among schoolchildren. Students take an active part in school, online, national and international competitions, and projects. The results of the group classes are demonstrated by the achievements of students. This year Chadykulov Dastan, NIS Aktau, took the 1st place at the International competition for fine arts (Italy); Taubayeva Zhanel (NIS Karaganda) took the 2nd place in III International youth festival "Jumeirah Sounds" (UAE,

Dubai); the dance group of NIS Petropavlovsk – took 1st place at the XVI International festival-contest among children and adolescents in St. Petersburg; Zhetpisbekov Zhomart, Aliyev Alisher, Askaruly Tarlan and Kenzhebek Daryn, Nur-Sultan PhM students, won certificates in the amount of 300 thousand and 500 thousand KZT at the Hackathon National Competition; Abuova Aybibi, Nur-Sultan PhM – 1 million KZT at Altyn Oimaq the National Fashion Designer Contest; Myrzakanov Bekzat, Bitimkhanov Batyrkhan, NIS Oskemen students were awarded a diploma of 1 degree at the International IT contest "ROSSиЯ.RU – 2019", etc.

A total of 256 NIS students won the national contests and 104 NIS students won international competitions in 2019.

Joint elective courses with Stanford University

NIS Nur-Sultan and NIS Aktau became the platform for the courses delivered by Stanford University professors for 100 socially vulnerable students, who were left without parental care, lost one of their parents and those from disadvantaged families.

The courses covered the following topics:

- Genetics in Development and Disease;
- Mathematical Logic and Problem Solving;
- Creative Writing;
- Software and Game Development;
- Leadership in Genius.

The aim of the course is to deepen and extend the theoretical knowledge and practical skills in bioscience, solving logical problems, leadership, creative writing and software development.

Students:

- learned to express their thoughts, feelings, and creative ideas through a literary syllable;
- studied the basics of computer science, learned how to create video games, developing

the skill of design thinking;

• got acquainted with the tools for creating successful businesses and learned what skills are needed for this purpose;

• solved mathematical problems, developed logical thinking skills and analytical skills;

• studied the structure of the gene, heredity and mutation of genes, as well as the influence of technology on the development of medicine.

Elective courses at the Nazarbayev University

Elective courses for 40 NIS students were organised at Nazarbayev University. Students worked on research projects in English in the laboratories of the University's schools: School of Medicine, School of Engineering, School of Science and Technology, School of Mining and Earth Sciences.

Young international and Kazakhstani researchers who have scientific achievements in the field of research at the world level conducted the courses.

Students:

• conducted experiments in advanced laboratories of the University;

• studied electronic circuits and programming based on a practical approach;

• designed various configurations and prepared solid models for three-dimensional printing;

• participated in the preparation of solutions, photoluminescent measurements and fingerprint detection;

• studied the scientific principles of experiment planning, measuring and analysis;

• determined the level of unemployment and inflation, and much more.

Courses delivered by the Specialized Educational Scientific Centre of Novosibirsk State University (SESC NSU)

48 NIS students attended the Olympiad-oriented training course at NIS ChB Pavlodar featured by SESC NSU on the following subjects: Physics, Chemistry, and Biology.

The course is organized for participants of the Republican Olympiad in Natural Sciences and Mathematics of the 2018-2019 academic year (Aktobe) and winners of international subject-specific Olympiads.

3.4.3. INTERNATIONAL ELECTIVE COURSES

Elective courses were organised for 44 NIS students who had become winners of national and international competitions and contests on the basis of 4 leading higher educational institutions of foreign countries, in order to deepen knowledge, develop design and research activities and successfully enter leading world universities.

Elective course at Research Science Institute, MIT

MIT (USA) is one of high-ranking universities in the world, and holds No.1 position in QS World University Ranking 2018. Research Science Institute under MIT accepts 80 the best students worldwide annually for training in summer school within the framework of STEAM learning.

Summer school lecturers are the distinguished researchers, MIT professors and Nobel laureates.

Tulenov Diyar (NIS ChB Pavlodar, Grade 11) and Olzhabayev Assylbek (NIS PhM Almaty, Grade 10), winners of many republican and international Olympiads have been selected among 9,000 best students worldwide to participate in MIT summer courses through Research Science Institute (RSI) programme.

The programme of the RSI courses included attending lectures by MIT professors, solving complex mathematical problems together with a supervisor, attending workshops and pieces of training at MIT, and participating in sports and cultural events.

Elective courses at Columbia University

Columbia University in the City of New York selects and accepts the best students from over the world to advanced courses on actual areas of science and social development in summer. The University is a part of the Ivy League including elite American Universities, and holds the top position of the best universities worldwide.

10 NIS students attended to courses held in advanced laboratories in physics, chemistry, biotechnology and nanotechnology and engineering medicine at Columbia University.

Students were assigned certain tasks and problems for individual or group work.

Columbia University professors, entrepreneurs, and experts from various fields of science and business in Silicon Valley participated in the training.

The courses covered the following topics:

• Computer programming for beginners: coding in Java;

• Introduction to Business, Finance and Economics;

• Introduction to C Programming;

• Entrepreneurship and Innovation: new product development;

• Introduction to Neuroscience: Understanding the Brain.

Training during the course included various forms, including:

• lectures by University professors and teachers;

• laboratory works;

• trips and tours to organisations (for example, the UN meeting in New York);

• team and individual work on projects, presentations, tests.

Students could also choose topics for some lectures from the list of topical questions, for example, on writing a motivational letter to a college/university, and on admission to Columbia University, tours to cultural and educational places and attractions of the city.

Elective courses at Stanford University

Stanford University is one of the most authoritative and top-ranked universities in USA and in the world; holds the 2-nd position in QS World University Ranking 2018. The University is located in Silicon Valley. Its graduates have founded the leading global companies, such as Google, Yahoo!, Hewlett-Packard, Cisco Systems, etc.

22 students have been trained through the courses of XXI century skills development in Stanford University. The training has been held in the form of group work of an international group through Solving Global Challenges Project.

The course plan included five elements of the curriculum:

- Bioscience
- Communication
- Creativity and innovation
- Leadership
- Mathematics and computer science
- Social science

Students explored various writing genres, learned about the importance of creativity and empathy in life situations, explored the importance of entrepreneurship in Silicon Valley, visited the modern laboratory of the Stanford School of Medicine, learned about technologies used to display the work of internal organs of the human body, and much more, and also presented Kazakhstan at an intercultural event.

Elective courses at the Centre International de Valbonne

Summer elective courses have been organised for 10 NIS students learning French language in Centre International de Valbonne (France) with support of the French Embassy. Students were trained through the following programmes:

- French language
- Robotics
- Computer science
- Astronomy

Students observed a night sky at the place of the largest French observatory to study space bodies.

The course programme included visiting historical and cultural facilities in France. Centre International de Valbonne noted motivation, multilingual space, diversity and curiosity of NIS students.

3.4.4. SUMMER SCHOOL

In order to develop the ability to conduct design and research activities and prepare students for admission to top national and international universities, Summer Schools were organised for 2700 NIS and mainstream students.

Within NIS Summer Schools, students had the opportunity to attend courses on in-depth study of individual subjects for 2 weeks.

Fee-based Summer School was organised for 610 students on the following programmes:

- Mathematics
- Robotics
- STEM
- Research and Design
- English Language
- English in science

- Design thinking

In addition, Summer School provided intensive courses in English, Russian, chemistry, biology, mathematics and physics for 548 mainstream school students.

Summer school is a good platform for development of research activity, critical thinking skills and improved academic knowledge.

For detailed information, see web-site www. summerschool.nis.edu.kz.

3.4.5. PARTNER SCHOOLS

Partner Schools Project is implemented by two strands:

- Student training through the comprehensive programme of a partner school;
- The implementation of research and development projects with partner schools;

6 PERMATApintar students (Malaysia) studied at Nur-Sultan PhM, 8 students of Nur-Sultan PhM studied at PERMATApintar, where they studied physics, mathematics, chemistry, biology at school laboratories, immersed into English-language environment, and also shared the experience with the Student Council.

In 2019, NIS ChB Shymkent established long-term cooperation with the Narva Language Lyceum (Estonia) and invited 8 students to study, as well as with the school of foreign languages of the Suzhou Industrial Park (China), where 10 NIS students studied.

9 students of Nur-Sultan PhM and 9 students of International School Hannover Region (Germany) participated in student exchange programme in October. Students were trained according to the corresponding educational programmes, attended clubs and attractions, and lived in each other's families.

NIS Pavlodar received 15 students from the partner school Goethe Schule Wetzlar (Germany), as well as 4 students from the Wolfert van Borselen Tweetalig (the Netherlands).

Since 2018, NIS Taldykorgan has been working on building long-term partnerships with Changdong High School (South Korea), which in 2019 organised an exchange of 6 NIS students with 6 students of the Korean school, in order to conduct joint research projects.

In 2019, cooperation with the Ernst Abbe Gymnasium (Oberkochen, Germany) continued. 6 NIS ChB Almaty students visited the Ernst Abbe Gymnasium to conduct a joint research project.

5 students of the partner school Ayb School (Armenia) studied at the Ust-Kamenogorsk ChB. They took part in school events and went

on a tour to the historical and archaeological complex AK-Bauyr in the Ulan district.

Nur-Sultan PhM and NIS ChB Atyrau students visited Waseda University (Japan), while NIS ChB Almaty students visited Saint-Denis International School (France) for the 12th European festival of art and science, in order to further establish partnerships.

10 NIS ChB Pavlodar students studied Natural Science and Mathematics at the Kolmogorov SESC of the Moscow State University named after M. Lomonosov. In addition to in-depth study of curriculum material, students prepared for international Olympiads in Mathematics, Computer Science, Physics and Chemistry.

20 students of Intellectual schools in Almaty received in-depth training in Physics and Mathematics as part of the Olympic training at the Talent and Success Educational Fund on the basis of the Olympic infrastructure of Sirius Park of Science and Art in Sochi, Russian Federation. It is planned to launch an exchange programme between the Foundation and NIS.

Each Intellectual school cooperates with 5-8 partner schools that allow students to develop skills of intercultural communication, global thinking and tolerance.

3.5. MEDICAL AND PSYCHOLOGICAL SERVICES

MEDICAL SERVICE

The Incidence of NIS Students

Analysis of the incidence of NIS students in 2019 showed that the main groups of diseases are diseases of the respiratory system(ARD, angina, pharyngitis, sinusitis, rhinitis, etc.), digestion, injuries, bruises and external causes, the nervous system, the eye and its appendages, as well as other diseases.

In general, more than 39.3 thousand requests to a paediatrician were registered in medical centres of NIS schools in 2019. The main reasons for complaints are complaints indicating diseases of the respiratory system, digestive system, nervous system, injuries, bruises and other causes.

In 2019, more than 11.1 thousand visits were registered in dental offices of NIS schools. The main reasons for visits and treated cases are the therapeutic treatment of dental caries. For example, the reporting year saw more than 5.1 thousand application of dental fillings. About 79% of them were applied due to uncomplicated caries. The most common dental diseases of students were oral mucosa (stomatitis, cheilitis), gum diseases (gingivitis), and other conditions.

Preventive Medical Examination

During 2019, on average, more than 93.1% of NIS students are covered by preventive medical examinations About 7% of children did not pass the medical examination due to absence, illness, lack of attachment to medical organisations beyond NIS service area (Nur-Sultan). School medical workers instructed some students to pass a preventive medical examination by narrow specialists at the residence of children.

The results of preventive examinations showed that, on average,

42,5%	of children who passed the examination belong to the first group (healthy children),
50,4%	the second group (healthy children with functional abnormalities, as well as reduced resistance to acute and chronic diseases, with risk factors),
6,9%	the third group (children with chronic diseases in a state of compensation, while preserving the functional capabilities of the body),
0,2%	the fourth group (children with chronic diseases in a state of subcompensation).

In addition, during the reporting period, around 96.3% of NIS students have undergone dental preventive examination. More than 28% of examined students needed sanitisation that has been provided within the academic year.

Immunisation

In accordance with the National Immunisation calendar students of different age groups are targeted for vaccination against diphtheria, pertussis and tetanus, tuberculosis, measles and rubella, influenza and other infection related diseases.

In 2019, an average of 83.4% of children who are eligible for vaccination by age are covered by vaccination. The lowest number of vaccination coverage was the flu vaccination. The main reasons for not receiving vaccines are informed refusal of legal representatives of students, as well as medical withdrawal from vaccination.

Health education

Health education and promotion of a healthy lifestyle is one of the main activities of medical services in schools. Events organised in the framework of health education include lectures, talks, trainings, workshops, joint classes with teachers, video presentations, health bulletins, etc.

Every year, NIS medical staff organises and conduct training on basic resuscitation (cardiopulmonary resuscitation) for school employees and students. During the reporting year, NIS schools also worked with employees of the food department to explain the sanitary rules and regulations regarding the organisation of school meals, food safety, and the benefits of a balanced diet and its impact on the health and academic performance of children.

The topics of health education activities for students include prevention of diseases, in particular seasonal and infectious diseases, and dental diseases, some chronic conditions, as well as healthy lifestyle issues. For example, NIS medical staff with International School Nur-Sultan prepared videos, organised talks, lectures and Safe Summer briefings on prevention of solar and heat strokes, tick bites, and intestinal infections, seasonal allergies, and other diseases and conditions.

In order to develop students' awareness of their health and instil healthy lifestyle skills, NIS schools conduct various activities during the lesson and during extracurricular hours. NIS Aktobe organised an open Russian lesson on Creative Writing. Health is Our Choice where students developed instructions and a checklist for parents to engage in morning exercises. In addition, NIS Pavlodar organised a Health Day for Grade 7 students, their parents

and school employees on the eve of Family Day in Kazakhstan (September 8), and held various outdoor sports competitions.

Awareness raising on vaccination and immunization is one of the important issues of health education in schools. Thus, since the beginning of the new school year, medical workers of NIS Taldykorgan meet the parents of Grade 1 students telling about the benefits of preventive vaccinations, possible risks, and the right of parents to refuse vaccination in an informed manner. Also, during lectures and meetings with NIS Uralsk, Atyrau, Almaty and Nur-Sultan PhM students on the prevention of flu, measles and other infectious diseases, the role of vaccination in reducing the risk of these diseases was explained.

NIS medical staff in cooperation with the specialists of health and youth organisations conducts various trainings and interviews on reproductive health issues. For example, students of the West Kazakhstan State Medical University and Volunteers of the y-PEER youth volunteer network conducted a training for NIS Aktobe students on “Reproductive health and family planning” on the prevention of early pregnancy, sexually transmitted infections, and reproductive health of men and women.

In November-December, the volunteers of this network supported by the UN Population Fund conducted training on prevention of psychoactive substance use and healthy lifestyle at NIS Nur-Sultan.

In the reporting year, NIS signed an agreement with the UN population Fund in Kazakhstan to conduct training and integrate reproductive health issues into the educational process. During the first half of the academic year NIS employees saw a training workshop on the revised Valeology course with an enhanced component on sexual and reproductive health, safe behaviour, prevention of unwanted pregnancy and prevention of sexually transmitted infections, including HIV:

– workshop for Centre for Educational Programmes, Centre for Pedagogical Measurements and Centre of Excellence took place in the period from 18 to 20 March 2019;

– workshop for NIS teachers on Biology in the period from 12 to 14 June 2019.

In addition, within the framework of this cooperation, NIS moderates the materials of the Educational Resource Portal (ERP) adding reproductive health issues to the educational process of secondary schools in 10 subjects. A separate branch has been created on the official online resource of the ERP for collecting, posting and distributing materials on reproductive health.

Psychological Service

During the reporting period, psychological services of NIS schools worked to ensure the well-being of students, develop their psychological stability and provide assistance to students in difficult life situations.

The main tasks of the school's psychological services were as follows:

- team approach to prevention and crisis assistance to students and their families in difficult life situations;
- expanding the skills of psychological counselling when working with the requests of participants in the educational process;
- introduction of new approaches and practices of psychological and pedagogical support of students;
- development of professional environment of psychologists and dissemination of experience of NIS teachers-psychologists.

In order to preserve the health of students, provide comprehensive assistance at the early development stages of destructive/ autodestructive behaviour, NIS approved a Standard Provision on the Activities of NIS Psychological Medical Pedagogical Council (PMPC). Thus, 18 PMPC meetings were conducted in order to determine the ways of psychological, medical and pedagogical support for students.

NIS continued the implementation of Strong Family and Prevention of Self-Destructive Behaviour among Minors programmes.

8 school employees received certificates of trainers for Strong Family programme, aimed at reducing family factors that cause deviations in the behaviour of adolescents and the development of good relations between children and parents. NIS Grade 7 students completed a full cycle of Strong Family programme. 829 families participated in 7 training sessions of the programme. As a result parents learned to effectively analyse the situation and psychological state of their children, support them, strengthen family ties, and teenagers received tools to cope with stress and peer pressure.

Within the framework of Self-Destructive Behaviour Among Minors programme, aimed at improving the mental health of adolescents and preventing self-destructive behaviour, employees of the Corporate Communications Department lead the workshops for representatives of parent committees and the NIS Board of Trustees.

The main purpose of the workshops is to familiarise the parent community with the programme, strengthen the position of the parent community in the prevention of self-destructive behaviour in adolescence. 33 representatives of the Board of Trustees and 775 parents attended the workshops.

The school's psychological services started implementing the 2nd and 3rd components of the programme - identifying students who are prone to risky behaviour through the use of a student questionnaire and raising students' awareness of mental health through a series of workshops Influence Your Mood and Improve It.

Work continued to help students in difficult situations. According to teachers and psychologists, they faced 293 crisis situations of students, including family conflicts, behavioural disorders such as aggressive behaviour, bullying and cyberbullying, and auto-destructive behaviour during the reporting period.

In order to help students experiencing behavioural, emotional, and academic difficulties, and to provide psychological education to participants in the educational process, NIS psychological services delivered 9776 consultations, including 5959 consultations with students, 1919 with teachers, and 1898 consultations with parents.

The quality of psychological counselling has improved – psychologists learned how to distinguish between types of psychological counselling, identify work targets, use child-parent coaching techniques in counselling, and conduct interventions to provide more effective assistance to students.

The Trust Post continues to function for written requests on psychological issues (NIS Aktobe and Taldykorgan) along with the helpline at the school psychological service (NIS Taldykorgan), which is another way to help students reduce psycho-emotional stress and experiences.

Teachers-psychologists of the Nazarbayev Intellectual Schools improved their expertise by completing the following courses:

• a training workshop within Strong Family programme - 36% of teachers and psychologists.

• Understanding Children distance learning course at the Gordon Newfeld Institute (Canada) - 85% of educational psychologists;

• training for trainers - 51% of teachers-psychologists;

• training courses for trainers on the professional development of psychologists of educational organisations at CE - 44% of teachers-psychologists.

As a result, teachers-psychologists use new approaches and practices in their work (interactive methods, Newfeld's theory of attachment) and work on disseminating NIS experience to mainstream schools.

27 teachers-psychologists conducted refresher courses on the educational

programme “Approaches and Practices of Psychological Counselling of Children and Adolescents at School” for school psychologists in all regions of the country.

“NIS Community of Psychologists” public association was established in March 2019 to develop the professional environment of psychologists and psychological and pedagogical science and practice.

The community conducted 18 training workshops on anti-bullying for teachers and psychologists of mainstream schools and colleges, specialists of Education Departments and juvenile police officers in 14 regions and cities of Nur-Sultan, Almaty and Shymkent with the support of Great Family Public Fund within the state grant of the Centre for Support of Civil Initiatives NAO of the Ministry of Information and Public Development of the Republic of Kazakhstan.

4 RESEARCH PROJECTS

In accordance with NIS 2030 Development Strategy, the main goal of the research is to identify and improve practices and actions that contribute to achieving the mission and vision of NIS. The results of the research are used to improve the educational process, as well as to support the mainstream schools that implement the model of NIS in their own conditions

NIS research capacity is being strengthened in five key strands:

1. Coordination of research conducted in NIS and its branches;
2. Informing of NIS experience;

– Participation in International Conferences;

– NIS August Conference;

3. International projects;

– The OECD project "Future of Education and Skills: Education 2030";

– "Disseminating and Continuity of Educational Innovations in the Secondary Education System of Kazakhstan" project;

4. NIS Scientific Advisory Board;
5. NIS Annual International Conference.

RESEARCH DEVELOPMENT

Research Department monitors the progress of studies and surveys of NIS and its branches on an ongoing basis. As of the end of 2019, 27 studies have been completed; 18 research projects are in progress (see Annex 1).

NIS initiated negotiations with international research institutes on cooperation in the framework of a long-term study of the impact of education in NIS schools on the personal and professional success of graduates.

The Research Department also reviews and coordinates research requests from researchers who are not NIS employees or its branches. In 2019, 9 external applications for research based at NIS schools were submitted for consideration. 6 of them were approved.

Table 2. List of research carried out based on requests from external researchers

№	Research topic	Researcher info
1	School Performance and School Leadership: Views of Principals and Teachers	Nurmukhanova Dana Batyrgozhina, PhD student, University Eötvös Lorand, Budapest, Hungary
2	Professional Training of Teachers in 'Lessons Study' Methodology	Dayana Balgabekova, PhD student, School of Education University of Glasgow, United Kingdom
3	Understanding School Leadership Within Educational Reforms in Kazakhstan	Mir Afzal, Associate Professor and Director of the PhD programme, Higher School of Education, Nazarbayev University, Kazakhstan
4	CLIL in action: learning classroom practice	Karabasova Laura Chapayeva, a postdoctoral fellow graduate School of Education, Nazarbayev University, Kazakhstan
5	Studying the Compliance of the Computer Science Curriculum to the Modern World Realities From the Point of View of Teachers and Developers of Exam Material	Erkin Shantayev, masters student, University of Glasgow, United Kingdom
6	Perspectives of Subject Teachers Teaching in English Regarding Translanguaging in Primary Schools	Sara Alzhanova, master's student, Higher School of Education of Nazarbayev University

MEDIA COVERAGE OF NIS EXPERIENCE;

In September, NIS employees and NIS teachers once again presented their research results at the 26th European Educational Research Association. The ECER conference on "Education in the Age of Risk the Role of Educational Research for the Future" was held in Hamburg (Germany). It was attended by about 3000 researchers from all over the world.

The conference for young researchers ERC 2019 and the main conference ECER 2019 consisted of 999 sessions of various formats and content: plenary and breakout sessions, panel discussions, round tables, master classes, and meetings with magazine editors, publishing houses, research institutes, and educational organisations.

11 NIS employees, including 8 teachers who registered, took part in the conference. Tursunbayeva K. A. (Manager of NIS Research Department) presented the results of a survey on the opinion of NIS students and teachers regarding research and project activities in NIS schools. A. Mamadiyar (Deputy Director for Pastoral Work NIS ChB Kyzylorda) presented the results of the Lesson Study, and N. Zhakupov (Physics teacher at NIS ChB Pavlodar) made a comparative analysis of NIS Programme and the CIE A level programme for Physics subject.

NIS ChB Aktau, NIS PhM Taldykorgan and NIS PhM Taraz teachers took active participation at ECER 2019. Sh. Sherubayeva and N. Yermagambetova (NIS ChB Aktau) provided the strategy and technology for reading literacy development in Grade 7 students. A. Karimberdiyeva spoke about the effect of peer education on understanding descriptive texts, M. Kurmambayeva presented a report on the evaluation plan for the development of small schools in Kazakhstan, 2010-2020

NIS PhM Taraz teachers, I. Aksenova and I. Bogucharskaya shared their vision of the prospects for using the method of problem learning to develop students' skills of the 21st century.

N. Shaimerdenova and N. Ponamareva, NIS PhM Taldykorgan teachers became fellows of the Group of Young Researchers and received grants of 550 euros per person for a trip, as well as free registration for the Conference from the Association of researchers (the list of fellows can be found at the following link.

N. Shaimerdenova presented a study on the mentoring system, the experience and relationships of teachers. N. Ponamareva presented an ethnographic study on the attitude and readiness of teachers to implement inclusive practices.

Comparative and International Education Society (San Francisco, USA, April 14-18, 2019)

The 2019 annual conference of Comparative and International Education Society was 63rd and attracted more than 3 600 participants from 125 countries. The topic of the Conference was Education for Sustainable Development

The conference included presentations in various formats (plenary sessions, breakout sessions, panel sessions, round tables, master classes, Pecha Kucha sessions, poster sessions, book presentations, and a film festival). During the 4 days of the main conference, participants attended breakout sessions and presented their research in various areas, such as regional characteristics (East Asia, Africa, Eurasia, Latin America, the middle East, etc.), levels of education (secondary, vocational, higher, continuing), social and legal aspects of education (urban education and youth at risk, children's rights,

sociology of education, gender and education), and others.

K. Tursunbayeva, manager of NIS Research Department, attended the conference. In the framework of the master class on scientific publications, K. A. Tursunbayeva presented a draft publication on "Teachers' Understanding of Critical Thinking in English Lessons". Also NIS presented the interim results of the joint project of NIS, Cambridge University and NU – "Dissemination and Continuity of Educational Innovations in the Secondary Education System of Kazakhstan" at the session "Implementation and Support of Systemic Educational Changes – Based on the Results of a Three-Year Study of the Main Issues".

Also K. Tursunbayeva moderated a session on "Studying the Influence of Teachers, Their Beliefs, Self-Awareness, Practice and Quality of Education" (At "Teacher Training and the Teacher's profession" group).

During the conference, NIS employees were informing researchers and educational practitioners about the XI International Research to Practice Conference of Nazarbayev Intellectual schools, on October 24-25, Nur-Sultan.

August conference of teachers of Nazarbayev Intellectual schools

NIS August Conference System Analysis of Management and Sustainable Development was held on 19-20 August, 2019.

D. Tashibayeva, Senior Manager of Research Department spoke at the plenary session of the August conference on the topic "TALIS 2018 Results: evidenced by the voices of NIS teachers". Tashibayeva D. N. introduced the conference participants to the country results of the international study of teaching and learning coordinated by OECD.

K. Tursunbayeva, the manager of the Research Department presented the results of the survey "Research Project Activities at NIS schools" at the panel session "How to Develop the Talent of Students" at the August conference of NIS teachers.

In addition, NIS Research Department organised a workshop on "Practice of Writing Articles for Scientific Journals" with the participation of associate Professor Duishon Shamatov and acting Director of the Department of Science of the Higher School of Education of Nazarbayev University Zakir Zhumakulov.

D. Shamatov and Z. Zhumakulov told about the importance of publishing the results of research work, how to choose a journal for publishing an article, and what bibliometric indicators mean. The speakers elaborated on the process of publishing articles in local and international journals. They also shared practical tips for publishing articles. The workshop was attended by Directors, Deputy Directors and teachers of NIS schools.

INTERNATIONAL PROJECTS

OECD project "Future of Education and Skills: Education 2030";

AOO continues to work on the OECD project "Future of Education and Skills: Education 2030". In 2019, we took part in the final stage of the 1st phase of the project: final materials were sent for comparative analysis of training programmes, and the final report on the analysis of the physical education curriculum was received.

Also, the employee of Centre for Educational Programmes and a Math teacher of NIS Semey took part in a regular workshop organised for experts working on the analysis of maths-related documents and textbooks. The workshop presented tools for in-depth study of the encoded material provided by the participating countries.

In order to prepare for the transition to the 2nd phase of the project, a questionnaire on curriculum, pedagogy and assessment alignment was completed and submitted to the OECD Secretariat.

NIS representatives also participated in two meetings of the project's informal working group in Vancouver (Canada) and Seoul (South Korea). The following issues were discussed at the meetings: challenges of renewed curricula implementing, the role of social partners in the education system development, the importance of comprehensive development of students and ensuring their well-being, etc.

In 2019, students and teachers of NIS and mainstream schools of the Republic of Kazakhstan took part in a competition of videos and essays based on the key ideas of the project.

As a result, 5 videos from Kazakhstan were selected and published on the official website of the Education 2030 project.

In addition, in order to spread the project's ideas, a video about the 2030 Compass of Learning was translated into Kazakh and Russian, and another brochure with materials was released.

DISSEMINATION AND CONTINUITY OF EDUCATION INNOVATIONS IN THE SECONDARY EDUCATION OF KAZAKHSTAN

1. The implementation of the joint research project "Disseminating and Continuity of Educational Innovations in the Secondary Education System of Kazakhstan" is continued. The research team of the project includes researchers from the Faculty of Education of Cambridge University, the Higher School of Education of Nazarbayev University, as well as researchers from NIS schools. Designed for 3 years (2018-2020), the project examines the main aspects of implementing the reform of secondary education in Kazakhstan.

2. In 2019, researchers focused on studying three cases of education modernisation in different regions of Kazakhstan. A special feature of this stage of the project was the survey of parents, students and representatives of local executive bodies of education, along with teachers, school principals and students. The research questions addressed six aspects of the reform:

3. 1. Understanding the goals of the reform;
4. 2. Feedback on the renewed content of education;
5. 3. Changes in teaching practice;
6. 4. New assessment model;
7. 5. Professional support for teachers and resources;
8. 6. Introduction of trilingual policy.

In December 2019, case data analysis was completed. The interim results of the project were presented at the CIES conference (April

2019) and at the XI NIS International Research to Practice Conference (October 2019). In addition, two articles have been prepared for publication in national journals.

In 2020, it is planned to distribute the results of the study by publishing scientific articles, presentations at conferences, etc.

SCIENTIFIC ADVISORY COUNCIL

NIS Scientific Advisory Council (hereinafter – the Council) is an Advisory body on the development of scientific activities and research management in NIS.

During the year, the Council provided online advice on strengthening the research capacity of the organisation, as well as participated in approving new and current research projects and discussing proposals for their further development.

The scientific Advisory Council also assists NIS schools in establishing links with other research organisations.

Besides NIS employees and its branches, the following international specialists entered the Council in 2019:

- David Bridges, *Emeritus Professor at the University of East Anglia and Honorary Fellow of St Edmond's College and Homerton College, UK;*
- Tim Oates, *head of the research and development team at the Cambridge Assessment, specialist in educational content, assessment and international comparative research, UK;*
- John Elliott, *Emeritus Professor of Education at the University of East Anglia, specialist in the theory and practice of research in action, UK;*
- Marit Hoveid, *Professor, Faculty of Social and Educational Sciences, Norwegian University of Science and Technology, specialist in teaching and learning, leadership in education, Norway;*
- Colleen McLaughlin, *Director of the Centre for Educational Innovation, Faculty of Education, University of Cambridge, UK.*

The members of the Council took an active part at the XI NIS International Research to Practice Conference, reviewing abstracts, delivering workshops and moderating sessions. Marit Hoveid delivered a speech at breakout sessions on "Pedagogy and Teacher Training: a Reflexive Approach to Teaching" and "Academic Work Built on Trust". John Elliott shared methodological recommendations for research in action at a breakout session on "Synthesizing Action Research and Lesson Study in theory and practice" and did a lot working on evaluating teacher posters. David Bridges delivered a workshop on "Science and Art of a Single Case as a Resource for Educational Policy and Practice". Colleen McLaughlin spoke on "Taking Seriously the Contribution of Teachers to Education Policy and Practice" at the plenary session, and also presented her vision for the implementation of the reform of the renewed content of education at the Symposium "Dissemination and Continuity of Educational Innovations in the Secondary Education System of Kazakhstan".

The Council had a meeting after the Conference on 26 October, 2019. During the meeting, the results of the 11th Conference were reviewed, and the vision of the 2020 Conference was discussed. It discussed the need to create a database of internal and external research projects of NIS and the implementation of longitudinal research at NIS.

XI INTERNATIONAL RESEARCH TO PRACTICE CONFERENCE

The Annual (XI) NIS International Research to Practice conference (hereinafter the Conference) **was held on October 24-25, 2019.** In terms of the development of the Law "On the Status of a Teacher" and the publication of the first part of the results of the international study of teaching and learning TALIS-2018, the topic of the Conference in 2019 was "Teachers Changing the World of Schooling".

[5] (Regulation on the Council of may 18, 2016; Composition of the Council of June 28, 2019 No. 25)

The 2019 conference was another landmark and large-scale event in education in the region. More than 2 000 people from 20 countries attended the Conference.

One of the features of the 11th Conference was the author's pre-conference master class delivered by Victoria Shimanskaya, an emotional intelligence coach from Russia.

On October 24, the Conference was opened by five teachers from both mainstream and NIS schools. During the session "Becoming a Teacher", Askhat Zhumabekov (Physics teacher, NIS PhM Semey), Tolganay Asylbek (Biology teacher, IT Lyceum Kokshetau), Sergey Polyanskikh (Mathematics teacher, NIS PhM Taldykorgan), Michael Malutshi (Mathematics teacher, NIS ChB Aktau) and Karlygash Nurzhanova (Geography teacher, school No 9 'Zerde', Nur-Sultan) told about the reasons for choosing a profession teachers and why they stay in this profession.

Sholpan Karinova, Vice-Minister of Education and Science of the Republic of Kazakhstan and Altay Kulginov, Akim of Nur-Sultan delivered a welcome speech at the opening of the Conference.

Plenary session "Teacher in a Changing World"

- Kulyash Shamshidinova, the Chairperson of the NIS Board;
- Yoram Harpaz, senior lecturer at Beit Berl College, Israel;
- Theo Wubbels, Honorary Professor of Education at Utrecht University, the Netherlands;
- Karin Tremblay, OECD Lead Analyst, TALIS Project Manager, OECD Directorate for Education and Training, France.

Plenary session "Education Ecosystem: School +"

- Ger Graus, Director of International Educational Programmes at KidZania, UK;
- Sergey Kosaretsky, Director of the Centre for Compulsory and Additional Education. A. A. Pinsk Institute of Education of the National Research University Higher

School of Economics, Russian Federation;

- Eldar Zhumagaziev, Deputy Chairperson of the Board of Atameken National Chamber of Entrepreneurs, Kazakhstan;
- Rick Sommer, Executive Director of the Centre for International Preparation Programmes at Stanford University, USA;
- Abdul Rashid, Executive Director and CEO of Pegasus Education Group.
- Plenary session "Teacher as an Agent of Change"
- Philippa Cordingley, Head of the Centre of Research and Data in Education, UK;
- Aida Sagintayeva, Dean of the Higher School of Education of Nazarbayev University, Kazakhstan;
- Colleen McLaughlin, Director of Education Innovation at the Department of Education, University of Cambridge, UK;
- Catherine Chan, Professor of Applied Pedagogy, University of Hong Kong, China.

Conference in numbers:

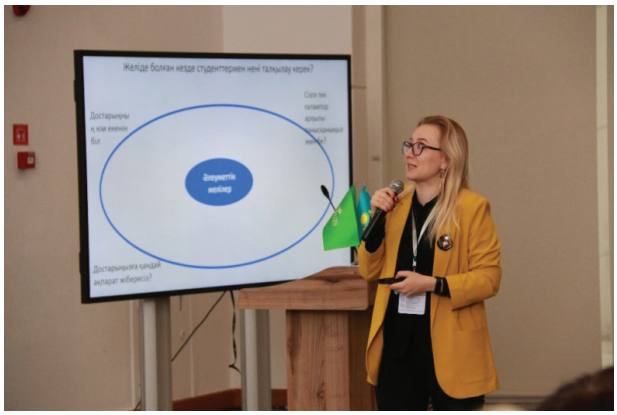
During the plenary sessions, 13 key speakers from among foreign and Kazakh experts delivered their speeches. In general, international experts presented 17 countries at the Conference.

According to the Conference programme, 6 topic workshops, 12 master classes, 7 symposia, 24 breakout sessions with more than 100 presentations, panel discussions with keynote speakers were held.

The Conference included special breakout sessions on topical issues of pedagogical education. At the session on "Current Challenges for a Modern School Teacher", experts from Russia and Kazakhstan spoke about methods of forming teacher skills that prevent cyberbullying, and skills of working with risk group children.

Professor Marit Hoveid, a member of the Council, and experts from Nazarbayev University, delivered their speech at the session on "Development of Academic Integrity as Part of School Culture".

Speakers from Armenia, the Russian Federation and Kazakhstan presented a vision of a progressive model of teacher-student cooperation during the session on "Teacher-Student Interaction in a Modern School".



The session on "Issues of Inclusive Education" was organised with the participation of NIS teachers, a Professor of Nazarbayev University and entrepreneurs in education.

Participants discussed topical issues of implementing inclusive education in Kazakhstan schools and shared their own experience of teaching children with special educational needs.

Other Conference Events

The traditional poster session for an international conference in 2019 also increased in scale – more than 80 participants presented their works. Teachers presented the results of their research in Action Research and Lesson Study and shared their practical experience.

Two parallel breakout sessions on "Research and Practice of Teachers" were organised during the two days of the Conference, with more than 70 presentations of teachers-practitioners.

Autograph sessions of seven experts-speakers of the Conference supplemented the event list of the Conference. Participants of the Conference were able to purchase books and get autographs from Yoram Harpaz, Victoria Shimanskaya, Sergey Kosaretsky, David bridges, Marit Hoveid, Colleen McLaughlin, and Philippa Cordingley.

Centre for Educational Programmes, Centre of Excellence, Centre for Pedagogical Measurements, as well as other companies that implement methodological and technological solutions in the field of education traditionally presented their products at the educational exhibition that lasted two days.

For the first time, the Conference awarded the winners in the categories for the best performance. The jury board consisted of NIS experts and international experts.

The Chairperson of NIS Board Kulyash Shamshidinova awarded certificates to five winners in the category 'Best poster' and five winners in the category 'Best presentation'.

Receiving and reviewing applications

In 2019, the application process was carried out through the conference website.

The selection of applications was based on a two-stage anonymous review by members of the Academic Committee. The Committee consists of Kazakhstan and international experts in education, and members of the Council.

The Research Department informed the authors of applications and potential Conference guests about the progress of abstracts preparation and consideration by sending notifications from the Conference e-mail. As in the previous year, guests from more than 20 countries attended the 2019 Conference, including special delegations from Central Asia and the Russian Federation.

Of more than 400 abstracts submitted to the Academic Committee, 93 presentations and 88 posters were accepted as part of the review programme. Thus, 44% of applications for participation were reviewed positively.

Conference materials and website

All materials of the Conference are available at the official website. The Conference website is the main resource where participants and guests can find information about the application process, about key speakers and Conference strands.

Within the period of November 2018 to October 2019, the website counted more than 61 thousand visits (including more than 53 thousand in 2019 only). Over the entire period (since 2016), 276.5 thousand visits have been registered.

5 QUALITY ASSURANCE

5.1
Student Performance Monitoring

5.2
Criteria-Based Assessment

5.3
External Summative Assessment in Grades 5 and 10–12

5.4
NIS Schools Accreditation

5.5
NIS Programme and NIS Certificate Recognition

5.1. STUDENT PERFORMANCE MONITORING

NIS student performance monitoring is a standardised assessment tool used to regularly collect, process and provide objective information on the level of current knowledge of students, which allows tracking and adjusting the individual educational trajectory of each student.

The activity bank is updated and supplemented annually.

200 test activities in Mathematics and 200 test activities in language subjects were developed and reviewed in 2019.

5.1.1. STUDENT PERFORMANCE MONITORING IN MATHEMATICS

The monitoring involved five units of the subject programme such as Numbers, Algebra, Geometry, Statistics and Theory of Probability, Mathematical Modelling and Analysis.

In 2019, 2 monitorings were conducted:

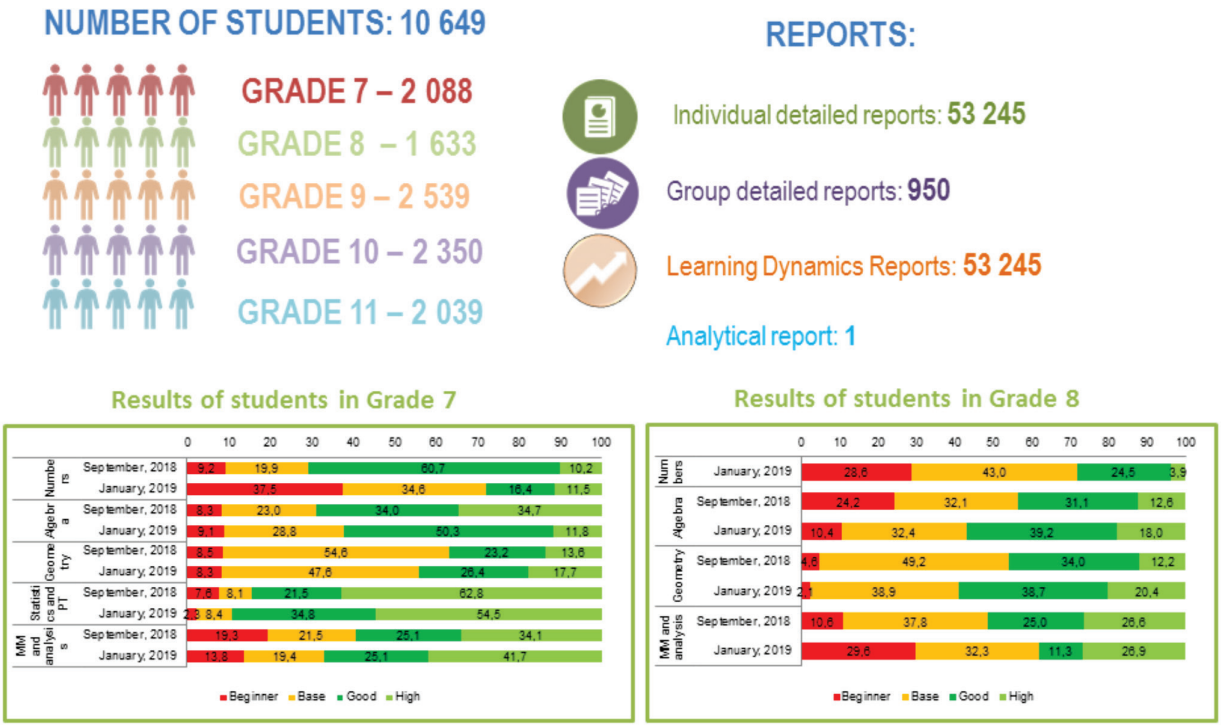
- in January for grades 7-11 NIS students;
- in September for grades 7-12 NIS students.

Two workshops were conducted to discuss the monitoring output, set assessment standards and describe achievement levels with support provided by NIS mathematics teachers, and one workshop to discuss the review results and refine the test activities.

The results of the student performance monitoring were statistically processed and analysed based on psychometrics by using the classical (TIA Plus) and modern (OPLM) theory tests, and were classified into four levels of learning achievements by the method of "Bookmarks" ('Beginner', 'Base', 'Good', 'High').

School enrolment, the number of reports delivered to schools and the student performance in grades 7 and 8 across four levels of learning achievements are presented in figures.

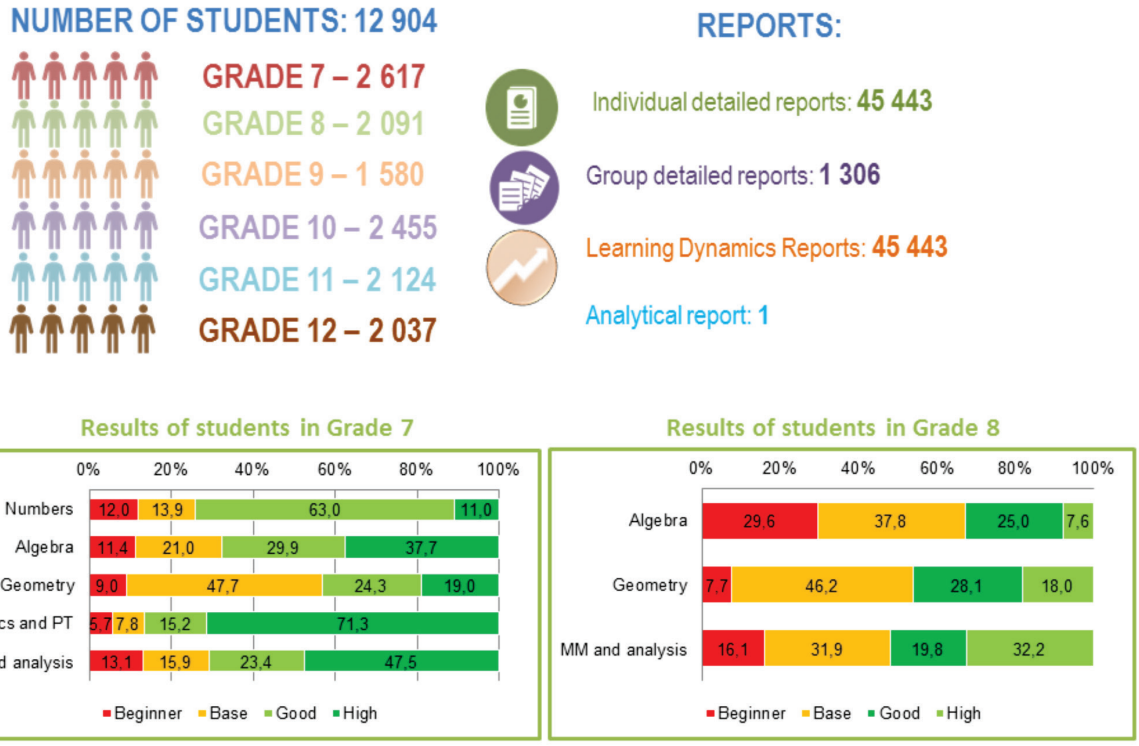
Figure 1. The monitoring results in January 2019 and September 2018



The comparative analysis of the monitorings in January 2019 and September 2018 showed an upward trend in 'Good' and 'High' levels of students' learning achievements in:

• Grade 7 in Geometry, Statistics and Theory of Probability and Mathematical Modelling and Analysis;
• Grade 8 – Algebra and Geometry;
• Grade 9 – Geometry and "Statistics and Theory of Probability;
• Grade 10 – Algebra, Geometry and Statistics and Theory of Probability;
• Grade 11 – Algebra and Mathematical Modelling and Analysis.

Figure 2. Monitoring results, September 2019



• The student performance monitoring (September 2019) showed the peak values of 'Good' and 'High' levels of students' learning achievements in:

• Grade 7 in Geometry, Statistics and Theory of Probability and Mathematical Modelling and Analysis;
• Grade 8 – Geometry and Mathematical Modelling and Analysis;
• Grade 9 – Statistics and Theory of Probability;
• Grades 10 and 11 – Geometry;
• Grade 12 – Statistics and Theory of Probability.

5.1.2. STUDENT PERFORMANCE MONITORING IN LANGUAGE SUBJECTS

To determine the level of proficiency of NIS students in L2 and L3 according to NIS-Programme and CEFR, the monitoring of language subjects focuses at four language skills 'Reading', 'Listening', 'Speaking', and 'Writing'.

2019 saw 2 monitorings of student performance:

• in April for grade 7-10 students of 19 Intellectual schools;
• in September for grade 7 students of 20 Intellectual schools.

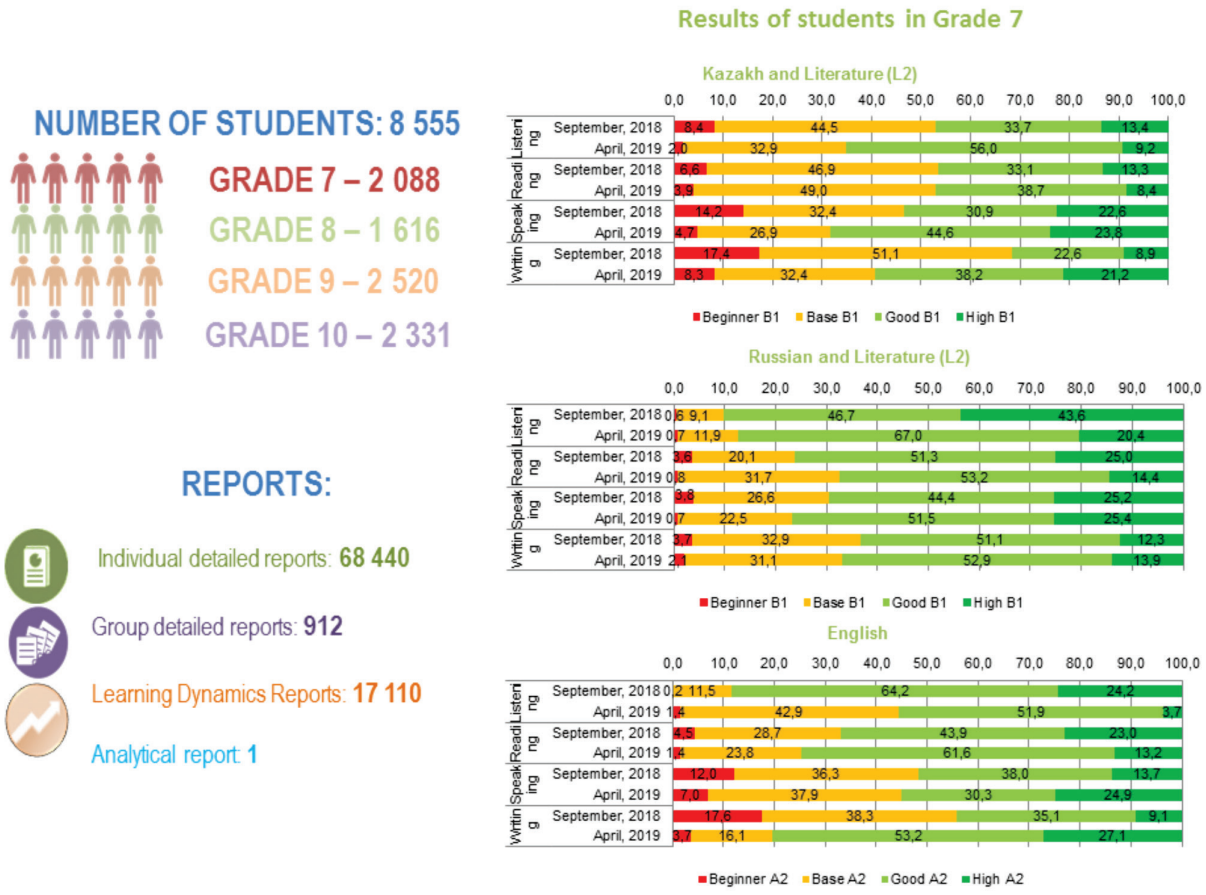
A workshop was held to discuss the

expertise results and refine test activities.

According to the monitoring outputs, the students' answers were statistically processed and analysed based on psychometrics by using the classical (TIA Plus) and modern (OPLM) theory tests. According to the analysis, the results of the student performance monitoring were classified into four levels of learning achievements ('Beginner', 'Base', 'Good', 'High').

Student population, the number of reports submitted to schools, and the student performance in grade 7 in four language skills are presented in figures.

Figure 3. Monitoring results of April 2019 as compared to September 2018



The comparative analysis of the monitorings in April 2018 and April 2019 showed an upward trend in the following subjects:

Kazakh Language and Literature (L2)

- Grade 7 - all language skills,
- Grade 8 - listening and speaking,
- Grade 9 - reading,
- Grade 10 - reading and speaking.

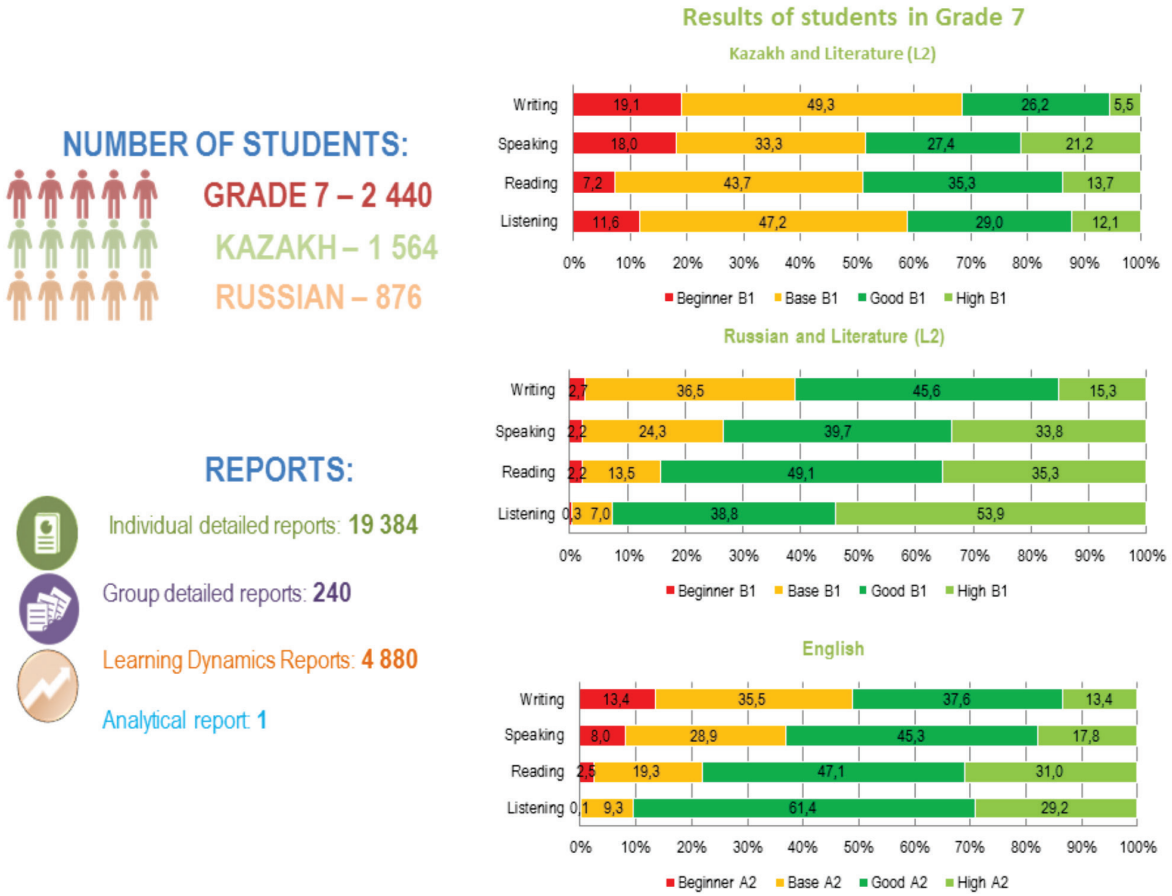
Russian Language and Literature (L2)

- Grade 7 - speaking and writing,
- Grade 8 - listening and reading,
- Grade 10 - reading and speaking.

English Language

- Grade 7 - reading, speaking and writing,
- Grade 8 - all language skills,
- Grade 9 - reading and writing,
- Grade 10 - all language skills.

Figure 4. Monitoring results of September 2019



The analysis of the monitoring results for grade 7 students in September 2019 showed the highest performance in the following subjects:

- Kazakh Language and Literature (L2) - speaking and reading;
- Russian Language and Literature (L2) - speaking, reading and listening;
- English Language" - speaking, reading and listening.
-

5.2. CRITERIA-BASED ASSESSMENT

Centre of Pedagogical Measurements developed methodological guidelines for formative and summative assessment across subjects, grades and languages of instruction, as well as informational and reference materials to provide methodological support in implementing criteria-based assessment in schools:

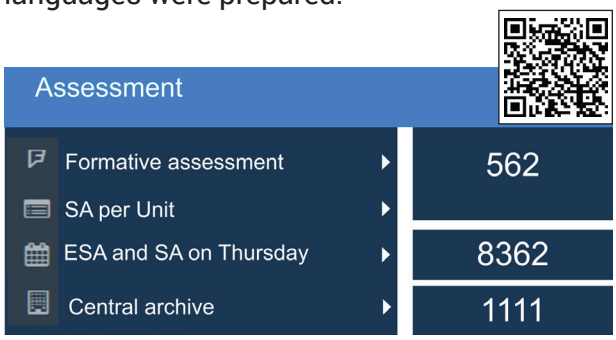
- 25 methodological guidelines for summative assessment of unit across grade 11 subjects;
- 90 specifications for summative assessment across
- grades 6, 10 and 12 subjects;
- 7 methodological guidelines for summative assessment and 19 specifications for summative assessment in the subjects for grades 1-4, 9 and 11 due to adjustments in the subject programmes.

The criteria-based assessment rules for summative assessment, storage of summative works, etc. were amended in 2019.

Grade 11 NIS students adopted the improved criteria-based assessment system according to the timetable for the phased transition in 2019-2020.

The library of 'Assessment' Information System is supplemented with formative and

summative assessment activities (562), and students' works in a central archive (1111). The review of materials for summative assessment for a term (8362) was implemented; the video guides for internal and external review of summative works across subjects, grades and languages were prepared.



To improve the professional competence of teachers and identify the areas for the further development of assessment practices, a webinar on "Development of Formative Assessment Practices to Achieve High Results" was held for NIS teachers, and the materials prepared by the teachers who completed the course of "Development and Review of Assessment Tools" were reviewed.

5.3. EXTERNAL SUMMATIVE ASSESSMENT IN GRADES 5 AND 10–12

The assessment of student performance upon the completion of a certain level of education is an integral part of learning process, and for this purpose, NIS runs external summative assessment at the level of primary, basic and secondary education.

The regulations for organising and holding external summative assessment are available at NIS website, and timely delivered to Intellectual schools.

The requirements to assessment of NIS student performance correspond to the standards of Cambridge Primary (grade 5), IGCSE (grade 10), AS-level and A-level (grades 11-12).

The examination papers for grades 5, 10-11 were developed by Centre for Pedagogical Measurements, and together with Cambridge Assessment International Education (hereinafter – Cambridge) for grade 12.

For the first time in 2019, the meeting of the Examination Quality Assurance Committee with the participation of Cambridge experts was held in the city of Nur-Sultan. The examination papers for grade 12 were reviewed at the meeting for compliance with AS-level and A-level requirements. Cambridge experts highly appreciated the professionalism of the staff of Centre for Pedagogical Measurements and developers of examination papers.

During the exams, Cambridge experts checked the conditions for organising exams in 6 Intellectual schools for compliance with the requirements of AS-level and A-level international standards. By the end of the inspection, a report was received with high evaluation of the schools.

To organise the exams successfully, NIS Deputy Directors attended workshops and webinars during the year that clarify the assessment procedures.

The exams were held in compliance with all security and confidential requirements according to legal regulations.

Figure 5. Exams in grade 5

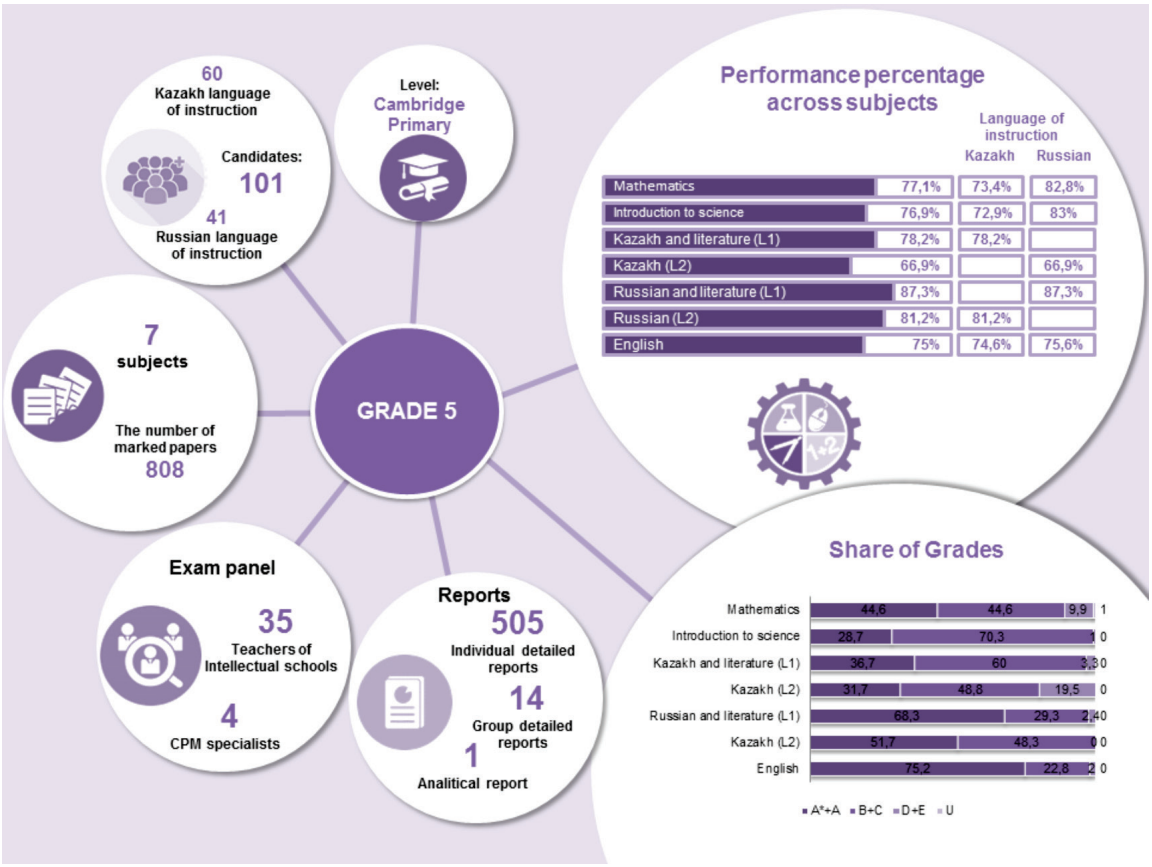


Figure 6. Exams in grade 10

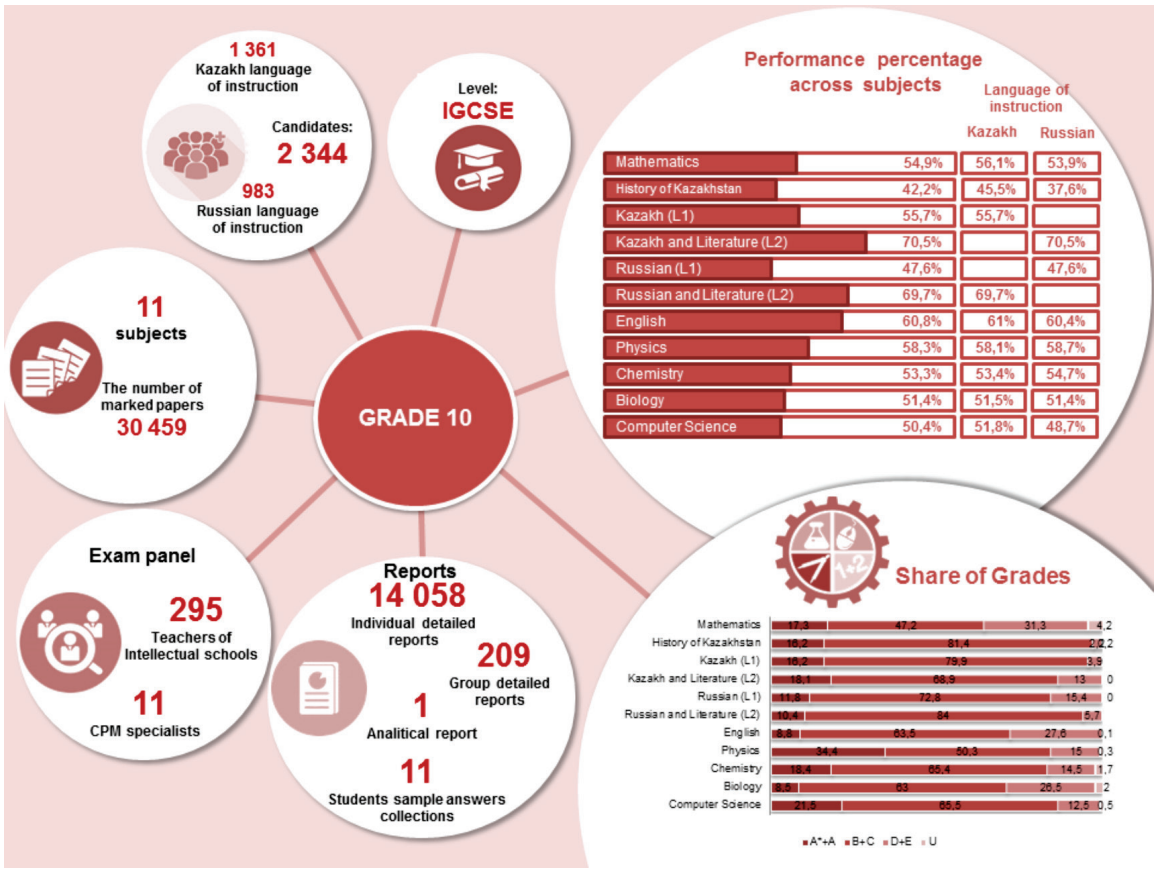


Figure 7. Exams in grade 11

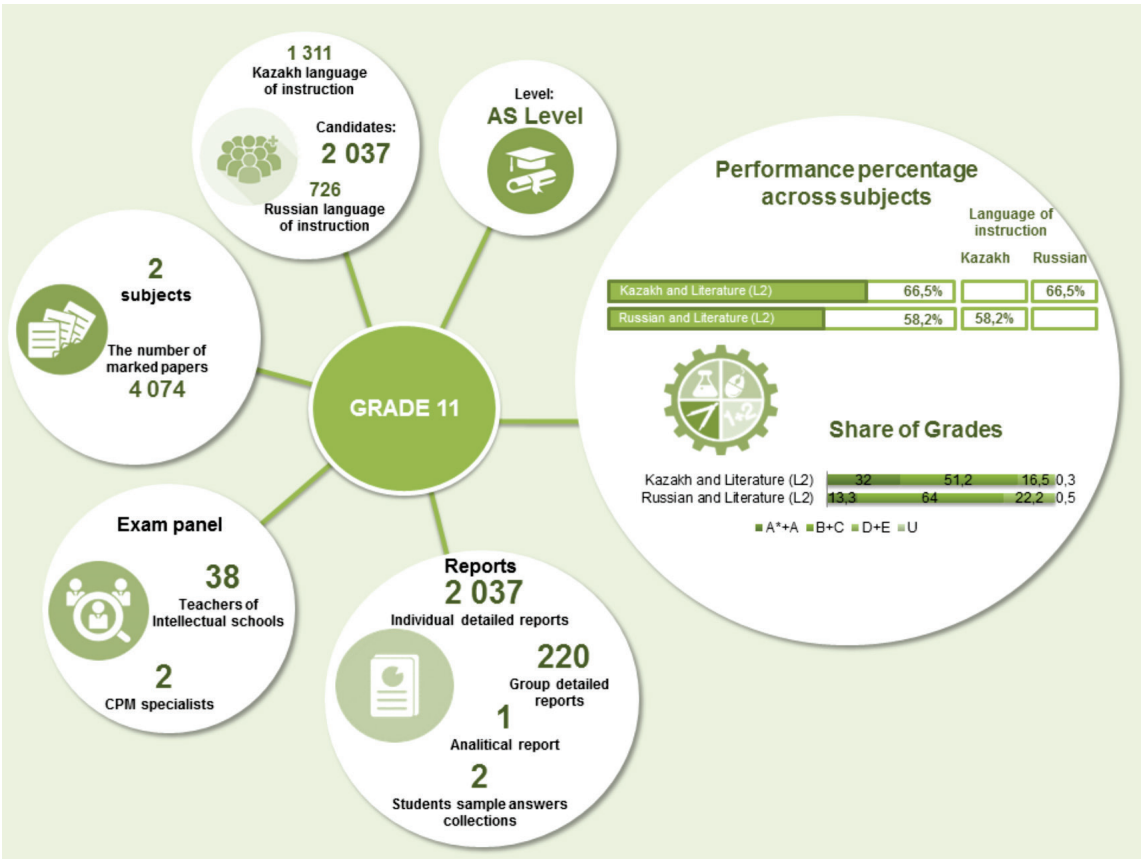
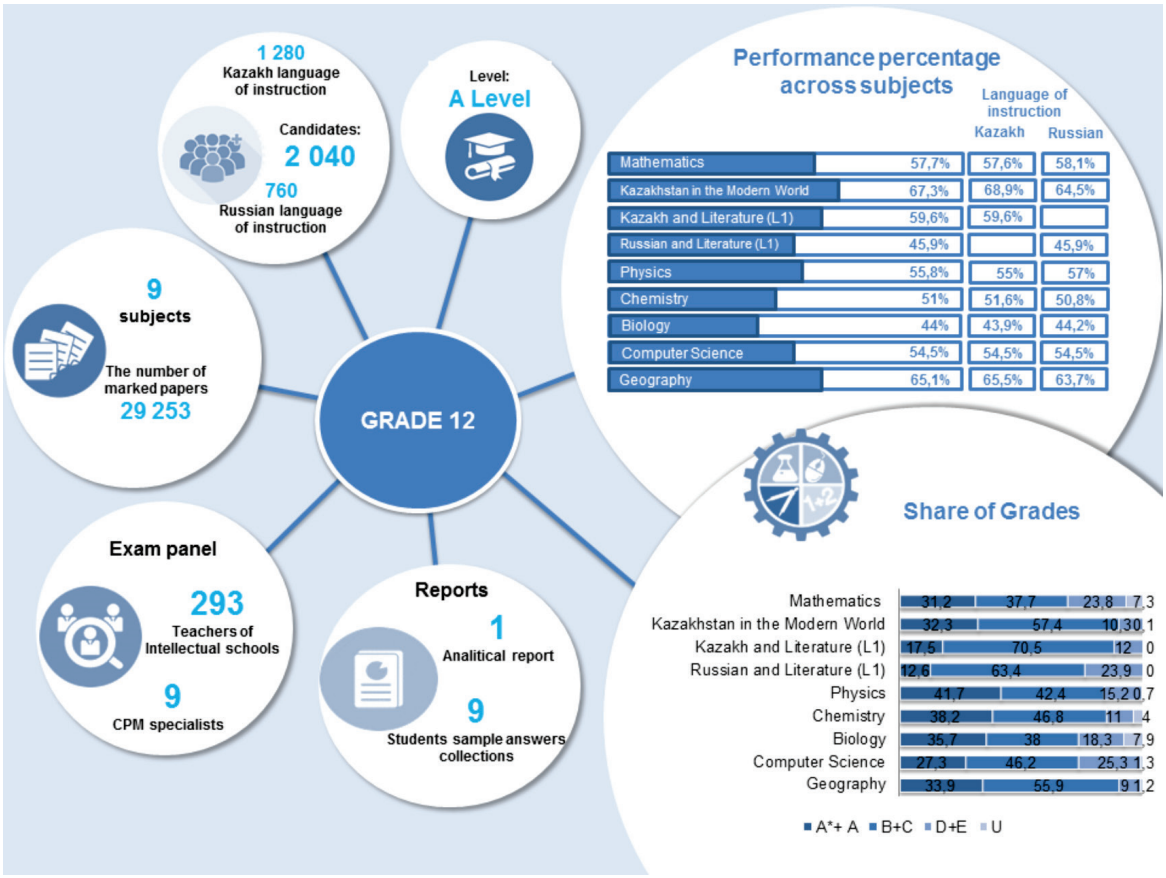
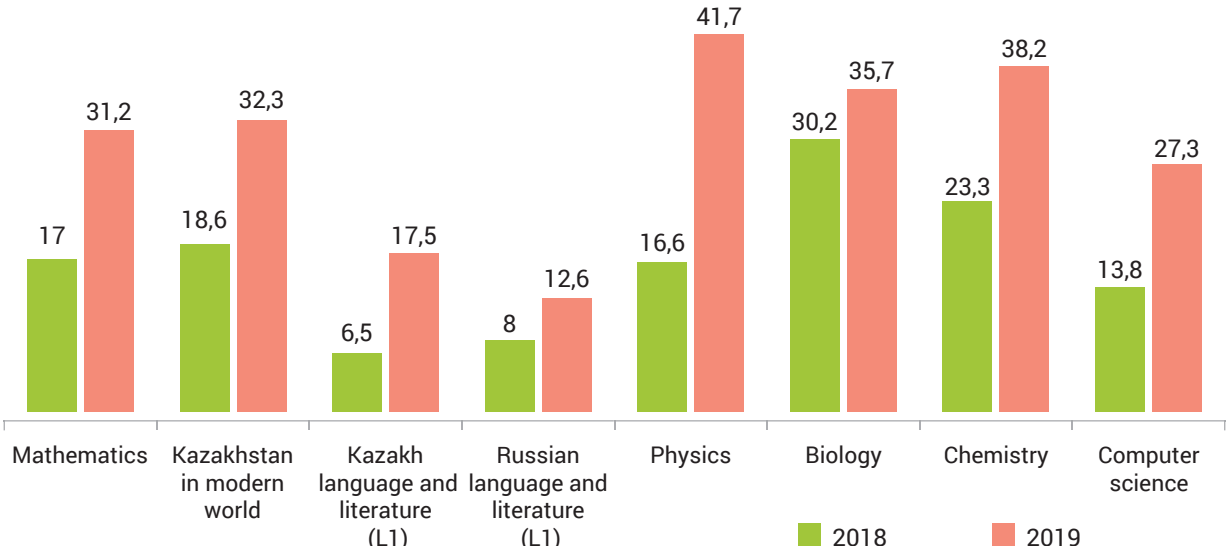


Figure 8. Exams in grade 12



According to the examination results, there is positive dynamics of quantitative and qualitative indicators of student performance that indicates the quality of the educational process.

Figure 1. The share of grades A and A of grade 12 students over two years*

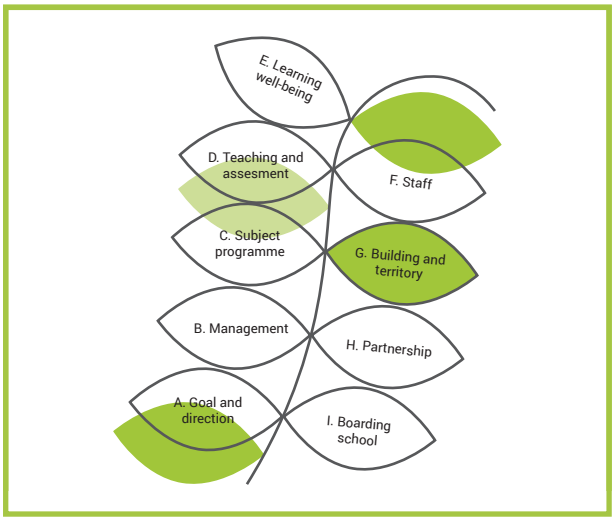


One of the factors contributing to the improvement of student performance is the use of data in planning and organising of the educational process. For example, at the beginning of 2018-2019 academic year, the Intellectual schools were provided with preliminary and expected results of the exams at the end of the school year.

The forecast of results was obtained through processing of students' quantitative indicators based on the various assessment procedures, which were analysed by means of the linear regression model in RapidMiner*.

Eventually the prior preventive analysis allowed us to identify patterns, trends and relationships relating to student performance, determine the trajectory of work with each of the students, fill in the gaps, and significantly improve the exam results.

Annual analysis and interpretation of the results of external summative assessment allows improving the quality of teaching and learning in Intellectual schools.



5.4. NIS SCHOOLS ACCREDITATION

In 2019, CIS independent experts visited 5 Intellectual schools in Almaty (PhM, ChB), Aktau, Petropavlovsk and Kostanay. 20 Nazarbayev Intellectual schools have been granted the status of accredited schools so far. CIS experts noted the high quality of educational services, the constant development of schools, the opportunities for professional development of teachers, the all

* A software platform for scientific research that provides an integrated environment for data preparation, machine learning, text mining, and predictive analytics.

round training and involvement of students, the uniqueness of the educational system 'Shanyrak' and much more.

On 21-22 October 2019, for the first time in Kazakhstan, CIS assessed the school activity under the updated CIS International Accreditation Protocol in Nur-Sultan International school. As a result of the visit, the school received CIS membership. All the Intellectual schools are to be assessed according to this Protocol during the 2nd accreditation cycle.

To build capacity, deepen knowledge in the field of international education, and study international experience, NIS employees and Intellectual schools staff took participation in a number of events organised by CIS:

Online Training Courses for International Accreditation Experts

5 NIS employees received the training in April and November 2019. A total of 20 employees of NIS and Intellectual schools are the trained international accreditation experts. 12 of them take an active participation in CIS team visits in Kazakhstan and abroad.

CIS Summit of Schools and Higher Education Institutions

For the first time on 1-2 April 2019, CIS held the Summit of Schools and Universities in London (UK) to discuss the issue of determining the main opportunities and topics for targeted cooperation between schools and universities.

. 10 representatives from universities and 10 representatives from CIS member schools were invited to the Summit. D. Sapakov, Director of NIS Kostanay and I. Ismailova, Deputy Director of the Department for Education Quality Assessment and International Accreditation represented Nazarbayev Intellectual schools at the Summit.

The second Summit was held on 16-17 October 2019 in Boston, and was dedicated to the development of materials and programmes for the admission of school graduates to the universities, student welfare and global citizenship.

CIS Leading Schools Interculturally Workshop

On 8-9 April 2019, the employees of NIS AEO and NIS Shymkent ChB took participation in the CIS Leading Schools Interculturally Workshop held in Leiden (the Netherlands). Participation in this workshop allowed us to expand knowledge and exchange experience with international schools in the field of school management in the context of international education.

CIS Global Forum

CIS annually holds a Global forum for universities and international schools worldwide attended by more than 500 of the best universities in the world from more than 20 countries. On 20-21 November 2019 NIS employees took participation in this Forum in Bilbao, Spain within the framework of recognition of NIS Grade 12 Certificate at the international level and in order to have an access to the network of the best universities abroad.

Pre-Conference Workshop on International Accreditation

As part of the XI International Conference, on 23 October, 2019,

city of Nur-Sultan, Stuart McLay, CIS Director of International Accreditation and Leo Thompson, CIS Expert held a workshop for 20 Intellectual schools and the International school of Nur-Sultan to clarify the CIS International Accreditation Protocol and prepare schools for the second cycle of international accreditation.

2019 saw the following events held with support from our strategic partners to expand the borders of cooperation:

- NIS representatives took participation in the meeting of International Advisory Committee of College Board in New York city (USA) on 7 June, 2019 to discuss the issues of validity of the international SAT exam, professional development of careers officers, and development of international communities;
- the information on the working experience with Nazarbayev Intellectual schools is published on the CIS website.

5.5. NIS PROGRAMME AND NIS CERTIFICATE RECOGNITION

In 2019, as part of the recognition work, an agreement was reached with 5 universities of the Republic of Kazakhstan to accept the graduates of Intellectual schools to accelerated bachelor's degree programmes:

- Sarsen Amanzholov East Kazakhstan State University,
- Taraz State Pedagogical University,
- Suleyman Demirel University,
- M.Auezov South Kazakhstan State University,
- International School of Economics of KBTU, the Affiliated Centre of London School of Economics (LSE).

In 2018-2019 academic year 447 NIS graduates entered the universities under the shortened programmes:

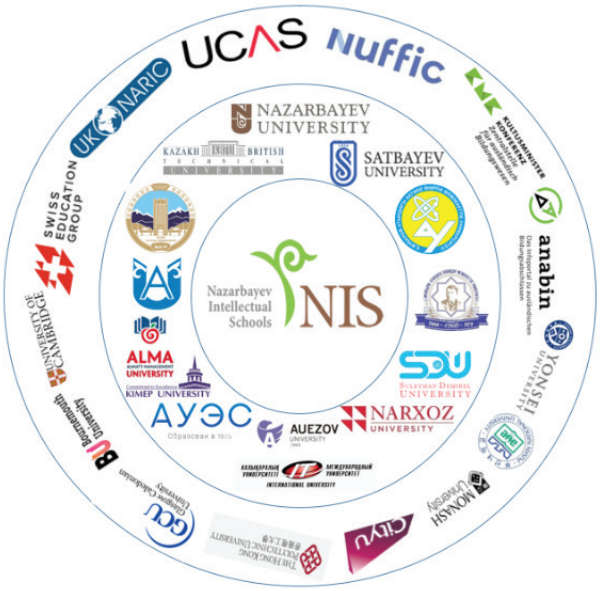
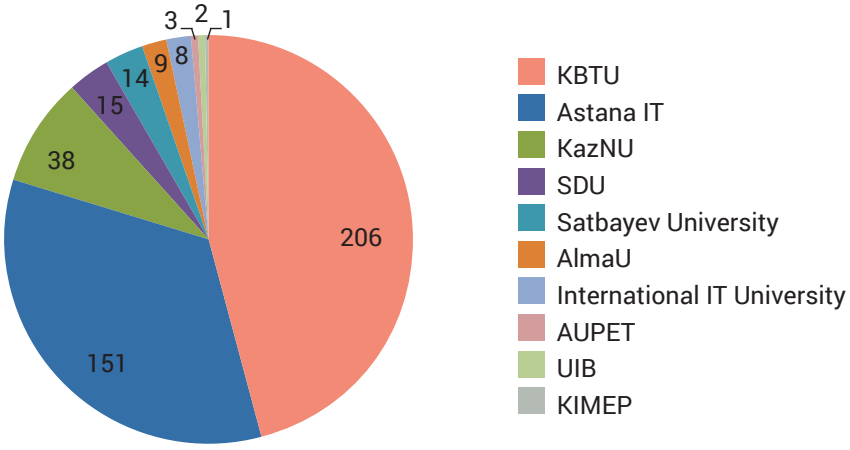


Diagram 2. NIS graduates studying at universities according to the shortened undergraduate programmes

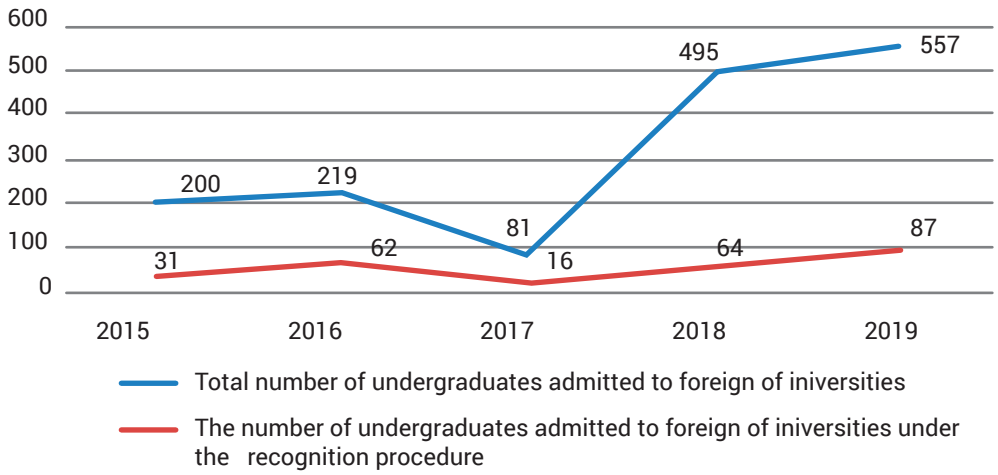


Also, international recognition is received from the Swiss Education Group (Switzerland), which includes 5 universities in the field of hospitality management: Cezar Ritz College Switzerland, Culinary Arts Academy Switzerland, Hotel Institute Montreux, IHTTI School of Hotel Management and Swiss Hotel Management School.

This year, we received the official recognition from 5 foreign universities, which accept NIS graduates without foundation courses:

Bournemouth University, Glasgow Caledonian University (UK), Monash University (Australia), Hong Kong Polytechnic University (PRC) and Yonsei University (South Korea).

Diagram 3. The number of undergraduates admitted to foreign universities under the recognition procedure.



As a result of the work on recognition, NIS was awarded UNESCO International Prize "Wenhui Award 2019 for Education Innovation" on the theme of "Promoting University and School Partnerships in Advancing the Education 2030 Agenda".

The NIS Chairperson attended the awarding ceremony in Jinan (China) to receive the Quality Certificate and money reward amounting to 20 000 USD.

- Facts and figures:
- • 14 universities in Kazakhstan offer 3-year accelerated bachelor's degree programme;
- • 7 universities in Kazakhstan transfer the learning outcomes of graduates into academic credits in certain subjects;
- • 8 foreign universities accept graduates for the 1st year without the Foundation courses;
- • 4 international organisations recognise NIS-programme and NIS Grade 12 Certificate;

6 STUDENT'S ACHIEVEMENTS

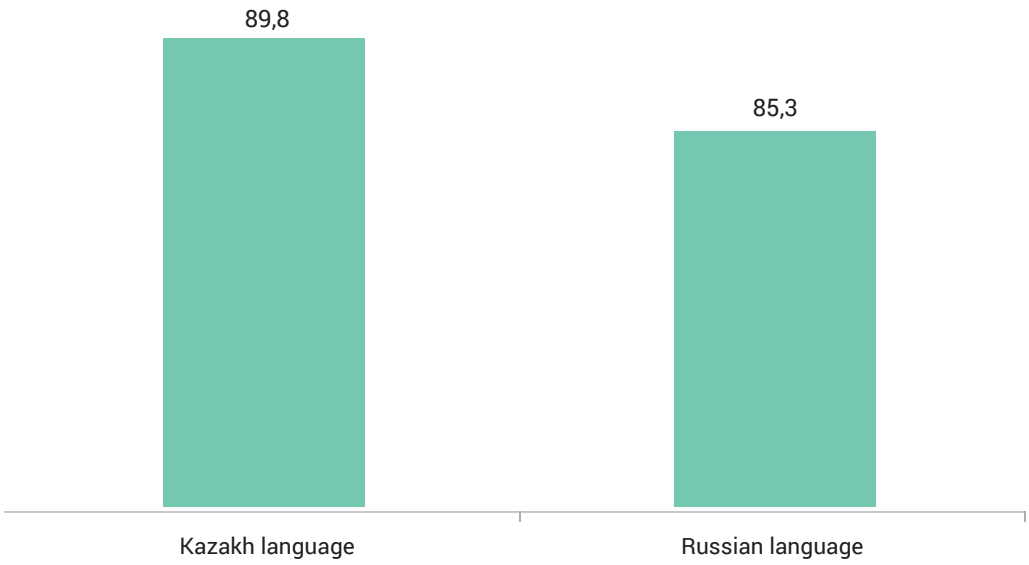
6.1. PERFORMANCE AND QUALITY OF KNOWLEDGE

By the end of the 2018-2019 academic year, 14 303 students were enrolled in Intellectual schools including 8 967 (62.7%) students of Kazakh language of instruction and 5 336 (37.3%) students of Russian language of instruction.

The academic performance of students at the end of the 2018-2019 academic year was 99.99% with no significant differences across language subjects, levels of education, grades and terms.

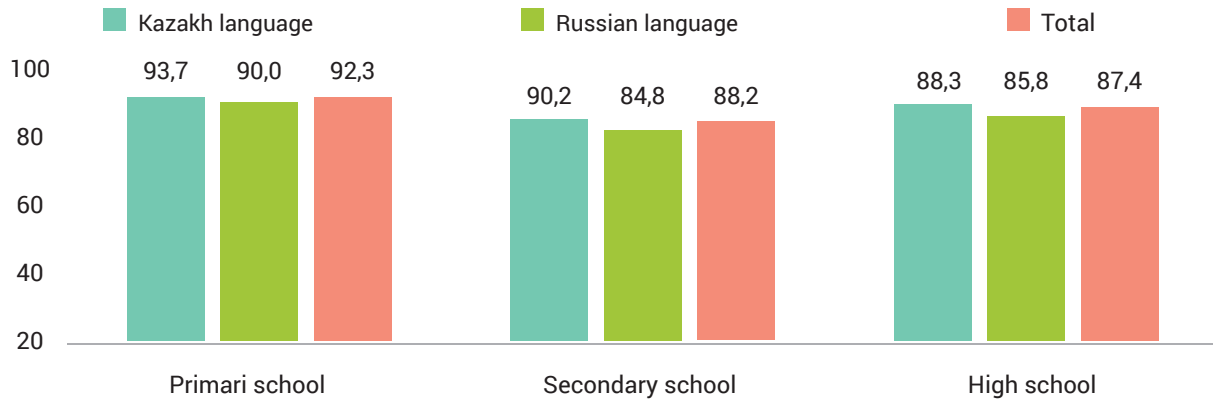
By the end of the 2018-2019 academic year, the quality of knowledge was 88.1%. The analysis in the context of the language of instruction shows that the indicators of students studied in the Kazakh language are 4.5 % higher than the results of students studied in the Russian language.

Figure 1. Quality of knowledge of NIS students by the language of instruction, %



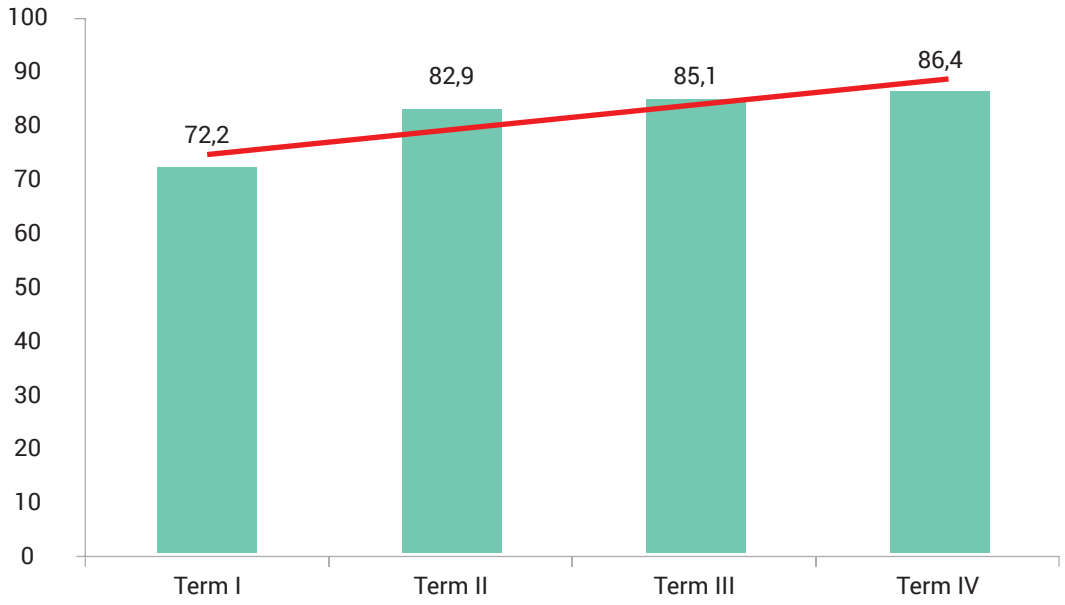
The quality of knowledge of students studied in the Kazakh and Russian language of instruction corresponds to the established strategic indicators (90%, 70% and 80% respectively) in the context of the education levels.

Figure 2. The quality of knowledge of NIS students in the context of the education levels (2018-2019 academic year), %



Comparative data analysis for four terms shows an upward trend in the quality of knowledge of NIS students: this indicator increased by 14.2 % by the end of the academic year.

Figure 3. The quality of knowledge of NIS students across terms (2018-2019 academic year), %



In the 2018-2019 academic year, 171 students of grade 10 applied for the Honours Certificate of Basic Secondary Education, 158 (92.4%) of which were confirmed. The number of students-applicants for the Honours Certificate of Upper Secondary Education in grade 12 was 272, 189 (69.4 %) of them received the Certificate. The number of students-applicants for the 'Altyn belgi' award was 148, 145 (97.9 %) of them received the award.

6.2. INTERNATIONAL AND NATIONAL OLYMPIADS, COMPETITIONS, CONFERENCES AND RESEARCH WORK

One of the indicators of the quality of education is the competitiveness of the students and their competence in different areas of knowledge that can be shown in different contests, competitions and Olympiads.

6.2.1. PARTICIPATION OF NIS STUDENTS IN THE NATIONAL AND INTERNATIONAL OLYMPIADS AND SCIENTIFIC COMPETITIONS

Olympiads		Scientific competitions and contest of innovative ideas		Total		
Kazakhstan	International	Kazakhstan	International	Kazakhstan	International	Total
242	64	152	239	394	303	697

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ БІЛІМ ЖӘНЕ ҒЫЛЫМ МИНИСТРЛІГІ
«ДАРЫН» РЕСПУБЛИКАЛЫҚ ҒЫЛЫМИ-ПРАКТИКАЛЫҚ ОРТАЛЫҒЫ

2019 жылғы 13-16 ақпан аралығында өткен
жалпы білім беретін пәндер бойынша
республикалық ғылыми жобалар конкурсында
«Ең үздік команда – 2019»
ГРАН-ПРИ иеленгені үшін

НАЗАРБАЕВ ЗИЯТКЕРЛІК МЕКТЕПТЕРІНІҢ КОМАНДАСЫ

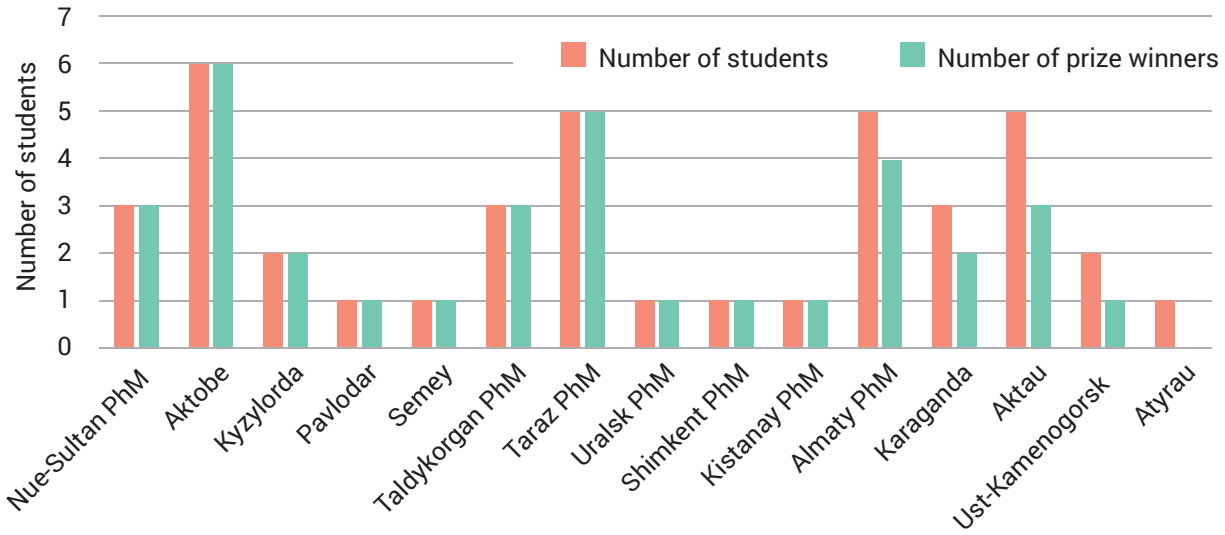
МАРАПАТТАЛДЫ

Директор К. Башарова

№ 006

Алматы қаласы, 2019 жылғы 13-16 ақпан

According to the results of the Republican Research Projects Contest in the 2018-2019 academic year, NIS team won the Grand Prix in the nomination 'Best team – 2019'. 34 students out of 40 participants became medal winners: 14 gold, 11 silver and 9 bronze medals.



The results of the National Olympiad in general education subjects of the 2018-2019 academic year show that NIS Pavlodar and NIS PhM Almaty hold leading positions among 100 schools of Kazakhstan.

Ranking	Top 100 schools in Kazakhstan based on the results of the National Olympiad in general education subjects in the 2018-2019 academic year		Number of medals			Total number of medals
		The number of participants	Gold	Silver	Bronze	
6.	NIS Pavlodar	21	5	5	5	15
12.	NIS PhM Almaty	16	2	5	8	15
20.	NIS Atyrau	5	2	0	1	3
25.	NIS ChB Shymkent	10	1	2	2	5
29.	NIS Petropavlovsk	6	1	1	1	3
29.	NIS PhM Nur-Sultan	5	1	1	1	3
29.	NIS Kyzylorda	4	1	1	1	3
30.	NIS Kostanay	3	1	1	0	2
33.	NIS PhM Shymkent	5	1	0	1	2
33.	NIS Aktobe	3	1	0	1	2
39.	NIS Semey	6	0	2	3	5
41.	NIS Taldykorgan	4	0	2	0	2
41.	NIS Ust-Kamenogorsk	4	0	2	0	2
44.	NIS Karaganda	5	0	1	3	4
45.	NIS Aktau	5	0	1	2	3
45.	NIS ChB Almaty	5	0	1	2	3
46.	NIS Uralsk	6	0	1	1	2
47.	NIS Nur-Sultan	4	0	1	0	2
50.	NIS Taraz	3	0	0	1	1
56.	NIS Kokshetau	2	0	0	0	0
Total:		**122**	**16**	**27**	**33**	**76**

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ БІЛІМ ЖӘНЕ ҒЫЛЫМ МИНИСТРЛІГІ

«ЕҢ ҮЗДІК ОЛИМПИАДАЛЫҚ КОМАНДА - 2019»

Жаратылыстану-математикалық бағыттағы пәндер бойынша
республикалық олимпиаданың қорытындысында көрсеткен үздік нәтижелері
үшін Назарбаев Зияткерлік мектептерінің командасына
«Ең үздік олимпиадалық команда-2019» атағы және I орын

БЕРІЛДІ

Вице-министр Э. Суханбердиева

Ақтөбе қаласы, 2019 жылғы 15-20 наурыз

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ БІЛІМ ЖӘНЕ ҒЫЛЫМ МИНИСТРЛІГІ

«ЕҢ ҮЗДІК ОЛИМПИАДАЛЫҚ КОМАНДА - 2019»

Қоғамдық-гуманитарлық бағыттағы пәндер бойынша
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БЕРІЛДІ

Вице-министр Э. Суханбердиева

Қызылорда қаласы, 2019 жылғы 25-30 наурыз

In 2018-2019, Nazarbayev Intellectual schools won the 1st place in the team competition at the Republican Olympiad in Science and Mathematics and the 3rd place in the team competition at the Republican Olympiad in Social Sciences and Humanities. Students of Nazarbayev Intellectual schools won 76 prizes, which is 11.59% of the total number of winners.

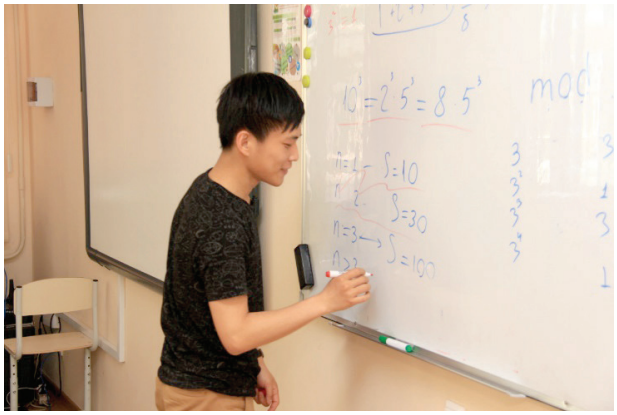
2 students of grade 11 of NIS Nur-Sultan PhM and Kostanay, Alnur Akchurin and Dana Klyshpayeva took participation in the World Summit of Students for Climate (hereinafter - Summit) in the period from 29 May to 5 June 2019 in Joensuu and Helsinki (Finland).

Dana Kleshpayeva, NIS Kostanay PhM student was selected among other Summit participants and had the opportunity to meet and talk with Sauli Niinistö, the President of Finland. Dana was a representative of Central Asia in a group of participants from different countries. Sauli Niinistö discussed with students the effects of climate change, the measures to prevent climate change, renewable energy and plastic recycling.

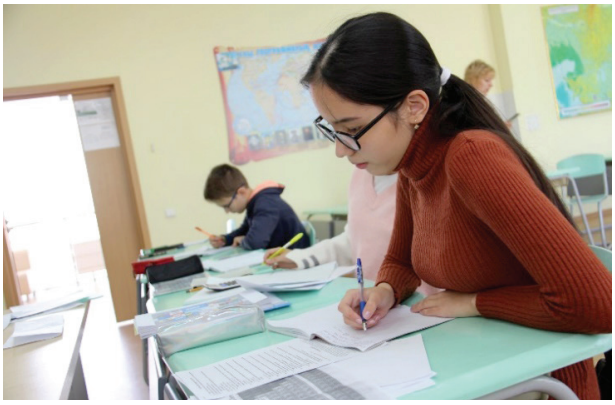
In total, 135 students and 100 teachers from 70 countries of all continents attended the Summit.

- **Students successfully participated in the following prestigious international Olympiads and science competitions:**
- International Zhautykov Olympiad in mathematics, physics, and computer science (Almaty, Republic of Kazakhstan);
- International Mathematical Olympiad “Silk Road” (Almaty, Republic of Kazakhstan);

- International Asian Pacific Mathematical Olympiad (Almaty, Republic of Kazakhstan);
- The Russian Olympiad of Research and Training Projects of Children and Youth on Environmental Issues "Human-Earth-Space" (Korolev, Russia);
- International Science Competition "Mathematics and Design" (Moscow, Russia);
- International Space Research Competition "Opening the World of Science" (Baikonur, Republic of Kazakhstan);
- Asian Physics Olympiad (APhO) (Adelaide, Australia);
- The 53rd International Mendeleyev Chemistry Olympiad (Saint Petersburg, Russia);
- International Physics Olympiad (IPhO) (Tehran, Iran);
- International Tuymaada Olympiad (Yakutsk, Russia);
- The European Girls' Mathematical Olympiad (EGMO) (Kiev, Ukraine).



The experienced trainers, including NIS graduates – winners and awardees of the national and international Olympiads were involved to train NIS students for Olympiads of different levels. This year Sergey Polyanskikh, a teacher-master of NIS Taldykorgan (PhM) held a math festival and training sessions for math teachers.



6.2.2. RESEARCH AND INNOVATION ACTIVITIES OF NIS STUDENTS

The effectiveness and significance of NIS research activities are defined by the following indicators:

1) patent activity;
2) achievements in international science competitions;
3) innovation grants in priority areas of scientific and technical development;
4) publication activity and participation in scientific conferences;
5) implementation of innovation projects.

Objects of intellectual property of NIS students

As a result of project research, 37 NIS students registered their intellectual property objects in 2019 Авторские права учащихся Интел-Лектуальных школ

Copyrights of NIS students

Table. Number of students - holders of copyrights and patents

Year	Number of students - holders of copyrights and patents
2013	1
2014	1
2015	4

2016	1
2017	8
2018	10
2019	49
Total	74

Elmira Yussupova, grade 12 student of NIS Pavlodar ChB, copyright certificate for the scientific work No. 1318 dated 15 January 2019, "Generalized formula for solving Pellian equations". The novelty was confirmed by the Copyright Department of the National Institute of Intellectual Property of the Republic of Kazakhstan. The proposed formula can be applied in mechanics to describe turbulence zones, and in Economics to analyse economic situations.

Nurdaulet Taumergenov, Karen Dolmaganbetov, grades 10, 11 students of NIS Aktobe PhM, copyright certificate for the scientific work No. 1706 dated 12 February 2019, "Glove Speaker" - a glove for deaf and mute people. The glove is equipped with sensors, speaker, Arduino block and a battery, and can operate up to 12 hours. The glove operates through the sensors fixed on phalanges and endings of the fingers, and when touching certain sensors, a built-in sound is played: a phrase or a letter. In 2018 the invention was awarded the Grand Prix of 5 000 USD at the Yakutsk International Science Fair within the framework of the International Intellectual Games in the Sakha Republic. By speaking sign language, deaf and mute people may translate it into ordinary speech using their smartphones. You can use one glove to make 32 phrases, and if you use both, the number of phrases will increase to 1024.

Mazhit Zharaspai, Yesset Yedres, Aruzhan Kenessova, students of grades 12, 10, 11, NIS Aktobe PhM, Copyright Certificate for the Scientific Work No. 1467 dated 25 January 2019 "Playground" - a developing children's interactive playground. "Playground" includes alphabetic keys that make sounds of each letter when children jump on them; each key is equipped with augmented reality that allow them to see an animal or a plant the names of which start with the relevant letter when hovering the smartphone over them. The playground is equipped with a generator in the form of a carousel that allows not only using the carousel for its intended purpose, but also producing electricity necessary for lighting and providing power for the alphabet keys.

Tair Ussenbayev, grade 12 student, NIS Aktobe PhM, Copyright Certificate for the Scientific Work No. 1419 dated 22 January 2019 for "Modern Public Toilet". This project is aimed at solving the current problems of a modern, rapidly developing city as we need new architectural ideas. The technological innovation of the author includes auto flushing in public toilets, taps with an intensive water supply and the indoors motion detector lights.

Islam Suleiman, grade 12 student, NIS Pavlodar ChB, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects for a smartphone app No.5222 dated 9 September 2019 "Sacred Tourism Kazakhstan". The project offers a free smartphone app for travellers and guests of Pavlodar region containing detailed information in Kazakh, Russian and English languages about the historical sights, convenient satellite maps and photos of the region, as well as chat and other means of communication. The project promotes the development of domestic tourism and attracts foreign tourists to Kazakhstan. Suleiman Islam, the project author, delivered a report at Research-to-Practice Conference "Steps to the Future" organised by the Innovative University of Eurasia, became the winner in the nomination of "Young Researcher" at the International Conference "Language, Education and Culture" in Turkey; the project was recognised as "The Best Startup Idea of the Year" at the regional auction and took the 1st place at the "Young researcher-2019" International Competition in Daejeon, South Korea, and furthermore, he received an 80% discount for education in Woosong University and SolBridge International School of Business.

Dinmukhammed Muratbayev, grade 10 student, NIS Shymkent PhM, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects for the Work in Geography and Topography No. 5416 dated 23 September 2019 for "Map of Kenya", issued by the National Institute of Intellectual Property of the Republic of Kazakhstan. "Map of Kenya" is a map with mechanical sliding parts as panels, which may store interesting information on various topics

about the country, culture, natural conditions, landscape and daily life of the population. It is designed for educational purposes, it can also be used as interior decor in the geography classroom. The map design is minimalistic and easy to understand.

Yerdaulet Rakhmatulla, grade 12 student, NIS PhM Shymkent, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 5735 dated 11 October 2019 for "LINECUBE LLP" Website for online architectural services". The website accepts online orders from clients, stores a client's database and shows the portfolio of the company architects. The website's functionality includes registering new users, storing accounts in the database, having the login and authorisation as a system administrator, uploading images, writing texts, and setting a price in the order form. The user can add a certain number of projects to their cart. And they will be kept in the administrator's database. The programming language - JavaScript, PHP, SQL.

Dias Zhakhanger, grade 12 student, NIS Shymkent PhM, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No.5575 dated 2 October 2019 for "Zhannat Gold" Computer Programme (an automated database system for a jewellery store). The automated system was developed by using Delphi 2010, connected to an automated system with a Microsoft Access database, designed for individual entrepreneurs, and includes income calculation functions and a product database.

Azamat Nassir, grade 12 student, NIS Shymkent PhM, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No.5889 dated 17 October 2019 for "KereMed" a Mobile App for an Automated Patient Registration System for Health Centres and Hospitals". The mobile app allows patients to view a list of medical services, the work schedule of doctors, and make an appointment with a doctor online. The principle of the application is quite simple: when opening the app, the patients may sign up and sign in the system; they may make an appointment with a doctor and choose the date needed; then the app shows the time table on the screen (the time when the doctor is not available is marked in grey), so the patients can choose the convenient hours. As a result, the patients will get an electronic ticket.

Kuralai Amangeldi, grade 10 student, NIS Shymkent PhM, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects for Scientific Work No.6354 dated 11 November 2019 for "Fruit Powder". The author made a fortified fruit powder by drying fruits at a low-temperature, which allows saving the vitamins. The fruit powder has many advantages such as a long shelf live, cost-effectiveness, seasonal cooking when fruits are full of vitamins and flavours or any time and under any circumstances. It will solve the problem of vitamin deficiency in both children and adults and will be indispensable for travellers (especially in the Northern and arid regions), as it is easy to carry and has a long shelf live. In terms of taste, it does not concede packaged juices and is very good for health.

Aizhan Gubaidulla, Amina Togay, Akmaral Kabiyeva, Dina Dauletalena, grade 10 students, NIS Aktobe PhM, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 5753 dated 11 October 2019 for "DeRey" mobile app. The DeRey mobile app is able to call emergency services in automatic mode. The main mission of the application is to eliminate the problems in the field of emergency services.

Akmerey Nurlybay, Aruzhan Shinbayeva, Nazerke Abdrakhmanova, grade 10 students, NIS Aktobe PhM, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No.6477 dated 18 November 2019 for "Able to Live" mobile app. 'Able to Live' is an application that helps people with vision impairments to navigate in space and overcome problems arising due to the lack of ability to see the world around. This app allows visualising objects around and perceiving text information. This provides a simplified and understandable perception of the world eliminating the restrictions associated with visual impairment. The main advantage of the application is that it is easily available and flexible, i.e. applicable at any time, and has a wide range of functionality. The app is designed for Android mobile phones, supports Wi-Fi or

mobile Internet, camera, and is controlled by voice commands.

Viktor Kovalchuk, grade 11 student, NIS Kostanay PhM, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No.5593 dated 3 October 2019 for 'CVPen' computer program. CVPen offers the "ActivePanel", an interactive surface that is applicable to any surface in educational institutions that cannot afford to purchase expensive interactive equipment.

Ayaulym Berkinbayeva, grade 10 student, NIS Shymkent ChB, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No.5726 dated 10 October 2019 for "Anti-gasprotective programme" computer program. Anti-gasprotective programme or AGP is a unique automated and inexpensive system that notifies on any system malfunctions, e.g. in gas supply, and also automatically fixes the problems without human intervention. It is anticipated that the introduction of the project into mainstream use in houses and manufacturing facilities will completely eliminate the problem of gas poisoning.

Yerassyl Kadirzhanov, grade 12 student, NIS Karaganda ChB, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No.5830 dated 16 October 2019 for "Shezhire" mobile app. The Shezhire mobile app is designed to search for genealogical relationships based on biometric data, such as facial geometry using neural networks in Python. The main algorithm for the client-server system is the computer vision algorithm using coordinate processing methods, the efficiency of which was increased by using ResNet convolutional neural networks. The use of biometrics and a database with prior genealogical information makes it possible to search and establish links with 98% confidence. The software solution is a significant addition to the existing oral and written tradition of making the genealogical trees in Kazakhstan that aims at updating the perception of the historical past and present, processes of ethnic and social self-identification of a person, preservation and transmission of cultural stereotypes, national and cultural values.

Tania Tleubayeva, grade 11 student, NIS Pavlodar ChB, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 6737 dated 29 November 2019 for "Stationary Module "Sabi Box". The stationary module "Sabi box" is a design product, the concept of which is to create favourable conditions for breastfeeding in the residential area of the cities of Kazakhstan that contributed to the implementation of the "Densaulyk" State Programme for 2016-2019 in the field of creating favourable conditions for the child development and reducing health care costs.

Assylbek Saduahasov, grade 11 student, NIS Shymkent PhM, Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 6316 dated 8 November, 2019 for the literary work "The idea of "Mangilik El" in the works of Kazakh thinkers at the beginning of the XX century". The idea of Mangilik El as an eternal nation is based on the centuries-old dream of our people. The whole history of the Kazakhs and the history of independent Kazakhstan is a history of consolidation, unity and accord, mutual understanding with neighboring countries. Those who advocate peace and equality, who recognize the power of wisdom of people and look to the future of their country should not forget the past.

Merey Kassymbekova, grade 10 student, NIS Shymkent PhM; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 6814 dated 4 December, 2019 for the scientific work "New Lease of Life of Plastic – Roads". According to the Roadmap on the transition of Kazakhstan to green economy, 40% of plastic should be recycled by 2030, and 50% by 2050. In these conditions, production of plastic roads will reduce government spending, improve the country's infrastructure and reduce the landfill area.

Merey Kassymbekova, grade 10 student, NIS Shymkent PhM; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 7137 dated 19 December, 2019 for the literary work "Traveling to the natural attractions of Kazakhstan and the power function derivative. Mathematical game". The mathematical game will help to consolidate the calculation of the power function derivative and to introduce students to the natural attractions of

Kazakhstan in an intertaining and informative way.

Bekzada Ushtai, grade 12 student, NIS Shymkent PhM; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 6114 dated 29 October, 2019 for the computer programme "FITNESS CLUB – an automated website for fitness clubs". The programme is an automated website for fitness clubs. Using the website, clients can make an appointment with a nutritionist, see the types of services, calculate their BMI, see information about club cards, and submit a request for a card.

Maksat Suleimen, grade 12 student, NIS Shymkent PhM; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 6251 dated 5 November, 2019 for the computer programme "Automated base system for Zhennet textiles". Zhennet software was created to automate the operation. The programme provides the following features: viewing services, information about the textile industries, order placement, contact the delivery service.

Nurdiyas Bakhibilla, grade 12 student, NIS Shymkent PhM; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 6861 dated 6 December, 2019 for the computer programme "Gas Stations Automation Programme". The programme is developed in the Delphi programming language and has a clear interface that can be quickly learned: the gas station cashier enters the required number of liters or a particular sum, the programme automatically displays information on the screen and sends it to fueling nozzles. For convenience, the opportunity to manage the database and accounts was added.

Yernur Aubakirov, grade 11 student, NIS Shymkent PhM; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 6458 of 15 November, 2019 for the computer programme "Teacher Assistant System ASTE (Automatic System of Testing and Education)". In order to optimise student assessment, an automated student assessment system is proposed for each unit of the curriculum. The teacher checks the students' work by entering keywords; and the student can immediately see the grade.

Azat Yedilov, grade 12 student, NIS Pavlodar ChB; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 7036 dated 12 December, 2019 for the literary work "Collection of tasks to prepare for the Olympiad on the history of Kazakhstan". The collection contributes to comprehensive preparation of students and proper understanding of the Olympiad requirements. It includes the requirements of each round, time for completing the tasks, essay topics, test tasks, quick tips and instructions for students. The collection of tasks will be useful to Nazarbayev Intellectual Schools, history teachers of secondary schools and students to prepare for the subject Olympiad.

Zhassyn Yegnai, Danial Sapargaliyev, grade 7 students, NIS Pavlodar ChB; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 6936 dated 10 December, 2019 for the literary work "Daraboz Board Game". The board game is based on the national competition – horse racing, it used all the concepts and terms related to the horse and horse racing. According to the rules, the player first completes the race in 2 rounds, and the finish involves overcoming of obstacles. The goal of the game is to learn all the terms and concepts related to the horse, which is a national value, and the promotion of national traditions.

Aidan Kenzhebayev, Samal Ali, grade 10 students, NIS Aktobe PhM; Copyright Certificate of Entering Information in the State Register of Rights to Copyright Protected Objects No. 7377 dated 31 December, 2019 for the scientific work "FIRE FINDER". The "Fire Finder" device is a project aimed at detecting and preventing fires in forest and forest-steppe (protected) zones, and informing about local fire outbreak via a mobile network.

PATENTS FOR UTILITY MODELS AND INVENTIONS OF NIS STUDENTS

Kuanysh Maden, Abylay Ilyas, Grade 12 students, NIS Shymkent PhM – holders of the patent of the utility model for "Chimney Sweep Robot" No. 4256 dated 26 August 2019, issued by the National Institute of Intellectual Property of the Republic of Kazakhstan. The utility model of "Chimney Sweep Robot" (a robot that cleans sewage and oil pipes) is a device for sanitising and cleaning the inner surface of oil refining, sewage and industrial pipes from pollution.

Ayaulym Seitkamzina, Grade 12 student, NIS Ust-Kamenogorsk ChB – holder of the patent for the invention of "Organo-Mineral Product for Seed Incrustation" No. ___ dated 1 August 2019. The invention relates to the agricultural sector (agroindustrial complex) and biotechnology. This product is intended to increase the sowing properties of seeds and is an effective regulator of plant growth and development. It can firmly fix on the surface of seeds, swell in a humid environment, exchange microelement ions, and sorb heavy metals from the soil, preventing them from entering the plants. This product will increase the productivity of plants and will help to produce organic foods.

Milana Begantsova, Nurbek Zhumabay, 2019 graduate, Grade 9 student, NIS Pavlodar ChB – holders of the patent No. 4418 dated 05 November 2019 for the utility model "Load Control Relay". The utility model is designed to save the incoming switch of industrial enterprises from overload disconnection. The relay measures the current consumption by passing it through itself, has output contacts that are able to switch load-lines directly or through a contactor, and controls the loads. The output contacts gradually switch the levels of the load depending on the battery level directly or through the contactor.

Kuanysh Sarsikeyev, Alina Parkhomchuk, Daniil Orel, Grade 9 students, and 2019 graduate, NIS Pavlodar ChB – holders of the patent No. 4429 dated 05 November 2019 for the utility model "Solar Sensor". Many studies and experiments carried out on the board of orbital space stations over a given point on the Earth's surface require knowledge of the exact position of the Sun, as well as a prediction of its position by the time of approaching to the given point. The "Solar Sensor" utility model will allow astronauts being on the board a spacecraft orbiting a satellite of the Earth to quickly determine the current height of the Sun above the horizon at a given geographical point along the path of the device, with a quick glance at the front panel of the device.

Aziz Talapov (2019 graduate, NIS Uralsk PhM) – holder of the patent No. 33937 dated 1 October, 2019 for the invention "Artificial roughness with electric output". It is an invention in electrical engineering intended to power the bus stops by converting the mechanical energy produced by transport passing over the speed bumps into electrical. A distinctive feature of the proposed version of electric generator is the simplicity and reliability of the design, and acceptable weight and size characteristics to be used as part of a speed bump. High energy efficiency of the device is ensured through the use of permanent magnets with high residual magnetization, overcoming the impact on the magnetic gaps of the substantial repulsive forces.

Aziza Kireyeva, Alikhan Zhanymkhanov, Elnara Yakubova (students of grades 11 and 8, NIS Pavlodar ChB) – holders of the patent No. 4317 dated 17 September, 2019, for a utility model "Method for the production of fermented milk drink of goat milk". The purpose of this project is to determine the appropriate type of sourdough and to develop the technology for the production of fermented milk product of goat milk. The author offers a technology for the production of goat milk yogurt.

Moldir Siyazbayeva (NIS Semey PhM) - holder of the patent No. 107749 dated 3 June, 2019 for utility model "Flavonoids in some fruit and berry plants". The author is an initiative, creatively thinking researcher with scientific intelligence and erudition in chemistry and biology. She solved the tasks set in the experimental part of the work, collected reliable data through the analysis of research objects, completed the experimental part of the project, chemical calculations, processed the results and proposed a unique phytocomposition based on plant flavonoids.

INNOVATION GRANTS OF NIS STUDENTS

In **2019, 49** students-authors of the best startup projects and ideas are grant winners of the national and international competitions of innovative ideas for a total amount of 8 013 700 KZT (as of 29.11.2019).

Distribution of grants among NIS students

Year	Number of students	The total amount of grant, KZT
2013	2	120 000
2014	1	120 000
2015	8	1 185 660
2016	6	442 149
2017	18	19 152 600
2018	11	5 382 640
2019	49	9 013 700
Total	95	**35 416 749 тенге**

FINANCIAL GRANT HOLDERS

Lyubov Dudchenko, grade 11 student, NIS Almaty PhM. **1st place and a Nur Otan DPP Grant of 1 000 000 KZT** for winning the Republican Youth Competition of Innovative Projects 'Nurintech-2019' organised in the International Technopark 'Astana Hub', Nur-Sultan, 11 January 2019. The 'joARney' startup project is aimed at developing the tourism cluster and attracting attention to mountain tourism in Almaty. The author made a mobile app, created a model of the mountain area and visualised it in augmented reality.

Zhangir Siranov, Zhanibek Manabayev, grade 11 students, NIS Almaty PhM. **2nd place** and **a Nur Otan DPP Grant of 500 000 KZT** for winning the Republican Youth Competition of Innovative Projects 'Nurintech-2019' organised in the International Technopark 'Astana Hub', Nur-Sultan, 11 January 2019. The 'Safe & Sound' startup project is aimed at solving the current road safety issues for headphone users. The author offers a mobile application, which reduces the headphone volume as the transport approaches. Nursultan Nazarbayev, the First President of Kazakhstan, Yelbassy personally evaluated the students' developments at "Uly Dala Muragerleri" (Heirs of the Great Steppe) anniversary forum.

Arseniy Kan, grade 12 student, NIS Atyrau ChB. **3rd place and a Nur Otan DPP Grant of 250 000 KZT** for winning the Republican Youth Competition of Innovative Projects 'Nurintech-2019' organised in the International Technopark 'Astana Hub', Nur-Sultan, 11 January 2019. The 'Smart Lights' startup project is aimed at the data exchange ecosystem and offers the possibility of data

transmission using light, which can eventually replace the wireless Internet network Wi-Fi in the future.

Diyar Tulenov, grade 11 student, NIS Pavlodar ChB. **Grant of 200 USD, gold medal in physics** at the XV International Zhautykov Olympiad in Mathematics, Physics and Computer Science, Almaty, Kazakhstan, 9-14 January 2019.

Yernur Akzhol, grade 12 student, NIS Shymkent PhM. **Grant of 250 000 KZT** for winning the 'U:Hack 2019' Youth Festival of Innovative Ideas in the nomination of 'Content and Media' organised by the Akimat of the city of Shymkent with the support of 'SPK-Shymkent', 03 February 2019. The 'Doge Komek' startup project is aimed at supporting high school students in the field of education by organising SAT/IELTS lessons and meetings with international teachers.

Albert Lee, Symbat Kusherova, Yerdaulet Kappar, Kristina Yatsenko, grade 12 students, NIS Shymkent PhM. **Grant of 170 000 KZT** for winning the 'U:Hack 2019' Youth Festival of Innovative Ideas in the nomination of 'Entrepreneurship' organised by the Akimat of the city of Shymkent with the support of 'SPK-Shymkent', 03 February 2019. The 'Sky Walker' startup project presents a robotic system for cleaning windows and stained-glass windows of skyscrapers in big cities.

Assem Abdulkhamitova, Yessenia Yurtayeva, Aknur Saip, grade 11 students of NIS Shymkent PhM.**Grant of 100 000 KZT** for winning the 'U:Hack 2019' Youth Festival of Innovative Ideas in the nomination of 'Content and Media' organised by the Akimat of the city of Shymkent with the support of 'SPK-Shymkent', 03 February 2019. The 'Shymkent Street-art' startup project offers a creative solution for the pedestrian streets in big cities.

Azamat Baidaulet, grade 11 student, NIS Aktau ChB. **Grant of 350 000 KZT** for winning the 'Caspian Startup-2019' Regional Competition in the nomination of 'Agribusiness' organised by the Regional Department of Education with the support of 'Atameken' the Mangistau Regional Branch of the Chamber of Entrepreneurs, "MKS Logistics" LLP, "Mediana" IT Company, "EXPO&WOMEN", "Eurovoyage-Aktau" travel agencies and "TETHYS" LLP, "MAÑGYSTAÚ" TV channel, Aktau, 27 April 2019. The 'Hair and Nail Fertiliser' startup project proposes the use of nails and hair as fertiliser for plants.

Rodion Ignatov, Aizhuldyz Nadirkhanova, grade 10 and 11 students, NIS Aktau ChB. **Grant of 350 000 KZT** for winning the "Caspian Startup-2019" Regional Competition in the nomination of "IT" organised by the Regional Department of Education with the support of "Atameken" the Mangistau Regional Branch of the Chamber of Entrepreneurs, "MKS Logistics" LLP, "Mediana" IT Company, "EXPO&WOMEN", "Eurovoyage-Aktau" travel agencies and "TETHYS" LLP, "MAÑGYSTAÚ" TV channel, Aktau, 27 April 2019. "UAR Studying" Educational Startup Project.

Dana Yesbergenova, grade 10 student, NIS Aktau ChB. **Grant of 350 000 KZT** for winning the "Caspian Startup-2019" Regional Competition in the nomination of "Tourism" organised by the Regional Department of Education with the support of "Atameken" the Mangistau Regional Branch of the Chamber of Entrepreneurs, "MKS Logistics" LLP, "Mediana" IT Company, "EXPO&WOMEN", "Eurovoyage-Aktau" travel agencies and "TETHYS" LLP, "MAÑGYSTAÚ" TV channel, Aktau, 27 April 2019. The "Urban wetland as a model of an ecosystem resistant to anthropogenic impact (on the example of Karakol Lake)" startup project is designed for the regional development of ecotourism.

Lila Sidorova, Dariya Ismagilova, grade 7 students, NIS Almaty PhM. **1st place and a grant of 30 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of "Robo-Cross" for junior students with the support of the Department of Education, 27 April 2019.

Sultangazy Dairov, Timur Sarsenbayev, grade 10 students, NIS Almaty PhM. **1st place and a grant of 30 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of "WRO Football" for senior students with the support of the Department of Education, 27 April 2019.

Nayman Nurbek, Seitzhan Marlen, Ablay Bagdat, grade 10 students, NIS Almaty ChB. **1st place and a grant of 30 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of "Mini Sumo" for senior students with the support of the Department of Education, 27 April 2019.

Lyubov Dudchenko, Diana Smagulova, Medina Shuriyeva, grade 10 students, NIS Almaty ChB. **Grant of 20 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of "American Space" for "IT Business Project" for senior students with the support of the Department of Education, 27 April 2019.

Alibek Kuantkhan, Dana Kurasbek, Abylay

Ayip, grade 10 students, NIS Almaty ChB. **1st place and a grant of 30 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of 'Software Product' for senior students for 'The Little Story' Game Development Project with the support of the Department of Education, 27 April 2019.

Temirlan Igenov, Nurbek Nussipbek, grade 10 students, NIS Almaty ChB. **2nd place and a grant of 20 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of 'Web and App Development' for 'Assistance to the People' Project for senior students with the support of the Department of Education, 27 April 2019.

Darkhan Nurzhakyp, Anvar Artemov, grade 10 students, NIS Almaty ChB. **1st place and a grant of 30 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of 'Software Product' for senior students for 'Darkgression' Project with the support of the Department of Education, 27 April 2019.

Bernar Sapargali, Magzhan Maksat, grade 10 students, NIS Almaty ChB. **3rd place and a grant of 30 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of 'IT Business Project' for senior students for 'Clever Crutch' Project with the support of the Department of Education, 27 April 2019.

Yernur Beyssenbek, Ayssen Zhylkybay, grade 10 students, NIS Almaty ChB. **3rd place and a grant of 30 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of 'IT Business Project' for senior students for 'Smart Check' Project with the support of the Department of Education, 27 April 2019.

Inkara Aliyeva, Yeldana Nurtazina, grade 10 students, NIS Almaty ChB. **3rd place and a grant of 30 000 KZT** for winning the VI Open Championship on Robotics and Innovative Technologies for the Cup of the Akim of the city of Almaty in the nomination of "IT Business Project" for senior students for "Application Bala" Project with the support of the Department of Education, 27 April 2019.

Amina Kissikova, grade 8 student, NIS Karaganda ChB. **1st place and a grant of 500 000 KZT** for winning the "Future of Saryarka - 2019" Youth Competition of Innovative Ideas and Developments (pupils, students from colleges and universities) in the nomination of "The Best Innovative Project Among Grade 1-9 Students" Kagaranda, 10 May 2019. The "Cost-Effective Energy Supply" startup project makes it possible to save energy consumption by using solar panels.

Yerzhan Umirzakov, Lyazzat Danayeva, grade 12 students, NIS Aktobe PhM. **Grant of 250 USD** for winning an online competition in the nomination of "Clean Hill" organised by the US Embassy for CAFAW grant. The "Clean Hill" project is aimed at solving environmental problems, drawing public attention to the pollution of the city of Aktobe and the Aktobe region, and promoting the volunteer movement. Students and the volunteers of "Taza Ozen - Chistaya Reka" (Clean River) proposed creating a local brand of eco-bags and delivering them to local supermarkets, creating a landfill for plastics and breeding greater wax moth larvae that can eat plastic. Students also plan to organise competitions between city schools relating to the separation of wastes.

Turlykhan Toktaganov, grade 11 student, NIS Pavlodar ChB. **Grant of 500 000 KZT** for winning the Hackathon International Programming Competition within the "Modern Informational Technologies and Business" IT-Forum organised by Astana Hub together with the S.Toraighyrov Pavlodar State University, 16 August 2019, Pavlodar. The "Aredu-Teaching Children with AR Technologies" startup project offers one way of using augmented reality (AR) to teach children by supplementing the real existing physical world with digital and graphical data in real-time using computer devices.

Daryn Kenzhebek, grade 12 student, NIS Nur-Sultan PhM. **Grant of 300 000 KZT** for winning the nomination in the Hackathon International Programming Competition within the "Modern Informational Technologies and Business" IT-Forum organised by Astana Hub together with the S.Toraighyrov Pavlodar State University, 16 August 2019, Pavlodar. The "EasySORT" startup project offers an automated waste sorting system based on a

neural network able to determine the type of wastes. Currently, waste sorting is performed manually requiring much time, money and labour.

Arlan Maram, grade 10 student, NIS Kokshetau PhM. **3rd place, a grant of 200 000 KZT** and a special prize (one month of free training under the Investment Readiness Programme of the "International Center for Green Technologies and Investment Projects" NJSC) for the "Magnetic Wind Turbine" project at the Astana Innovations Challenge 2019, Startup weekend: GreenTech, 6-8 September 2019, the city of Nur-Sultan. This event was held under the auspices of Astana Innovations Challenge, a large-scale startup project competition. The magnetic wind turbine is an innovative invention in the field of electric power, which will save up to 50% of the cost of electricity. This invention can be used to provide safe electricity from small houses to residential estates, industrial and commercial facilities.

Dana Kurmanbek, grade 12 student, NIS Taraz PhM. **Grant of 2 000 000 KZT** for the best startup project "Producing Dried Whey Powder from Dairy Product Wastes" at the startup projects competition organised by the National "Atameken" Chamber of Entrepreneurs within the "Business Road Map 2020" programme in Zhambyl region, the city of Taraz, 24-26 October 2019. The dried whey powder is imported to Kazakhstan from Russia and Belarus. It is used in the production of more than 150 types of products, including cosmetics and pharmaceuticals, sausage and confectionery products, and various types of ice cream. The author offers to produce the dried whey powder from dairy product wastes within the region.

Malika Buribayeva, grade 10 student, NIS Almaty PhM. **Grant of 750 000 KZT** for the best environmental startup project in the nomination of "The Best Eco-Startup Prototype" at the International Competition of Eco Startup Projects organised by the Unified Children and Youth Organisation "Zhas Ulan" Republican Public Association with the support of the Civil Initiatives Support Center NJSC, 18-19 November 2019, Nur-Sultan. The winners were determined in two nominations: The Best Eco-Startup Idea and The Best Eco-Startup Prototype with the prize fund of 1 500 000 KZT.

The Unified Children and Youth Organisation "Zhas Ulan" Republican Public Association held the International Competition of Eco Startup Projects within the grant provided by the Civil Initiatives Support Center NJSC for "Implementation of Projects for the Education of Social Responsibility and Environmental Culture Among the Youth" by order of the Ministry of Information and Social Development of The Republic of Kazakhstan. Eco Startup competition was organised in order to identify and promote the ideas for environmental conservation.

The Breakthrough of the Year: Ivan Krepak – a new face of Kazakhstan

Ivan Krepak, grade 12 student, a 2019 graduate of NIS Almaty PhM.

It is a great achievement to be among the winners of the "100 New Faces of Kazakhstan" project at the age of 18. This became possible due to robotics developments, winning places at many Olympiads and mobile applications. From an early age, Ivan Krepak was fond of programming along with biology. All his developments are aimed at improving the quality of people's lives. One of his favourites is the "bLock" smart lock, which allows you to open a cabinet with your smartphone. The project was awarded with the "Best Business Idea" from Silicon Valley. Ivan Krepak, NIS student: - In 2017, I applied for training in "Factorial Incubator" programme for creating mobile applications. Then I decided that I could create an app that would solve my problem. The mobile app is called "Zharys" that is Kazakh for a "competition", "game". You can download this mobile app to see the list of upcoming competitions. Ivan is always eager to share his knowledge. For the last two years, this young man has been a mentor of "Technovation" for the participants of the Mobile app development project. Ivan is not going to leave. His plans are not just to create commercial projects, but to make a contribution to the national economy and society.

Ivan Krepak is a robotic engineer, mobile app developer and information security specialist, winner of many Olympiads in robotics and computer technologies, and now a 1st-year student of Astana IT University in Information Security, and dreams of becoming a high-class specialist in cybersecurity and big data.

NIS STUDENTS' SUCCESS STORIES

Dana Kurmanbek – the author of the best startup project in Zhambyl region

Dana Kurmanbek, grade 12 student of NIS Taraz PhM won a grant of **two million KZT** for the implementation of the business project for the production of dry whey from dairy wastes at the Zhambyl Region Business Competition in October 2019. Her startup project was supported by the National Chamber of Entrepreneurs "Atameken" within the framework of the "Business Road map 2020" programme in Zhambyl region.

Milk whey is a new direction for the confectionery industry development in the world. The use of milk whey in confectionery products improves their quality and taste. The milk whey is a by-product in cheese, cottage cheese, and casein production and is a secondary dairy raw material. The milk whey contains almost all the salts and trace elements of milk. The milk whey contains all the essential amino acids (arginine, histidine, methionine, lysine, threonine, tryptophan, leucine), as well as lactic, citric, nucleic, acetic, formic, propionic, and butyric acids. By the nature, milk whey substances are similar to blood proteins (albumin and globulin), some of their fractions have immune properties.

Our country imports milk whey from Russia and Belarus. The use of local and non-traditional raw materials is an important reserve for saving the main raw materials in the confectionery industry of the country. Dana developed a business plan for implementing the school-based project. She hopes that this idea will make a significant contribution to the further development of the economy of the region.

It is worth noting that Dana was the youngest participant among other contestants, and now she is only 18 years old. There were experienced entrepreneurs who took participation in the competition along with Dana. According to the organisers, a total of 250 participants applied for the competition.

The projects were evaluated according to the criteria of business ideas in terms of novelty, competitiveness and readiness. The composition of the Competition Committee included representatives of Nazarbayev University, Employment Center, public organisations, Chamber of Entrepreneurs, heads of various enterprises and businessmen.

The Global Cybersecurity Index (GCI) of Kazakhstan in the hands of Dilnaz Tursynbekova

Dilnaz Tursynbekova, grade 12 of NIS Taraz PhM took participation in "TechGirls 2019" programme, the Bureau of Educational and Cultural Affairs of the U.S. Department of State for high school girls from the Middle East and North Africa, as well as Central Asia, who are interested in science, technology, engineering, and mathematics.

The TechGirls 2019 programme is an annual, intensive four-week programme aimed at supporting the aspirations of girls of 15-17 years old from the Middle East, North Africa and Central Asia to pursue higher education and build a career in science and technology through the development of practical skills. The programme is entirely aimed at raising the status of women and girls around the world, developing STEM education, and strengthening friendly relations and deepening mutual understanding among young people in the United States and the Middle East, North Africa and Central Asia.

The selection criteria included such skills as a strong interest in technology, engineering, and math, the desire to pursue higher education and build a career in technology, excellent knowledge of English, independence, flexibility, and openness to new experience, readiness to perform activities for benefit of the community after the programme completion.

Dilnaz became one of the 6 finalists in Kazakhstan.

The programme was implemented in the period of 5 to 31 July 2019. Along with 24 other participants from Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, Dilnaz spent 12 days at Trinity Washington University (DC) and Virginia Tech University in Blacksburg (Virginia, USA) to learn Python programming language, took a course on cybersecurity, and had an active practice in interactive laboratories. Moreover, the participants visited technology companies and advanced medical clinics in the district of Columbia, attended the workshops on leadership, service to society, intercultural cooperation, project planning and development of practical knowledge, and spent weekends with American families in Virginia.

During the exchange programme, Dilnaz drew up a project schedule to solve certain problems in society. Dilnaz is currently implementing the "Cybersecurity and Programming" project at school.

The project launched on 31 October 2019 will last until 28 November this year. The project duration is 5 weeks. The aim of the project is to increase the interest of school students in IT technologies. Nowadays Dilnaz teaches grade 8 students to develop computer games and photo editors, and the basics of cyber security.

Dilyara Gabitova – a rising star of Asia

Dilyara Gabitova, grade 12 student of NIS Atyrau ChB, won a silver medal at the Asian Junior Chess Championship, which was held in Sri Lanka in April 2019. Dilyara showed excellent results in the blitz, rapid and classical chess at the Asian tournament. A total of 572 players from more than 20 countries took part in the International Asian Chess Championship – 2019. The Asian championship for young chess players under 18 was held in Kalutara.

The annual Vienna Chess Open 2019 festival was held in Vienna (Austria). 409 chess players from 53 countries attended this

festival. Dilyara Gabitova defended the honour of our country, scored 6 points in 9 rounds and won a bronze medal in her age category. This was a ranking tournament, which allowed Dilyara to rise in the world ranking by 176 points.

Dilyara devotes a lot of time to study the theory of chess. She is trained by Zhanibek Amanov, an international master, who is sure that her hard work and serious attitude to chess will help her become a FIDE master. Nowadays Dilyara is a candidate master in chess.

Diyar Tulenov – the future Nobel Prize winner

Diyar Tulenov, grade 12 student of NIS Pavlodar ChB, the winner of the gold medal in physics, which is the second victory at the XV International Zhautykov Olympiad in mathematics, physics and computer science on 9-14 January 2019 in Almaty. More than 500 children from 18 countries of the world took part in the intellectual competitions, which is equivalent to more than 80 teams, and 155 of them took part in physics.

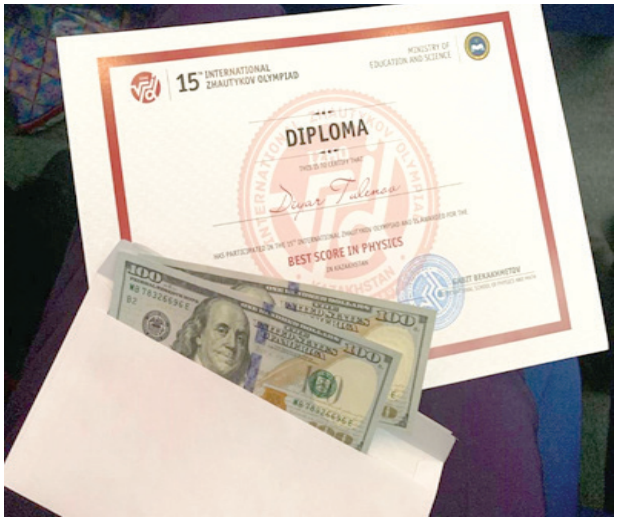
Diyar Tulenov is the winner of the bronze medal in the Asian Physics Olympiad, which was held on 5-13 May 2019 in Adelaide, Australia. The Olympiad was attended by the representatives from 22 countries including Bangladesh, Cambodia, China, India, Indonesia, Israel, Malaysia, Mongolia, Pakistan, Romania, Russia, Singapore, Sri Lanka, Saudi Arabia, Turkey, Thailand, Taiwan, and Vietnam. The Asian Physics Olympiad has been held annually since 2000 for 19 years. By the end of the competition, the Kazakhstan national team of 8 students won 3 bronze medals, one of which was awarded to Diyar.

In December 2018, Diyar reached the top eight physicists in Kazakhstan. He believes that the Physics Olympiads are a way of self-development, self-improvement and self-realisation leading to the physics scientific research. Most of all, Diyar is interested in studying the physics of materials, the main goal of which is to find innovative materials for the construction of micro-robots and spaceships. He is sure that in the future he will contribute to the creation of new materials to change the world for the better.

During the visit to NIS Pavlodar ChB on 27 April 2019, President Kassym-Jomart Tokayev wished Diyar Tulenov to become the winner of the Nobel prize in the future. The young physicist is determined to make his dreams come true.

In 2018, Diyar and his friends organised a "Koldau" school club for high school students to share their knowledge and skills from different subject areas with primary school students.

Diyar won the educational grants in the following universities: Higher School of Economics (Russia), Al-Farabi Kazakh National University, Nazarbayev University and Kazakh-British Technical University (KBTU).



Viktor Kovalchuk – the author of a patent for the interactive school board software

We live in an era of the great achievements and discoveries. Nowadays the science is available to a human as never before. There are a million chances, opportunities and ways to implement absolutely any idea. It is possible to turn any, probably, the craziest idea into reality.

Kovalchuk Viktor, grade 11 student of NIS Kostanay PhM, Author's Certificate of Entering Information in the State Register of Rights to Objects "Software and Documentation Development to the Device for Creating an Interactive School Board" issued by the National Institute of Intellectual Property RSE of the Ministry of Justice of the Republic of Kazakhstan.

The technology of the interactive boards is applicable to any surface in educational institutions that cannot afford to purchase expensive interactive equipment.

FARMERS IN KAZAKHSTAN RECEIVED GPS TRACKERS FOR FREE

On 8 July 2019, a solemn ceremony of awarding Kazakh farmers with animal tracking devices held in Almaty. Samsung and the Lives'talk Korean startup team provided livestock breeders in Almaty region with 50 GPS trackers.

Yun Yangchen, the Lives'talk team leader presented the high-tech solution to representatives of local akimats, farmers and investors. Talgat Baynazarov, NIS Taraz Director, was the special guest of the ceremony. He was also presented with the device as a thank you.

Let us remember that Beknur Kalmakhanbet and Dauren Tenelbayev, grade 12 students of NIS Taraz, improved the device by inventing a special linear generator that provides the GPS Tracker with uninterruptible power supply. In April of this year, NIS Taraz PhM and the Lives'Talk startup company signed a Memorandum on Cooperation.

The Memorandum opened up new prospects for bilateral cooperation in the field of science, particularly in the work on a GPS tracker for farmers. In the near future, the authors of the device are eager to share them

to more than 200 cattle farmers in the country.

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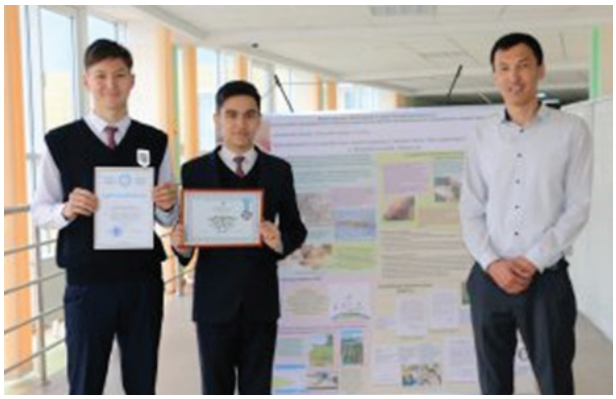

Let us remember that Beknur Kalmakhanbet and Dauren Tenelbayev, grade 12 students of NIS Taraz, improved the device by inventing a special linear generator that provides the GPS Tracker with uninterruptible power supply. In April of this year, NIS Taraz PhM and the Lives'Talk startup company signed a Memorandum on Cooperation.

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JAPAN IS ENCHANTED BY "ZHETISU"

Dair Serik, grade 7 student of NIS Taldykorgan PhM won the "Kanagawa Prize" of the "Children's Museum of Art" World Children's Picture Contest in Kanagawa Prefecture, Japan, with a creative work – a landscape "Zhetisu – My Native Land". This online competition was attended by young artists from more than 90 countries of Europe, Africa, Asia, America and Oceania. Serik has a

lot of favourite hobbies: playing the saxophone, piano, blockflute, dombra and pottery. The main hobby is drawing, which inspires and teaches him to see all the most beautiful things around.

The results of the "Children's Museum of Art" World Children's Picture Contest showed that the work of Dair Serik is recognised as one of the best among 30 thousand works. The landscape "Zhetisu – My Native Land" was included in the collection of the best works of young artists in the world.

6.3. INTERNATIONAL EXAMINATIONS

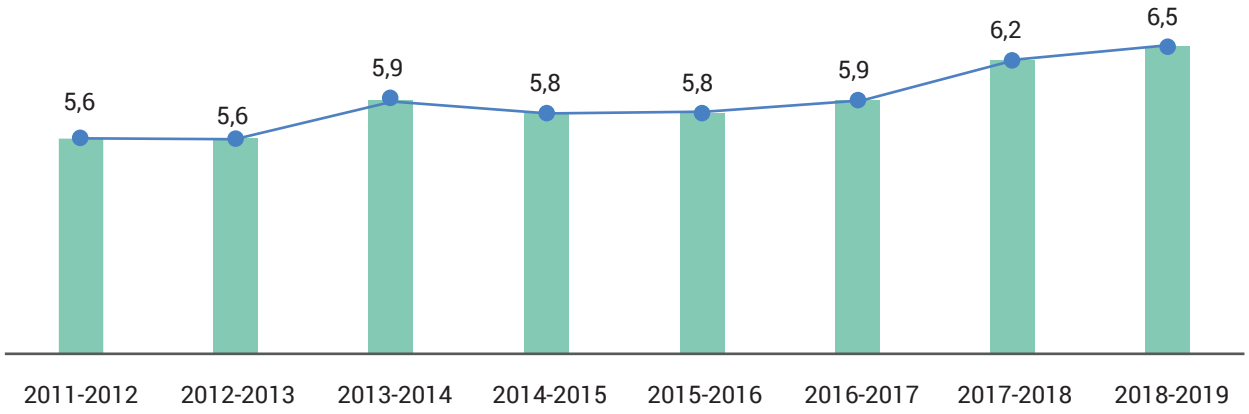
In the 2018-2019 academic year, 2 164 grade 12 students of 20 Intellectual schools took the international IELTS exam used as the external assessment of the English language.

The average IELTS band score – 6.5. In 2019, the average score across all the Intellectual schools was 6.0 or higher.

№	School	2018 - 2019
1	NIS PhM Nur-Sultan	6,5
2	Nur-Sultan (IB)	6,8
3	NIS PhM Kokshetau	6,3
4	NIS PhM Semey	6,1
5	NIS PhM Taldykorgan	6,2
6	NIS ChB Ust-Kamenogorsk	6,2
7	NIS PhM Uralsk	6,4
8	NIS ChB Karaganda	6,5
9	NIS PhM Aktobe	6,5
10	NIS PhM Shymkent	6,4
11	NIS ChB Shymkent	6,2
12	NIS PhM Atyrau	6,5
13	NIS ChB Pavlodar	6,4
14	NIS PhM Kyzylorda	6,0
15	NIS PhM Taraz	6,3
16	NIS PhM Almaty	6,5
17	NIS PhM Kostanay	6,1
18	NIS ChB Almaty	6,5
19	NIS ChB Aktau	6,1
20	NIS ChB Petropavlovsk	6,1
Total average score		**6,3**
The difference between max. and min.		0,8

In the last few years, NIS has been showing positive growth in the average IELTS score.

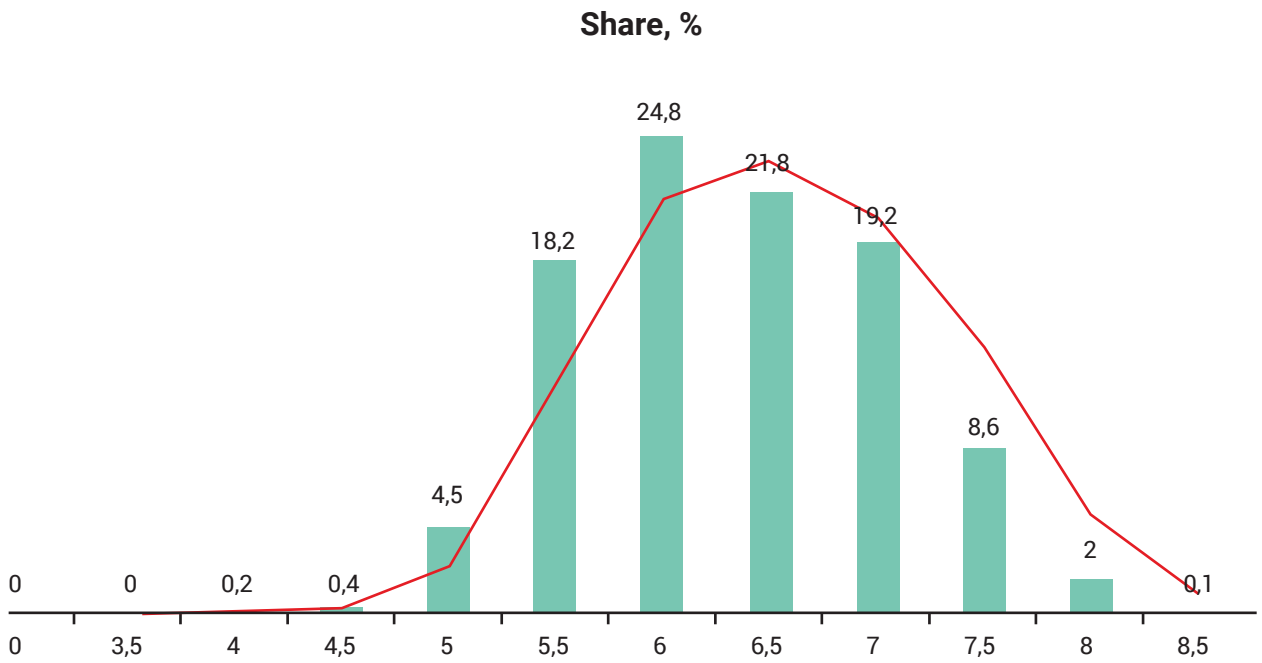
Diagram 1. Average IELTS score by year



The exam results showed that every third student has an IELTS certificate with a band score of 7 or higher.

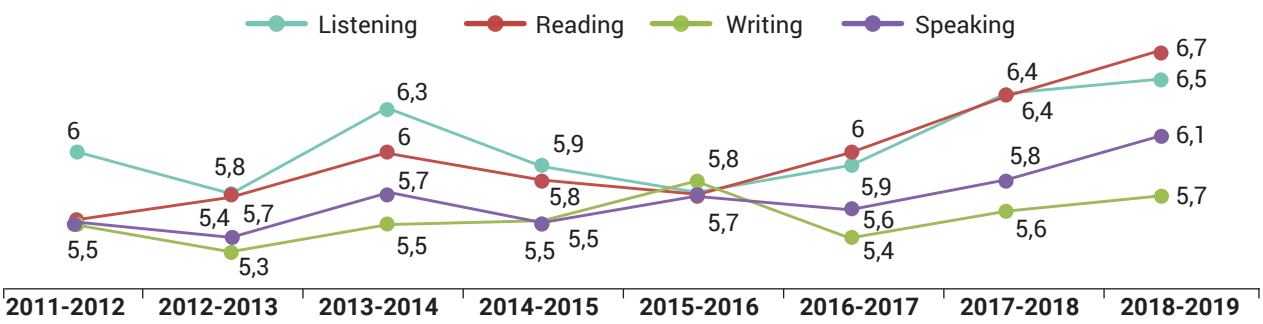
The percent of students who scored less than 5 was 0.6% (14 students).

Diagram. Distribution of scores



Analysis of IELTS results showed that the average score in four language skills has improved over the years.

Diagram 2. The average score in four language skills



The students from NIS Nur-Sultan – Adil Nurmukhambetov, NIS Almaty PhM – Amina Igenbek and NIS Shymkent PhM – Zinedin Aldiyarov showed high results – 8.5 points. They reached the highest score (9.0) in listening and reading skills.

International Scholastic Assessment Test (SAT)

Annually, NIS students take the International SAT Reasoning Test (SAT 1) and SAT Subject Test (SAT 2) on a voluntary basis. The exam results are required for admission to certain higher education institutions. SAT 1 includes the exams in "Mathematics", "Evidence-based Reading" and "Writing" and the maximum score is 1600. In SAT 2 the maximum score for each subject is 800.

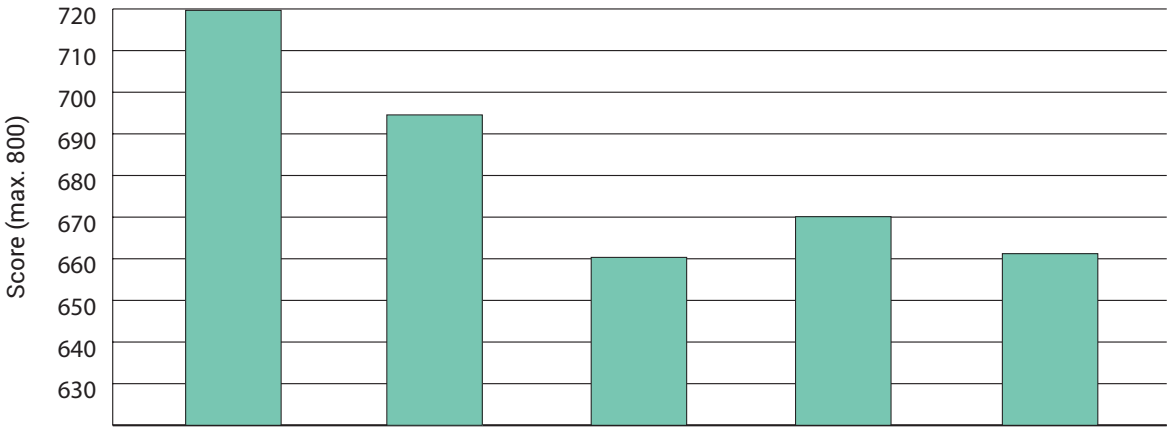
In the 2018-2019 academic year, 40% of grade 12 students (844 students) passed SAT 1. The average score across 20 Intellectual schools was 1334 points.

The results of NIS students are higher than the results of 93% of USA students and 89 % of students worldwide. 21% of students (176 out of 844) scored 1450 or higher. This result is shown by only 3% of students in the world.

634 students out of 844 scored above 1240, which is enough for admission to the undergraduate programme of Nazarbayev University, and 30 students scored 1520 points or higher, which is enough to apply to the top 10 universities in the world.

In the 2018-2019 academic year, 449 NIS students passed SAT 2 in Mathematics 1, Mathematics 2 (advanced), Physics, Chemistry and Biology and the average score was:

Diagram 4. Average SAT score in particular subjects



	Math 1	Math 2	Physics	Chemistry	Biology
Ряд 1	719,7	697,1	666,3	675,1	667,1

15 NIS graduates scored maximum SAT points (800) in three, two and one subjects.

Thus, NIS students showed a high level of knowledge in Science, Mathematics and the English language.

6.4. UNIVERSITY ADMISSIONS

In order to improve career guidance in Nazarbayev Intellectual schools, the Department for Education Quality Assessment and International Accreditation held 2 workshops for career officers in 2019.

In February of this year, a training workshop was held in Almaty to discuss the issues related to career guidance and share experience with career officers. The workshop was attended by 9 universities of the Republic of Kazakhstan that recognise NIS-programme and NIS Grade 12 Certificate to get acquainted with the educational process, bachelor's programmes and admission requirements, laboratories and campuses of the universities. The workshop participants took part in the International Education Exhibition involving foreign universities from 35 countries.

In October this year, a workshop was held in Nur-Sultan with the support of the CIS. It was attended by Kazakh speakers (Nazarbayev University, BTS Education, and Department of Corporate Communications) and representatives of foreign universities and organisations (Council of International Schools, Swiss Education Group, Boston University, Northwest University, University of British Columbia, American University in Bulgaria, etc.). During the workshop, the career officers had a chance to visit the International Education Exhibition of the CIS Member universities under the Haileybury Astana.

In 2019, the representatives of more than 30 foreign universities visited Nazarbayev Intellectual schools, such as New York University (USA), University of British Columbia (Canada), Hong Kong University of Science and Technology, Hong Kong Polytechnic University, City University of Hong Kong, Shanghai University of Jiao Tong (China), which are in the Top 100 list according to QS World University Ranking.

Visit of Pusan National University, South Korea

Visit of the Hong Kong Polytechnic University, China

In the 2018-2019 academic year, 2 168 graduates of Intellectual schools entered different national and international universities. 1 952 graduates (90%) are grant holders (1 598 - in Kazakhstan, 557 - abroad)

Diagram 1.
Admission of graduates

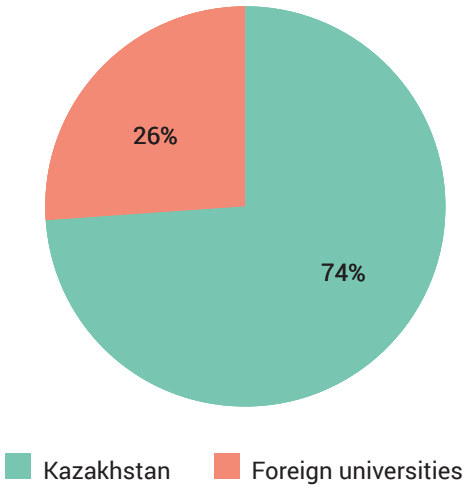
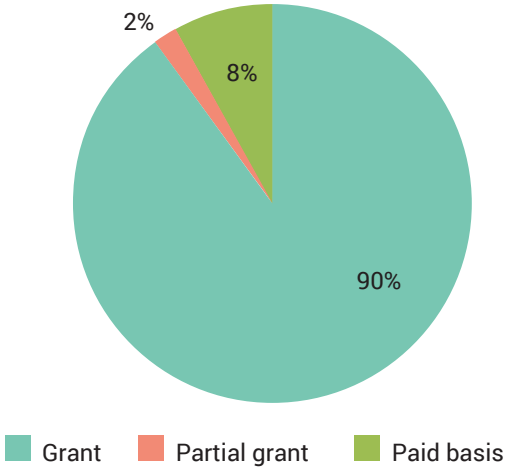
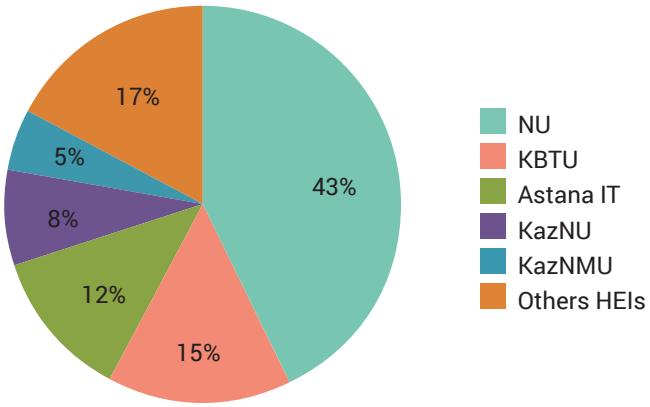


Diagram 2.
Form of education in Kazakhstan universities



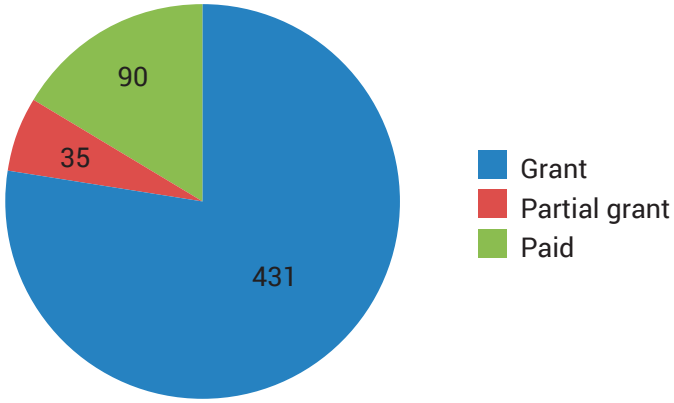
The most popular Kazakhstan universities among the graduates of 2018-2019 are Nazarbayev University, Kazakh-British Technical University (KBTU), Astana IT University, Al-Farabi Kazakh National University (Al-Farabi KazNU) and the Asfendiyarov National Medical University (KazNMU).).

Diagram 3. Distribution of graduates by universities in Kazakhstan



557 (25.6%) graduates of 2018-2019 entered different universities in the countries of the far and near abroad. 466 (83.6%) of them are grant or partial grant holders.

Diagram 4. Form of education in foreign universities

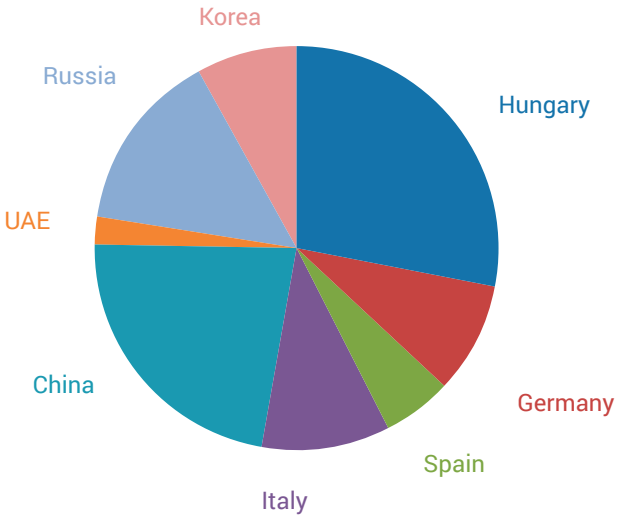


32 graduates study in Top 50 universities and 66 graduates study in Top 100 universities according to QS World University Ranking. 4 graduates of the 2018-2019 academic year entered the Ivy League universities (USA):

Aknazar Kazhymurat	Selimzhan Chalyshkan	Madina Arapova	Aigerim Akhmetzhanova
Almaty PhM		Nur-Sultan PhM	Karaganda ChB
Harvard University		University of Pennsylvania	Brown University

The majority of graduates entered the HEIs in Hungary, Germany, Russia, China and Spain.

Diagram 5. The most popular countries to study abroad among NIS graduates




ZIY

MEDIA COVERAGE OF NIS ACTIVITIES

In 2019, more than 6 500 materials of different genres across all areas of NIS activities were published in foreign, national and regional media based on a non-commercial basis (according to monthly and thematic digests). The greatest part of the materials was devoted to NIS network events of special importance, the achievements of students, teachers and NIS system in general.

In April 2019, NIS Press Office was recognised as the winner of the "Best Press Service of the Year" International Competition for the experts in Media and Public Relations (Moscow). "NIS: Brand Ambassador of the Education in Kazakhstan" Project won the first place in the nomination of "Territorial Promotion". The jury consisting of well-known Russian experts and practitioners in the field of mass communications highly appreciated NIS Media and PR Promotion as a country intellectual brand and a recognised driver for world pedagogy.

The following work was done during the reporting period:

• production of the thematic films "What are your goals for the next academic year?", "Figures. Facts. Achievements" - for the August Conference, and "School" - for Pilot Project in Uralsk;

• participation of Intellectual schools and NIS Central Office in "Abay challenge";

• filming for the Teaching and Learning International Survey (TALIS);

• organisation and information support of social project "To My Teacher with Love" together with Bilimdi Yel National Newspaper;

• large-scale information support of the "Book Conquers the World" campaign;

• signing the agreements with the central national media to announce the competitive selection ("Yegemen Kazakhstan", "Liter" republican newspapers, and "Zakon.kz", "Tengrinews" information portals; TV and Radio Ticker Agreements across 17 Regions);

• collection of comments of the global and national education leaders on NIS system;

• preparation of daily press reviews from the national and regional media for NIS administration;

• settling force majeure issues related to reputation risks;

• implementing a monthly digest subscription with the most interesting publications about NIS activity;

• working with NIS Press Pool in the scope of education;

• updating the contact database of media and press office;

• increasing the number of followers in Facebook and Instagram.

The work on the professional development of press secretaries: competitive selection was continued, which included briefing of new press secretaries of NIS Almaty PhM, NIS Shymkent PhM, NIS Ust-Kamenogorsk, NIS Karaganda, International school of Nur-Sultan, and professional development course "Information and PR Priorities in the Work of the Press Secretary" in Aktau.

APPENDICES
INTERNATIONAL AWARD AND OLYMPIAD WINNERS
NIS BRANCHES AND ORGANISATIONS CONTACTS

Outstanding achievements of students at the national and international Olympiads, science competitions and contests

1

Diyar Tulenov (NIS Pavlodar ChB) was awarded a gold medal in Physics, XV International Zhautykov Olympiad, 9-15 January 2019, Almaty.

2

Diyar Tulenov (NIS Pavlodar ChB) was awarded a bronze medal, XX Asian Physics Olympiad, 12 May 2019, Adelaide, Australia.

3

Diyar Tulenov (NIS Pavlodar ChB) was awarded a gold medal in Physics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

4

Yerassyl Turarov (NIS Karaganda ChB) - winner of the Grand Prix in the nomination of "Renewable Energy - Future Energy"; the educational grant of SolBridge International School of Business for "Using Seebeck Elements for Generating Electric Energy in Space" project; the "Young Researcher" International Science Competition, from 27 February to 4 March 2019, Daejeon, South Korea. Yerassyl suggested using the thermoelectric effect for the operation of space satellites. The project may significantly increase energy production in space and enhance energy security. Yerassyl was awarded by John Endicott, Nobel laureate, famous writer and educator, and President of Woosong University. The city of Daejeon, the host city of the "Young Researcher" International Science Competition, is called the "Asian Silicon Valley". Daejeon is the centre for the entire scientific and intellectual elite of the Asia-Pacific region (35 public and private research institutes). The works of NIS students were highly appreciated by South Korea International Experts, which is the evidence of the great scientific potential of Kazakhstan's students.

5

Yerassyl Turarov (NIS Karaganda ChB) was awarded the 1st-Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

6

Aiman Dzhalmukhambetova (NIS Aktobe PhM) was awarded the Grand Prix in the nomination of "Environmental Safety and Human Care"; the educational grant of SolBridge International School of Business for "Using Paper Waste for Drought Management" Project; the "Young Researcher" International Science Competition, from 27 February to 4 March 2019, Daejeon, South Korea. The project proposes the creation of a new, efficient and cost-effective absorbent made of waste paper materials for drought management. The recommendations of Ayman will be useful for the agriculture development, breeders, agronomists, and florists. The results of the competition show that the project scored 100 out of 100 possible points and the title of the "Best Work". Ayman was awarded by John Endicott, Nobel laureate, the President of Woosong University.

7

Islam Suleyman (NIS Pavlodar ChB) - winner of the 1st-Degree Diploma in the nomination of "Language, Culture and Law in the XXI Century: Stages of Knowledge"; 80% discount for education fee in Woosong University and SolBridge International School of Business for "Sacred Tourism Kazakhstan" mobile app; the "Young Researcher" International Science Competition, from 27 February to 4 March 2019, Daejeon, South Korea. The project offers a free mobile app for travellers and guests of Pavlodar region, which contains detailed information in Kazakh, Russian and English languages about the historical sights of the region, such as the mausoleum of Mashkhur Zhusup Kopeyev, the mausoleum of Gabdul-Uahit Hazret, the mausoleum complex of Isabek Ishan Hazret, the Umit Apa mosque and the Konyr-Aulie cave, convenient satellite maps of the area, photos, chat and other means of communication. The project will promote the development of domestic tourism and attract foreign tourists to Kazakhstan.

8

Alibek Orazalin (NIS Almaty PhM) was awarded a gold medal at the XXXI International distance Asia Pacific Mathematical Olympiad, 11-13 March 2019, Almaty.

9

Alibek Orazalin (NIS Almaty PhM) was awarded a gold medal at the XVIII International Silk Road Mathematical Olympiad, 11-13 March 2019, Almaty.

10

Alibek Orazalin (NIS Almaty PhM) - winner of the bronze medal in Mathematics, XV International Zhautykov Olympiad, 9-15 January 2019, Almaty.

11

Orazalin Alibek (NIS Almaty PhM) was awarded a gold medal in mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

12

Daniil Melnichenko (NIS Pavlodar ChB) was awarded a bronze medal at the International Chemistry Olympiad, 21-30 July 2019, Paris, France.

13

Daniil Melnichenko (NIS Pavlodar ChB) was awarded a silver medal at the 53rd International Mendeleev Chemistry Olympiad, 21-27 April 2019, St. Petersburg, Russia.

14

Daniil Melnichenko (NIS Pavlodar ChB) was awarded a gold medal at the V International Chemistry Olympiad named after A. Bekturov, 25-26 February 2019, Pavlodar.

15

Daniil Melnichenko (NIS Pavlodar ChB) was awarded a gold medal in chemistry, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

16

Khaydar Kairbek (NIS Pavlodar ChB) was awarded a bronze medal at the 53rd International Mendeleev Chemistry Olympiad, 21-27 April 2019, St. Petersburg, Russia.

17

Khaydar Kairbek (NIS Pavlodar ChB) was awarded a gold medal at the V International Chemistry Olympiad named after A. Bekturov, 25-26 February 2019, Pavlodar.

18

Khaydar Kairbek (NIS Pavlodar ChB) was awarded a gold medal in chemistry, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

19

Rustem Sherdebayev (NIS Semey PhM) was awarded a bronze medal at the 53rd International Mendeleev Chemistry Olympiad, 21-27 April 2019, St. Petersburg, Russia.

20

Rustem Sherdebayev (NIS Semey PhM) was awarded a silver medal in chemistry, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

21

Aidyn Tayshybay (NIS Petropavlovsk ChB) was awarded a bronze medal at the 53rd International Mendeleev Chemistry Olympiad, 21-27 April 2019, St. Petersburg, Russia.

22

Aidyn Tayshybay (NIS Petropavlovsk ChB) was awarded a gold medal, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

23

Aidyn Tayshybay (NIS Petropavlovsk ChB) was awarded a silver medal in Chemistry, XXVI International Olympiad “Tyymada-2019”, July 2019, Yakutia, Russia.

24

Aidyn Tayshybay (NIS Petropavlovsk ChB) was awarded a silver medal in Chemistry at the V International Chemistry Olympiad named after A. Bekturov, 25-26 February 2019, Pavlodar.

25

Kazhymurat Aknazar (NIS Almaty PhM) was awarded a gold medal in Physics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

26

Aruzhan Sabyrbek (NIS Taldykorgan PhM) was awarded a bronze medal at the European Girls' Mathematical Olympiad (EGMO-2019), 7-13 April, 2019, Kiev, Ukraine. EGMO has been held since 2012. In a short time, it has become very popular and has actually gone beyond European countries (USA, Japan, India, Iran, Mexico, and Indonesia). In terms of scale (52 participating countries in 2018, 36 of which are European countries) and the level of tasks, it might be called IMO for girls (for more information www.egmo.org).

27

Aruzhan Sabyrbek (NIS Almaty PhM) was awarded the silver medal in Mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

28

Aida Nauanova (NIS Taldykorgan PhM) was awarded the 1st-Degree Diploma in the nomination of "Solar System" for "Using an Asteroid as a Vehicle for Deep Space Exploration" project at the XV International Space Research Competition "Opening the World of Science", 3-6 April 2019, Baikonur, Russia.

29

Aida Nauanova (NIS Taldykorgan PhM) was awarded a silver medal at the IX International Competition of Research Works in Mechanics and Mathematics named after U.Zholdasbekov at the Al-Farabi Kazakh National University, Faculty of Mechanical Mathematics, 1-3 March 2019, Almaty. The competition was attended by 200 students from all the regions of Kazakhstan, as well as students from Tajikistan, Kyrgyzstan and Russia.

30

Zhanagul Tynysbek (NIS Kyzylorda ChB) was awarded a silver medal at the IX International Competition of Research Works in Mechanics and Mathematics named after U.Zholdasbekov at the Al-Farabi Kazakh National University, Faculty of Mechanical Mathematics, 1-3 March 2019, Almaty.

31

Abuzer Abuov (NIS Almaty PhM) was awarded a silver medal at the XXXI International distance Asia Pacific Mathematical Olympiad, 11-13 March 2019, Almaty.

32

Artur Pak (NIS Taldykorgan PhM) was awarded a silver medal at the XVIII International Mathematical Olympiad "Silk Road", 11-13 March 2019, Almaty.

33

Amina Zharkenova (NIS Karaganda ChB) was awarded the 1st-Degree Diploma in the nomination of "Space Technology and Infrastructure" for "Applying Carbon Composite Obtained from Carbon Dioxide Through Electrolysis of Active Metal Compounds in Rocket Design" at the XV International Space Research Competition "Opening the World of Science", 3-6 April 2019, Baikonur, Russia.

34

Amina Zharkenova (NIS Karaganda ChB) was awarded the 2nd-Degree Diploma in the nomination of "Applied Models of Spacecrafts. Aerospace Engineering", IX Nauryz meetings, 19-20 March 2019, Kyzylorda.

35

Indira Kairzhanova (NIS Kokshetau PhM) was awarded the 1st-Degree Diploma in the nomination of "Space Technology and Infrastructure" for "Applying Carbon Composite Obtained from Carbon Dioxide Through Electrolysis of Active Metal Compounds in Rocket Design" at the XV International Space Research Competition "Opening the World of Science", 3-6 April 2019, Baikonur, Russia.

36

Abylaykhan Mustafin (NIS Pavlodar ChB) was awarded the 1st-Degree Diploma in the nomination of "Environment and Space Activity" for "Deactivating Rocket Fuel Spillage and Soil Fertility Restoration in the Landing Areas of Separated Parts of Boosters" at the XV International Space Research Competition "Opening the World of Science", 3-6 April 2019, Baikonur, Russia.

37

Veronika Kochubey (NIS Taldykorgan PhM) was awarded the 1st-Degree Diploma in the nomination of "Space Information Technology and Modelling" for "Robotic Exploration Space Rover" at the XV International Space Research Competition "Opening the World of Science", 3-6 April 2019, Baikonur, Russia.

38

Daniil Filimonov (NIS Taldykorgan PhM) was awarded the 1st-Degree Diploma in the nomination of "Space Information Technology and Modelling" for "Robotic Exploration Space Rover" at the XV International Space Research Competition "Opening the World of Science", 3-6 April 2019, Baikonur, Russia.

39

Daniil Filimonov (NIS Taldykorgan PhM) was awarded the 3rd-Degree Diploma at the World Robot Olympiad-2019, 7-11 November 2019, Győr, Hungary.

40

Konstantin Kan (NIS Taldykorgan PhM) was awarded the 1st-Degree Diploma in the nomination of "Solar System" for "Using an Asteroid as a Vehicle for Deep Space Exploration" project at the XV International Space Research Competition "Opening the World of Science", 3-6 April 2019, Baikonur, Russia.

41

Rustam Valeyev (NIS Aktobe PhM) was awarded a silver medal at the Geography Olympiad of Central, South and South-Eastern Europe, 23-28 June 2019, Belgrade, Serbia.

Rustam Valeyev (NIS Aktobe PhM) was awarded a gold medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

42

Adilet Tabyldy (NIS Pavlodar ChB) was awarded a bronze medal at the Geography Olympiad of Central, South and South-Eastern Europe, 23-28 June 2019, Belgrade, Serbia.

43

Adilet Tabyldy (NIS Pavlodar ChB) was awarded a gold medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

44

Dinmukhammed Urazbayev (NIS Pavlodar ChB) was awarded a silver medal in Biology, All-Siberian Open Olympiad, 10 March 2019, Omsk, Russia.

45

Dinmukhammed Urazbayev (NIS Pavlodar ChB) was awarded a bronze medal in Biology, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

46

Zhasmina Mussaipova (NIS Pavlodar ChB) was awarded a bronze medal in Biology, All-Siberian Open Olympiad, 10 March 2019, Omsk, Russia.

47

Abylaykhan Mustafin (NIS Pavlodar ChB) was awarded a bronze medal in Economics at AIFC-2019 Finance Olympiad, 24-31 July 2019, St. Petersburg, Russia.

48

Azamat Atabayev (NIS Almaty PhM) was awarded a bronze medal in Physics, XV International Zhautykov Olympiad, 9-15 January 2019, Almaty.

49

Ulan Seitkaliyev (NIS Semey PhM) was awarded a bronze medal in Mathematics, XV International Zhautykov Olympiad, 9-15 January 2019, Almaty.

50

Temirlan Nurligenov (NIS Karaganda ChB) - winner of the bronze medal in mathematics, XV International Zhautykov Olympiad, 9-15 January 2019, Almaty.

51

Temirlan Nurligenov (NIS Karaganda ChB) was awarded a silver medal in Mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

52

Nurassyl Abdrazak (NIS Almaty PhM) - the winner of the bronze medal in mathematics, XV International Zhautykov Olympiad, 9-15 January 2019, Almaty.

53

Adilkhan Muratov (NIS Almaty PhM) was awarded a bronze medal in Computer science, XV International Zhautykov Olympiad, 9-15 January 2019, Almaty.

54

Madina Kumabayeva (NIS Karaganda ChB) was awarded a gold medal at the IX International Competition of Research Works in Mechanics and Mathematics named after U.Zholdasbekov at the Al-Farabi Kazakh

National University, Faculty of Mechanical Mathematics, 1-3 March 2019, Almaty.

55

Dias Urazov (NIS Aktobe PhM) was awarded the 2nd-Degree Diploma in the nomination of “Environment and Space Activity” for “Kinetic Space Greenhouse” project at the XV International Space Research Competition “Opening the World of Science”, 3-6 April 2019, Baikonur, Russia.

56

Beknur Kalmakhambet (NIS Taraz PhM) was awarded the 2nd-Degree Diploma in the nomination of “Space Information Technology and Modelling” for “Autonomous Monitoring Device for Animals in (by the example of horses) Zhambyl region” project at the XV International Space Research Competition “Opening the World of Science”, 3-6 April 2019, Baikonur, Russia.

57

Dilnaz Zhemisbek (NIS Taraz PhM) was awarded the 2nd-Degree Diploma in the nomination of “Space Information Technology and Modelling” for “Autonomous Monitoring Device for Animals in (by the example of horses) Zhambyl region” project at the XV International Space Research Competition “Opening the World of Science”, 3-6 April 2019, Baikonur, Russia.

58

Madina Aglamkhan (NIS Taraz PhM) was awarded the 2nd-Degree Diploma in the nomination of “Space Information Technology and Modelling” for “Autonomous Monitoring Device for Animals in (by the example of horses) Zhambyl region” project at the XV International Space Research Competition “Opening the World of Science”, 3-6 April 2019, Baikonur, Russia.

59

Tolegen Konakbayev (NIS Kyzylorda ChB) was awarded the 3rd-Degree Diploma in the nomination of "Environment and Space Activity" for "Using Laboratory and Direct Field Methods in Evaluation of the Resistance of Barley Varieties to Abiotic Factors" at the XV International Space Research Competition "Opening the World of Science", 3-6 April 2019, Baikonur, Russia.

60

Yerzhan Akzhigitov (NIS Pavlodar ChB) was awarded a silver medal, Presidential Olympiad, 12-14 November 2019, Nur-Sultan.

61

Assem Kenzhetayeva (NIS Pavlodar ChB) was awarded a silver medal in Biology at the IX International Olympiad named after K.Satpayev 31 May 2019, Pavlodar region, Bayanauyl.

62

Chingiz Kaliyev (NIS Pavlodar ChB) was awarded a silver medal in Chemistry at the IX International Olympiad named after K.Satpayev 31 May 2019, Pavlodar region, Bayanauyl.

63

Akhmet Shayman (NIS Pavlodar ChB) was awarded a bronze medal in Physics at the IX International Olympiad named after K.Satpayev 31 May 2019, Pavlodar region, Bayanauyl.

64

Madina Orazaliyeva (NIS Almaty ChB) was awarded the Laureate Diploma for “Investigation of Microflora of the National Sour-Milk Product of Kazakhstan” at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

65

Anel Yerdimurat (NIS Almaty ChB) was awarded the Laureate Diploma for "Investigation of Microflora of the National Sour-Milk Product of Kazakhstan" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

66

Dayana Akylbek (NIS Shymkent ChB) was awarded the Laureate Diploma for "Morphobiological Features and Diagnostic Properties of Echinacea Purpurea in the South of Kazakhstan" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

67

Darina Mukhamedzhanova (NIS Taraz PhM) was awarded the Laureate Diploma for "Innovative Use of Sorbents to Increase Plant Tolerance in Conditions of Salinity Stress" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

68

Faymi Zufarov (NIS Taraz PhM) was awarded the Laureate Diploma for "Biological and Ecological Evaluation of Soil Fertility of Agricultural Lands in the Zhambyl District of Zhambyl Region" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

69

Azat Yedilov (NIS Pavlodar ChB) was awarded the Laureate Diploma for "Research of the Ability of Dry Fibres of Vegetables and Fruits to Adsorb Heavy Metal Ions" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

70

Batyrkhan Mustafin (NIS Nur-Sultan PhM) was awarded the Laureate Diploma for "Ultra-High-Energy Cosmic Rays: Several Peak Events" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

71

Aslan Sabyrov (NIS Nur-Sultan PhM) was awarded the Laureate Diploma for "Ultra-High-Energy Cosmic Rays: Several Peak Events" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

72

Kamila Mashanlo (NIS Taraz PhM) was awarded the Laureate Diploma for "Preserving the National Identity of Dungans in the Conditions of Globalization" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

73

Ayana Kashkunova (NIS Taraz PhM) was awarded the Laureate Diploma for "The Vision of Nature as a Way of Expressing National Identity

in Children's Fiction of Modern Kazakhstan" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

74

Khazretali Bektursyn (NIS Astana PhM) was awarded the 1st-Degree Diploma for "Growing the Australian Cancer (Chegah quadricarinatus) in Artificial Conditions" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

75

Alias Daurbayev (NIS Astana PhM) was awarded the 1st-Degree Diploma for "Combined Cultivation of Tilapia Fish with Strawberries" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

76

Aidar Turlanov (NIS Aktobe PhM) was awarded the 1st-Degree Diploma for "Kinetic Greenhouse" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

77

Dias Urazov (NIS Aktobe PhM) was awarded the 1st-Degree Diploma for "Kinetic Greenhouse" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

78

Anuar Sagymbek (NIS Taraz PhM) was awarded the 1st-Degree Diploma for "Using Electrophoresis for Diagnosing TBSV Virus in Vegetable Crops" at the XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019 at lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

79

Rifat Abashev (NIS Taraz PhM) was awarded the 1st Degree Diploma for the project "The use of electrophoresis to diagnose TBSV in vegetables", XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April, 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

80

Islam Assanov (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "The ways to restore soil fertility in the areas of falling separating parts of carrier rockets", XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

81

Darina Lyssakova (NIS Taraz PhM) was awarded the 1st Degree Diploma for the project "The effect of molybdenum and tungsten ions on the agricultural growth and development in Zhambyl oblast", XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

82

Damir Ussibaliyev (NIS Taraz PhM) was awarded the 1st Degree Diploma for the project “The effect of molybdenum and tungsten ions on the agricultural growth and development in Zhambyl oblast”, XXVI All-Russian Competition of Youth Research Projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

83

Dinmukhamed Abdikhan (NIS Almaty ChB) was awarded the 1st Degree Diploma for the project “Thermal utilization of oil-bituminous rocks in Kazakhstan, XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

84

Amir Zholdasbekov (NIS Nur-Sultan PhM) was awarded the 1st Degree Diploma for the project "Production of carbon quantum dots and investigation of their properties", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

85

Kuanysh Sarsikeyev (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "Measuring the angle of the Sun above the horizon on spaceship board", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

86

Alina Parkhomchuk (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "Measuring the angle of the Sun above the horizon on spaceship board", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

87

Nurbek Zhumabay (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "The ways to increase the efficiency of a hybrid solar-wind power plant", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

88

Milana Begantsova (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "The ways to increase the efficiency of a hybrid solar-wind power plant", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

89

Elmira Yussupova (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "About the generalization of the Pell equation", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

90

Dariga Bazilova (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "Solving linear first-degree equations in

two variables by using the arithmetic equation of D.I.Ismoilov-Bazilov", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

91

Dayana Utegenova (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "Finding the area of a trapezoid by using the arithmetic equation of D.I.Ismoilov", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

92

Azimzhan Ramazan (NIS Astana PhM) was awarded the 1st Degree Diploma for the project "Salt water boat", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

93

Saltanat Alisheva (NIS Astana PhM) was awarded the 1st Degree Diploma for the project "Producing kurt out of kumys", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

94

Aimeyrim Baimuratova (NIS Taraz PhM) was awarded the 1st Degree Diploma for the project "Information on how to provide first aid in emergency cases for tourists in the Koksay canyon", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

95

Kamilla Faizrakhman (NIS Taraz PhM) was awarded the 1st Degree Diploma for the project "Information on how to provide first aid in emergency cases for tourists in the Koksay canyon", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

96

Aslan Mazhit (NIS Taraz PhM) was awarded the 1st Degree Diploma for the project “Tourist Information Support in Koksai Gorge on the First Aid in Critical Situations”, XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April, 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

97

Yerdaulet Rakhmatulla (NIS Shymkent PhM) was awarded the 1st Degree Diploma for the project "Poor morality in George Orwell's novels "1984" and "Animal farm", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

98

Valeriya Sakhnovskaya (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "My family story about the Korean people deported to Central Asia in 1937 ", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

99

Yegor Ganzhurov (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "History of the evacuation hospital №2448 (Pavlodar) during the Great Patriotic War based on archival materials", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

100

Adilet Nursagat (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "Turning points in the national history and my family story", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

101

Zarina Mustafina (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "Photogrammetric 3D reconstruction of the bronze age burial sites in Pavlodar oblast", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

102

Daniya Zharkesh (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "Archaeological textile as a source for the reconstruction of the nomadic weaving of the kimak and kypchak period", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

103

Dariya Baigozhina (NIS Pavlodar ChB) was awarded the 1st Degree Diploma for the project "Archaeological textile as a source for the reconstruction of the nomadic weaving of the kimak and kypchak period", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

104

Almira Abdikhadyr (NIS Shymkent PhM) was awarded the 1st Degree Diploma for the project "History of the Russian church in Southern Kazakhstan of the XIX century", XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, 7-13 April 2019, held in lyceum-school №1553, college №26 and Presidium of the Russian Academy of Sciences, Moscow, Russia.

105

Bernar Saparali (NIS Almaty ChB) was awarded a gold medal for the project "Clever Crutch" nominated for "Hardware control and systems" and a good technical connection established between different sensors and cards in clever crutch, VI International Computer-based Project Competition "INFOMATRIX- ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

106

Nurali Alikhanov (NIS Almaty ChB) was awarded a gold medal for the project "Little story" nominated for "Computer Art&Game", VI International Computer-based Project Competition "INFOMATRIX- ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

107

Dana Kurasbek (NIS Almaty ChB) was awarded a gold medal for the project "Little story" nominated for "Computer Art&Game",

VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

108

Alibek Kuantkhan (NIS Almaty ChB) was awarded a gold medal for the project "Little story" nominated for "Computer Art&Game" and a 30% discount on tuition fees in KBTU and SDU, VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

109

Marlen Seitzhan (NIS Almaty ChB) was awarded a gold medal for the project "Bolat" nominated for "Robotics" and KBTU educational grant, VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

110

Aymira Terlikbayeva (NIS Taraz PhM) was awarded a gold medal and SDU and IITU education grants for the project on 'Education changes your world", modern and consistent visuals, interesting way of playing out a scenario, VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

111

Elamir Kadyrgaleyev (NIS Uralsk PhM) was awarded a gold medal for the project "Novel. Oculos" nominated for "Hardware control and systems" that describes the use of the OpenCV library, VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

112

Yerzhan Zhamashev (NIS Uralsk PhM) was awarded a gold medal for the project "Emotions analysis system Mojidet" nominated for "Computer programming" that will help measure service quality by using the automated system, VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

113

Daniyar Zharkynuly (NIS Uralsk PhM) was awarded a gold medal for the project "Emotions analysis system Mojidet" nominated for "Computer programming" that will help measure service quality by using the automated system, VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

114

Ardak Alipova (NIS Taraz PhM) was awarded a silver medal for the project "The Friends" nominated for "Computer graphics", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

115

Abylay Aiyp (NIS Almaty ChB) was awarded a silver medal for the project "Smart Application" nominated for "Computer programming", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

116

Nurbergen Agadil (NIS Almaty ChB) was awarded a silver medal for the project "SecuriRoad" nominated for "Hardware control

and systems", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

117

Miras Nussupov (NIS Almaty ChB) was awarded a silver medal for the project "SecuriRoad" nominated for "Hardware control and systems", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

118

Damir Mutalov (NIS Aktau ChB) was awarded a silver medal for the project "Live! Learn! Achieve!" nominated for a "Short film", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen.

119

Zulfkhar Maukey (NIS Nur-Sultan PhM) was awarded a bronze medal for the project "Comprehensive city security" nominated for "Hardware control and systems", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

120

Alisher Aliyev (NIS Nur-Sultan PhM) was awarded a bronze medal for the project "Comprehensive city security" nominated for "Hardware control and systems", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

121

Abylay Sharyktybayev (NIS Aktau ChB) was awarded a bronze medal for the project "The Charity App" nominated for "Computer programming", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

122

Sultan-Murat Asparukh (NIS Aktau ChB) was awarded a bronze medal for the project "Robotics" nominated for "Computer programming", VI International Computer-based Project Competition "INFOMATRIX-ASIA" held in Süleyman Demirel University, 10-14 April 2019, Kaskelen town.

123

Anara Bissenova (NIS Kostanay PhM) was awarded a silver medal and the 2nd Degree Diploma for the project "Finding the sum of n-Fibonacci numbers through the i-number" nominated for "Mathematical Universe" (intellectual quest). The project suggests equalities typical for the properties of an arithmetic progression, for a Fibonacci number sequence, XXIII International Mathematics and Engineering Competition for Grade 7-11 students, 2-4 May 2019, Moscow, Russia. More than 150 students of 7-11 grades participated in the contest. The students came from Moscow oblast, Bryansk, St. Petersburg, Penza, Omsk, Arkhangelsk, Severodvinsk, Romania, Bulgaria and Kazakhstan. The nominations of the contest were as follows: Mathematical models of real natural and social processes; Geometrical miniature paintings; Mathematics and Art; History of Mathematics; Science and Mathematics; Electronic thematic journal; Financial Mathematics; Mathematics in Cyber Security.

124

Aruzhan Dauitova (NIS Ust-Kamenogorsk ChB) was awarded a bronze medal and the 3rd Degree Diploma for the project "Character recognition" nominated for "Mathematical models of real natural and social processes". The project develops an algorithm of computer-based character recognition by classifying the lines using the power angle curve function in regard to the transformations of the image being processed. It helps build a reliable and computationally efficient algorithm for

character recognition. XXIII International Mathematics and Engineering Competition for Grade 7-11 students, 2-4 May 2019, Moscow, Russia.

125

Adiya Unbayeva (NIS Aktobe PhM) was awarded a gold medal and the 1st Degree Diploma for the project "How to generate electricity out of a floor tile". The idea is based on piezoelectricity that means electricity resulting from mechanical pressure. XX Russian Environmental Project Olympiad “Human-Earth-Space”, 22-27 April 2019, Korolev, Russia.

126

Alina Bermagambetova (NIS Aktobe PhM) was awarded a gold medal and the 1st Degree Diploma for the project "How to generate electricity out of a floor tile". The idea is based on piezoelectricity that means electricity resulting from mechanical pressure. XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

127

Darina Mukhamedzhanova (NIS Taraz PhM) was awarded a gold medal and the 1st Degree Diploma for the project "Innovative application of sorbents to enhance plant tolerance to salt stress". For the first time, it established the efficiency of ion-exchange sorbents ($p \leq 0.01$) and determined the mechanisms to enhance the plant tolerance to salt stress, tested ion-exchangers on vegetables of closed ground with a different level of sensitivity. XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

128

Dias Kosherbai (NIS Taraz PhM) was awarded a gold medal and the1st Degree Diploma for the project "DRONE rocket launcher". It is a symmetrical model of the Angara-7 space-launch vehicle with three DRONEs (reusable rocket planes). XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

129

Diana Kerimbayeva (NIS Nur-Sultan) was awarded a gold medal and the 1st Degree Diploma for the project "The effect of technogenic pollution on the morphology of dominant plant communities in Sokolov-Sarybai Mining Production Association (SSGPO) JSC" nominated for "Let's Save the Earth". It studies the effect of heavy metals on the structure of a plant body to bio indicate the areas exposed to technogenic pollution. XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

130

Ayaulym Seitkamzina (NIS Ust-Kamenogorsk ChB) was awarded a silver medal and the 2nd Degree Diploma for the project "Studying the effect of minerals and proteins on the plant growth". The project suggests the plant growth regulator made out of environmentally friendly and effective bentonite and yeast autolysate, the stimulator producing technology that does not require complex equipment. XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

131

Aldiyar Bekzhigitov (NIS Ust-Kamenogorsk ChB) was awarded a silver medal and the 2nd Degree Diploma for the project "Development of the ecosystem enclosure to colonize planets and build scientific and research stations and autonomous settlements". It suggests the model of an automated closed-loop system of life support based on cycle processes and the ecosystem enclosure to colonize planets and build scientific research stations and autonomous settlements, XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

132

Yerlan Turaly (NIS Aktau ChB) was awarded a silver medal and the 2nd Degree Diploma for the project "Natural Energy Park". It suggests use children's outdoor activities to generate environmentally friendly energy and to solve the energy problem of the humankind", XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

133

Askar Galammadin (NIS Aktau ChB) was awarded a silver medal and the 2nd Degree Diploma for the project "Using solar panels on a distant private farm and increasing its productivity through an actuator". It enhanced the solar panels used in the farm "Karlen" by using a computer-based actuator, XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

134

Gulnaz Zhumakhan (NIS Aktau ChB) was awarded a silver medal and the 2nd Degree Diploma for the project "Using solar panels on a distant private farm and increasing its productivity through an actuator". It enhanced the solar panels used in the farm "Karlen" by using a computer-based actuator, XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

135

Alikhan Talipbayev (NIS Nur-Sultan) was awarded a bronze medal and the 3rd Degree Diploma for the project "Smart Colonization". It presents a model of the robot that will autonomously build a colony on Mars and explore a red planet, XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

136

Dayana Bulatbekova (NIS Aktau ChB) was awarded a bronze medal and the 3rd Degree Diploma for the project "Multifunctional rocket for international flights". The project proposes a model of an effective Legend-type rocket for multiple flights to Mars that would ensure the safe and productive transfer of people to the planet, XX Russian Environmental Project Olympiad “Human-Earth-Space”, 22-27 April 2019, Korolev, Russia.

137

Meruyert Askhat (NIS Aktau ChB) was awarded a bronze medal and the 3rd Degree Diploma for the project "Modernization of the rocket forms". The project proposes a solution on how to modernize the form of rockets and transform them into a rotating one by creating natural conditions on board. The rotating rocket was used to evaluate the process and the flight time, XX Russian Environmental Project Olympiad “Human-Earth-Space”, 22-27 April 2019, Korolev, Russia.

138

Sandugash Ilyas (NIS Aktau ChB) was awarded a bronze medal and the 3rd Degree Diploma for the project "Modernization of the rocket forms". The project proposes a solution on how to modernize the form of rockets and transform them into a rotating one by creating natural conditions on board. The rotating rocket was used to evaluate the process and the flight time, XX Russian Environmental Project Olympiad “Human-Earth-Space”, 22-27 April 2019, Korolev, Russia.

139

Faimi Zufarov (NIS Taraz PhM) was awarded a bronze medal and the 3rd Degree Diploma for the project “Biological and ecological assessment of soil fertility in Zhambyl region of Zhambyl oblast”. The project evaluates the agricultural soil quality in

Zhambyl region of Zhambyl oblast, XX Russian Environmental Project Olympiad "Human-Earth-Space", 22-27 April 2019, Korolev, Russia.

140

Almira Nurlanova (NIS Pavlodar ChB) was awarded a silver medal, III Republican Chemistry Olympiad of K.I.Satpayev, 29-31 October 2019, Zhezkazgan.

141

Batyrkhan Baimukhanov (NIS Nur-Sultan PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

142

Ayazhan Toktargazy (NIS Semey PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

143

Daniil Orel (NIS Pavlodar ChB) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

144

Magzhan Sagynganov (NIS Ust-Kamenogorsk ChB) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

145

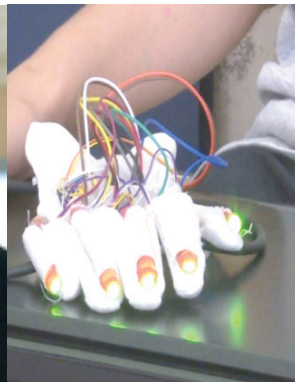
Oksana Dmitrienko (NIS Taldykorgan PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

146

Sofiya Kozhabekova (NIS Taldykorgan PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

147

Nurdaulet Taumergenov (NIS Aktobe PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.



148

Karen Dolmagambetov (NIS Aktobe PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

149

Ameli Shakim (NIS Almaty PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

150

Aktoty Bostan (NIS Taraz PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

151

Mira Mirzabayeva (NIS Taraz PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

152

Farida Ospanova (NIS Aktau ChB) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

153

Zhuldyz Ualikhankyzy (NIS Kostanay PhM) was awarded the 1st Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

154

Yeldana Baltabayeva (NIS Almaty PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

155

Kundyz Yessenkyzy (NIS Almaty PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

156

Aruzhan Kenessova (NIS Aktobe PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

157

Yesset Yedres (NIS Aktobe PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

158

Lyazzat Serik (NIS Taldykorgan PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

159

Azamat Atabayev (NIS Almaty PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

160

Moldir Baimakhan (NIS Taraz PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

161

Abylai Sydykov (NIS Taraz PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

162

Aidar Turlanov (NIS Aktobe PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

163

Yerlan Turaly (NIS Aktau ChB) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

164

Faimi Zufarov (NIS Taraz PhM) was awarded the 2nd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

165

Alisher Akim (NIS Aktobe PhM) was awarded the 3rd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

166

Altynai Abdizhamil (NIS Kyzylorda ChB) was awarded the 3rd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

167

Alnur Karin (NIS Uralsk PhM) was awarded the 3rd Degree Diploma, Republican

Competition of Research Projects, 12-16 February 2019, Almaty.

168

Guldana Sabitova (NIS Kyzylorda ChB) was awarded the 3rd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

169

Yeldar Shayakhmet (NIS Nur-Sultan PhM) was awarded the 3rd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

170

Tarlan Askaruly (NIS Nur-Sultan PhM) was awarded the 3rd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

171

Adil Shayakhmetov (NIS Karaganda ChB) was awarded the 3rd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

172

Yesseniya Yurtayeva (NIS Shymkent ChB) was awarded the 3rd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

173

Aidana Bakitova (NIS Aktau ChB) was awarded the 3rd Degree Diploma, Republican Competition of Research Projects, 12-16 February 2019, Almaty.

174

Amina Ospanova (NIS Pavlodar ChB) was awarded Grand Prix, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

175

Ranona Zhalelkyzy (NIS Taldykorgan PhM) was awarded the 1st Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

176

Emir Alibekov (NIS Pavlodar ChB) was awarded the 1st Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

177

Kirill Varlamov (NIS Pavlodar ChB) was awarded the 1st Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

178

Ramazan Issayev (NIS Taldykorgan PhM) was awarded the 2nd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

179

Arsen Kairetdinov (NIS Kokshetau PhM) was awarded the 2nd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

180

Akbota Rysmandai (NIS Taldykorgan PhM) was awarded the 2nd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

181

Bekarys Kairzhanov (NIS Taldykorgan PhM) was awarded the 3rd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

182

Kanysh Berlibekov (NIS Karaganda ChB) was awarded the 3rd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

183

Aldiyar Zhumadilda (NIS Karaganda ChB) was awarded the 3rd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

184

Adiya Unbayeva (NIS Aktobe PhM) was awarded the 3rd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

185

Alina Barmagambetova (NIS Aktobe PhM) was awarded the 3rd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

186

Danil Seryi (NIS Petropavlovsk ChB) was awarded the 3rd Degree Diploma, XIV Republican Competition of Research Projects and Creative Works "Zerde", 30 January – 1 February 2019, Shchuchinsk.

187

Dinmukhammed Abdrakhmanov (NIS Shymkent PhM) was awarded a gold medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

188

Alisher Kospanov (NIS Atyrau ChB) was awarded a gold medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

189

Amir Kaidarov (NIS Pavlodar ChB) was awarded a silver medal in Physics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

190

Alina Komkova (NIS Pavlodar ChB) was awarded a silver medal in Chemistry, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

191

Dayana Shalbayeva (NIS Pavlodar ChB) was awarded a silver medal in Biology, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

192

Zhangul Surtay (NIS Pavlodar ChB) was awarded a silver medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

193

Kasymkhan Bolat (NIS Pavlodar ChB) was awarded a gold medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

194

Aidynbek Mussa (NIS Pavlodar ChB) was awarded a silver medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

195

Zamzagul Madetkarimova (NIS Pavlodar ChB) was awarded a bronze medal in Law Basics, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

196

Aruzhan Kanibetova (NIS Pavlodar ChB) was awarded a bronze medal in Law Basics, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

197

Rukhsana Ainabek (NIS Pavlodar ChB) was awarded a bronze medal in History of Kazakhstan, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

198

Azat Yedilov (NIS Pavlodar ChB) was awarded a bronze medal in History of Kazakhstan, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

184

199

Damina Askarova (NIS Pavlodar ChB) was awarded a bronze medal in Russian Language and Literature, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

200

Argyn Yergaliyev (NIS Semey PhM) was awarded a bronze medal in Physics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

201

Yerkebulan Imanbayev (NIS Semey PhM) was awarded a bronze medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

202

Danel Tukibay (NIS Semey PhM) was awarded a bronze medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

203

Dalila Gafarova (NIS Semey PhM) was awarded a bronze medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

204

Tair Satubaldin (NIS Almaty PhM) was awarded a silver medal in Mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

205

Assylbek Olzhabayev (NIS Almaty PhM) was awarded a silver medal in Mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

206

Nurassyl Abdirazak (NIS Almaty PhM) was awarded a bronze medal in Mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

207

Tamirlan Bektemissov (NIS Almaty PhM) was awarded a bronze medal in Mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

208

Makhmut Omar (NIS Almaty PhM) was awarded a bronze medal in Mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

209

Anuar Kuanysh (NIS Aktobe PhM) was awarded a bronze medal in Mathematics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

210

Adilkhan Muratov (NIS Nur-Sultan PhM) was awarded a silver medal in Computer Science, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

211

Almas Shaikhyslamov (NIS Almaty PhM) was awarded a silver medal in Biology, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

212

Yerassyl Mukhamediyar (NIS Almaty PhM) was awarded a silver medal in Biology, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

213

Yerassyl Muratov (NIS Ust-Kamenogorsk ChB) was awarded a silver medal in Biology, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

214

Eldar Urkumbayev (NIS Nur-Sultan PhM) was awarded a silver medal in Biology, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

215

Kudaibergen Bisenbayev (NIS Almaty PhM) was awarded a silver medal in Biology, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

216

Selimzhan Chalyshkan (NIS Almaty PhM) was awarded a bronze medal in Biology, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

217

Yerkebulan Pitebai (NIS Almaty PhM) was awarded a bronze medal in Physics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

218

Syrymkhan Nuriddin (NIS Almaty PhM) was awarded a bronze medal in Physics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

219

Abdrakhman Onabek (NIS Almaty ChB) was awarded a bronze medal in Physics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

220

Temirlan Ismagulov (NIS Nur-Sultan PhM) was awarded a gold medal in Physics, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

221

Yerulan Konyrat (NIS Shymkent ChB) was awarded a gold medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

222

Daniyal Saden (NIS Shymkent ChB) was awarded a bronze medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

223

Aruzhan Shakirkozha (NIS Shymkent ChB) was awarded a silver medal in Geography, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

224

Beksultan Akilbekov (NIS Almaty ChB) was awarded a silver medal in Chemistry, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

225

Adai Yarulin (NIS Nur-Sultan PhM) was awarded a bronze medal in Chemistry, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

226

Aruna Muratkyzy (NIS Karaganda ChB) was awarded a bronze medal in Chemistry, Republican General Subject Olympiad, 25-29 March 2019, Aktobe.

227

Guldana Sabitova (NIS Kyzylorda ChB) was awarded a gold medal in Kazakh Language and Literature, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

228

Dariga Bolatbai (NIS Pavlodar ChB) was awarded a silver medal in Kazakh Language and Literature, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

229

Kamilla Kim (NIS Kyzylorda ChB) was awarded a silver medal in Kazakh Language, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

230

Dias Zhetpisbai (NIS Taldykorgan PhM) was awarded a silver medal in Kazakh Language, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

231

Meruert Rakhimova (NIS Uralsk PhM) was awarded a silver medal in Russian Language and Literature, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

232

Tomiris Zhunussova (NIS Kostanay PhM) was awarded a silver medal in Russian Language, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

233

Dalila Gafarova (NIS Semey PhM) was awarded a silver medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

234

Diana Nurkassova (NIS Ust-Kamenogorsk ChB) was awarded a silver medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

235

Symbat Zhuztan (NIS Shymkent ChB) was awarded a silver medal in History of Kazakhstan, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

236

Sharapat Aidarova (NIS Taraz PhM) was awarded a bronze medal in Kazakh Language, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

237

Elvira Akhtamyanova (NIS Shymkent ChB) was awarded a bronze medal in Kazakh Language, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

238

Arailym Nasukha (NIS Aktau ChB) was awarded a bronze medal in Russian Language, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

239

Sabina Mavletova (NIS Uralsk PhM) was awarded a bronze medal in Russian Language, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

240

Afra Altynali (NIS Almaty PhM) was awarded a bronze medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

241

Inkar Kamytbek (NIS Shymkent ChB) was awarded a bronze medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

242

Aigerim Shorayeva (NIS Aktau ChB) was awarded a bronze medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

243

Kamila Nurlybayeva (NIS Karaganda ChB) was awarded a bronze medal in English, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

244

Daulet Berdesh (NIS Almaty PhM) was awarded a bronze medal in French, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

245

Azhar Tuleyeva (NIS Almaty ChB) was awarded a bronze medal in German, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

246

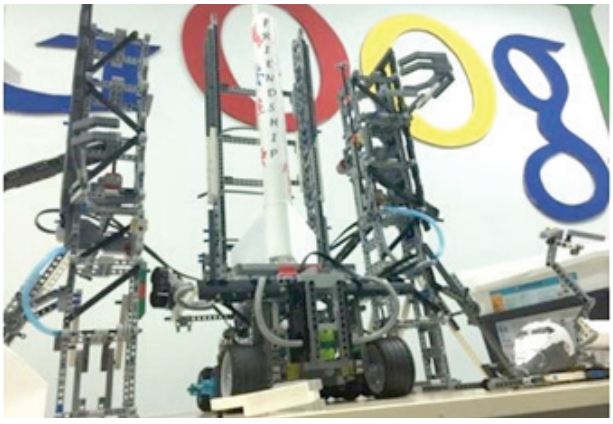
Aisha Tanas (NIS Karaganda ChB) was awarded a bronze medal in History of Kazakhstan, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

247

Aigerim Suyindik (NIS Kyzylorda ChB) was awarded a bronze medal in Law Basics, Republican General Subject Olympiad, 25-29 March 2019, Kyzylorda.

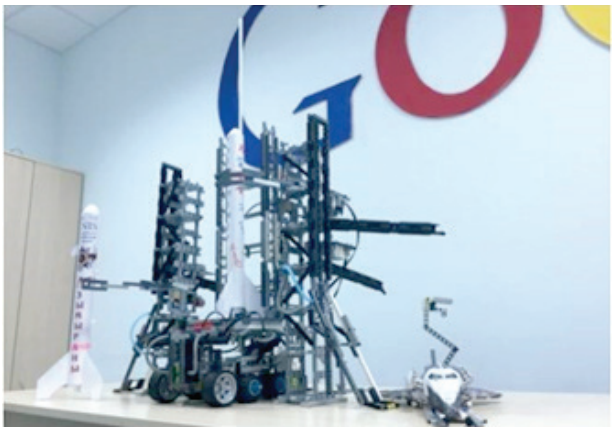
248

Yerassyl Tauekel (NIS Nur-Sultan PhM) was awarded the 1st Degree Diploma and an educational grant of the International University of Information Technologies (IUIT) for the project "Reusable space transportation system and Impulse launch complex, IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



249

Rakhat Zhakiyenov (NIS Nur-Sultan PhM) was awarded the 1st Degree Diploma and an educational grant of the International University of Information Technologies (IUIT) for the project "Reusable space transportation system and Impulse launch complex, IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



250

Alnur Akchurin (NIS Nur-Sultan PhM) was awarded the 1st Degree Diploma and an educational grant of the International University of Information Technologies (IUIT) for the project "The use of agricultural gel to grow plants in space", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

251

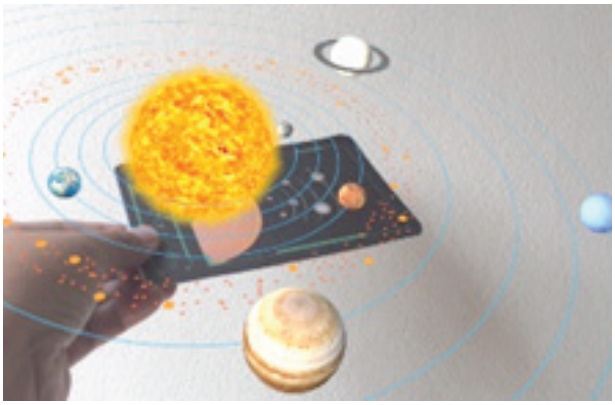
Alikhan Talipbayev (NIS Nur-Sultan) was awarded the 1st Degree Diploma and an educational grant of the International University of information technologies (IITU) for the project "Smart colonization", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

252

Amir Alzhaksin (NIS Atyrau ChB) was awarded the 1st Degree Diploma and an educational grant of the International University of Information Technologies (IUIT) for the project "3D clinostat modelling to create simulated weightlessness", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

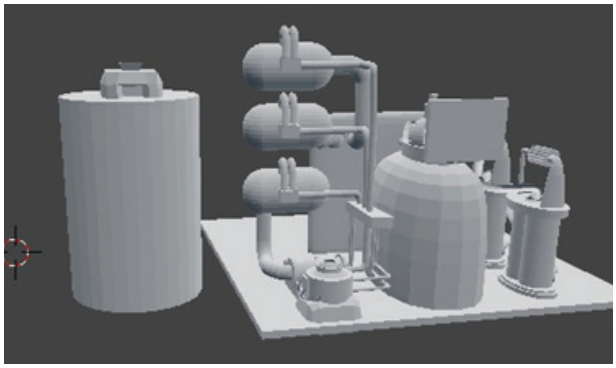
253

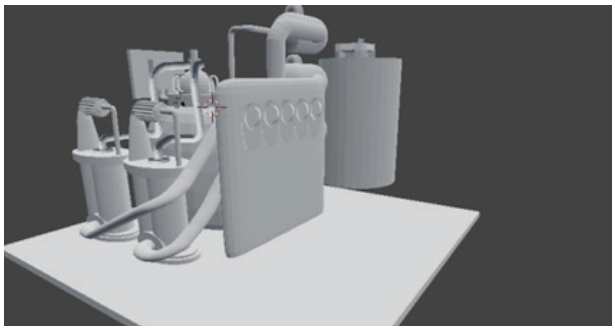
Daniil Okrug (NIS Kostanay PhM) was awarded the 1st Degree Diploma and an educational grant of the International University of Information Technologies (IUIT) for the project "Mathematical modelling and visualization of physical processes and phenomena using Augmented Reality Technologies", X Nauryz meetings, 14-19 March 2019, Kyzylorda.



254

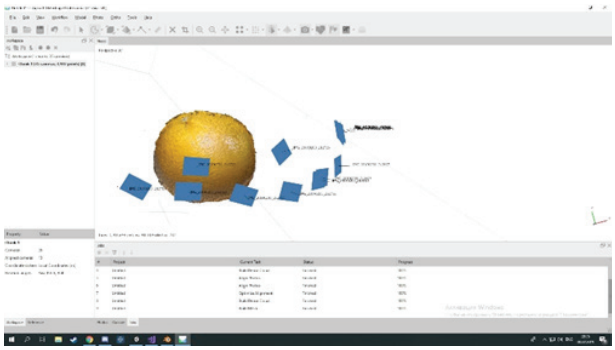
Akylbek Maksutov (NIS Uralsk PhM) was awarded the 1st Degree Diploma and an educational grant of the International University of Information Technologies (IUIT) for the project "ExRCH4 reactor in the life support system on a spacecraft", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.





255

Assylbek Sakenov (NIS Almaty ChB) was awarded the 1st Degree Diploma and an educational grant of the International University of Information Technologies (IUIT) for the project "3D modelling of celestial bodies through research interplanetary instruments: electronic mapping of planetary surfaces", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

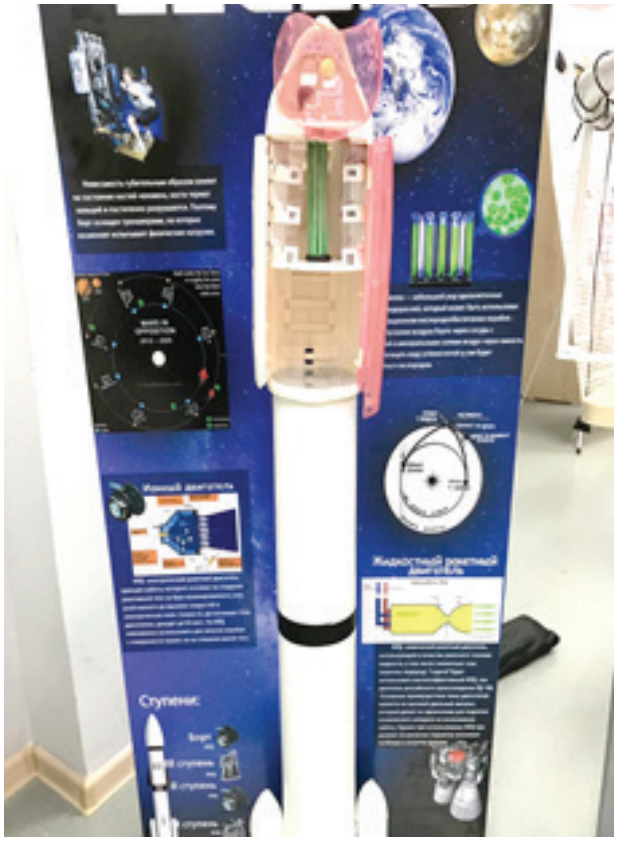


256

Danil Prokhorenko (NIS Almaty ChB) was awarded the 1st Degree Diploma and an educational grant of the International University of Information Technologies (IUIT) for the project "3D modelling of celestial bodies through research interplanetary instruments: electronic mapping of planetary surfaces", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

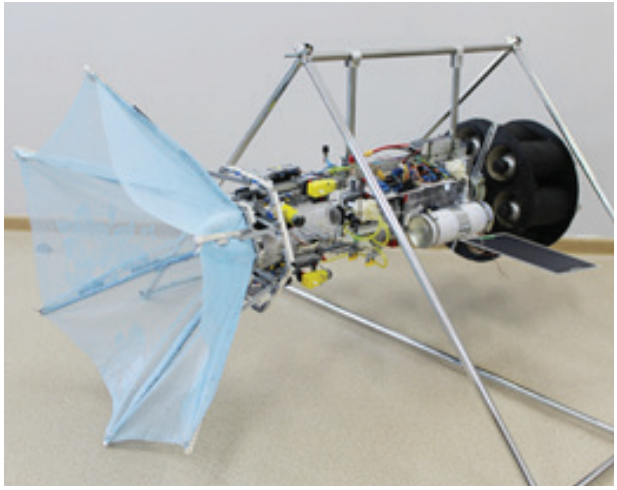
257

Dayana Bulatbekova (NIS Aktau ChB) was awarded the 2nd Degree Diploma for the project "Multifunctional rocket for international flights", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



258

Dilnaz Zhemisbek (NIS Taldykorgan PhM) was awarded the 2nd Degree Diploma for the project "Station for collecting water in outer space", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

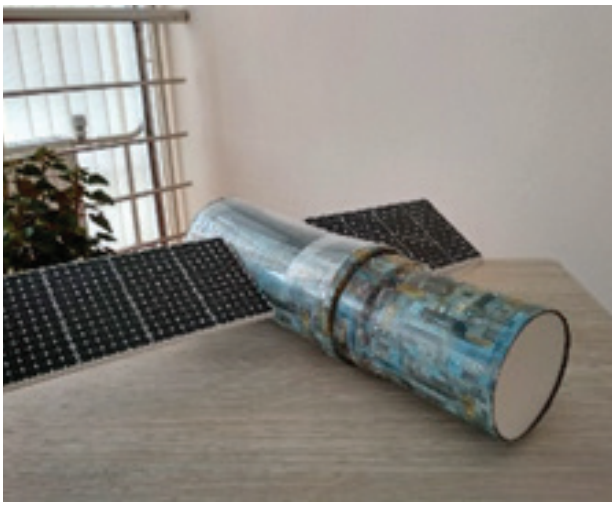


259

Madina Agamkhan (NIS Taldykorgan PhM) was awarded the 2nd Degree Diploma for the project "Station for collecting water in outer space", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

260

Alikhan Ibrayev (NIS Kostanay PhM) was awarded the 2nd Degree Diploma for the project "Space greenhouse complex Demetra", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



261

Amina Zharkenova (NIS Karaganda ChB) was awarded the 2Degree Diploma for the project "The allotropic modification of carbon (graphite) obtained from carbon dioxide (emitted in the industry) through electrolysis of active metal salts to improve the parts of spacecraft", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

262

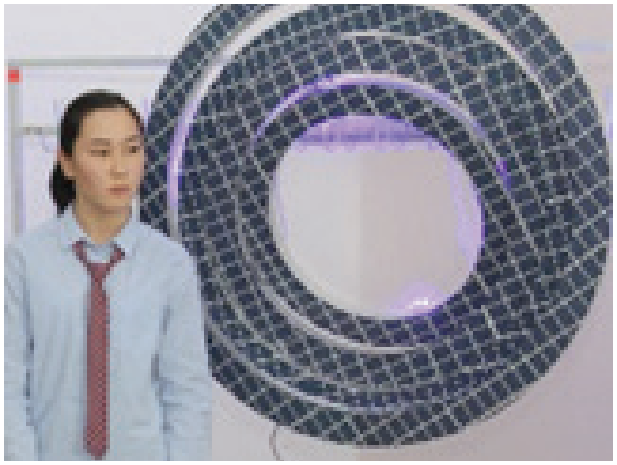
Aruzhan Tleubek (NIS Almaty ChB) was awarded the 2nd Degree Diploma for the project "Biodegradable plastic", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

263

Medeu Bektemissov (NIS Taldykorgan PhM) was awarded the 2nd Degree Diploma for the project "Biodegradable plastic", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

264

Adiya Omarova (NIS of Astana) was awarded the 2nd Degree Diploma for the project "Protecting the ISS against space debris", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



265

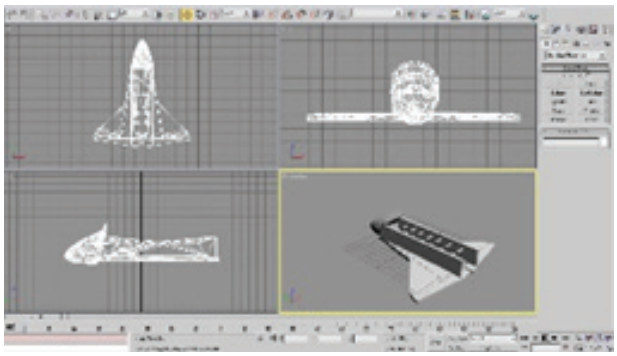
Dinara Danayeva (NIS of Astana) was awarded the 2nd Degree Diploma for the project "Protecting the ISS against space debris", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

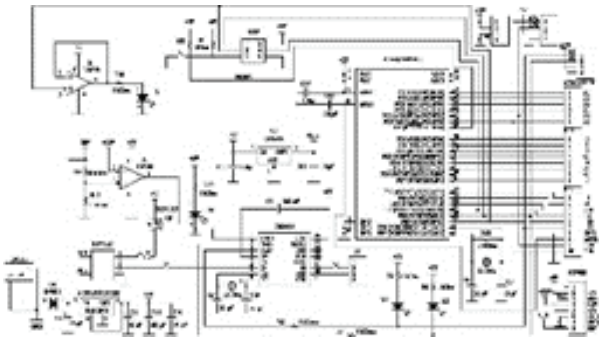
266

Adina Dzhubangaliyeva (NIS Almaty PhM) was awarded the 2nd Degree Diploma for the project "Studying multifractal characteristics of the large-scale structure of the Universe", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

267

Dana Klyshpayeva (NIS Kostanay PhM) was awarded the 2nd Degree Diploma for the project "Aircraft versatile device for measuring and transmitting data on the indicators of the troposphere and stratosphere from the satellite" "Environment with Application", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



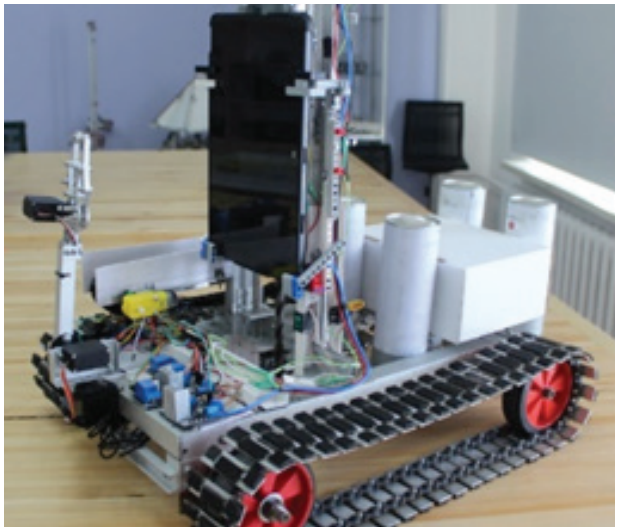


268

Yessengali Makhanov (NIS Shymkent PhM) was awarded the 2nd Degree Diploma for the project "", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

269

Daniil Filimonov, Veronika Kochubei (NIS Taldykorgan PhM) was awarded the 2nd Degree Diploma for the project "Robotic Exploration Rover", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



270

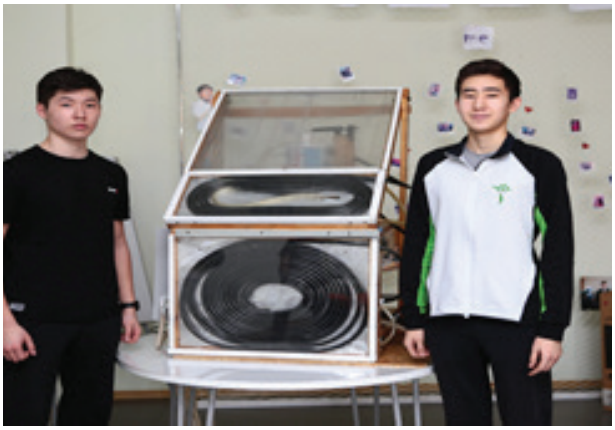
Veronika Kochubei (NIS Taldykogan PhM) was awarded the 2nd Degree Diploma for the project "Robotic Exploration Rover", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

271

Assanali Akhtanov (NIS Kokshetau PhM) was awarded the 2nd Degree Diploma for the project "Communication satellites", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

272

Adil Serik (NIS Semey PhM) was awarded the 2nd Degree Diploma for the project "The House of the Future", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

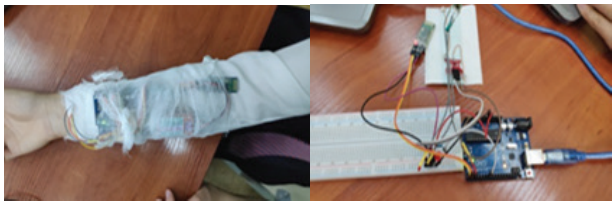


273

Khamza Bertysbayev (NIS Semey PhM) was awarded the 2nd Degree Diploma for the project "The House of the Future", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

274

Ayazhan Orynbassar (NIS Aktobe PhM) was awarded the 2nd Degree Diploma for the project "Space band aid", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



275

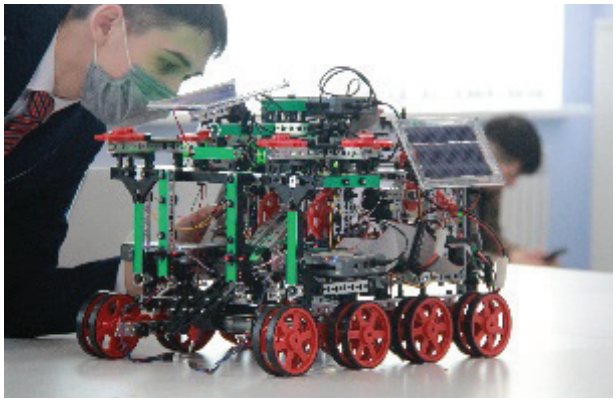
Assan Kozhin (NIS Aktobe PhM) was awarded the 2nd Degree Diploma for the project "Space band-aid", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

276

Alisher Sabigaliyev (NIS Semey PhM) was awarded the 3rd Degree Diploma for the project "Space shower", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

277

Anatoly Zverev (NIS Petropavlovsk ChB) was awarded the 3rd Degree Diploma for the project "Designing a space station Kovcheg-1", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



278

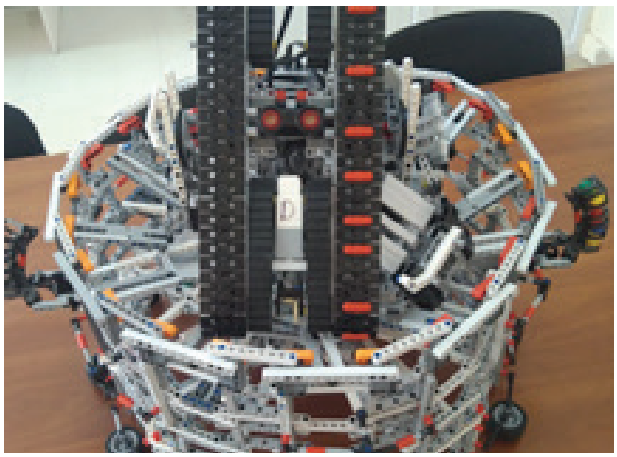
Oleg Dideyev (NIS Petropavlovsk ChB) was awarded the 3rd Degree Diploma for the project "Designing a space station Kovcheg-1", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

279

Ayazhan Alikhan (NIS Almaty PhM) was awarded the 3rd Degree Diploma for the project "Obtaining nanostructured coatings by sputtering and depositing impulse plasma flows", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

280

Ramazan Nalibek (NIS Shymkent PhM) was awarded the 3rd Degree Diploma for the project "Earth orbit clean up", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

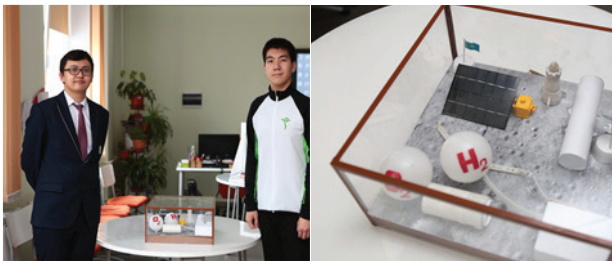


281

Kuanysh Maden (NIS Shymkent PhM) was awarded the 3rd Degree Diploma for the project "Earth orbit clean up", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

282

Damir Mynbayev (NIS Semey PhM) was awarded the 3rd Degree Diploma for the project "The Moon is a hub for the future space exploration", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



283

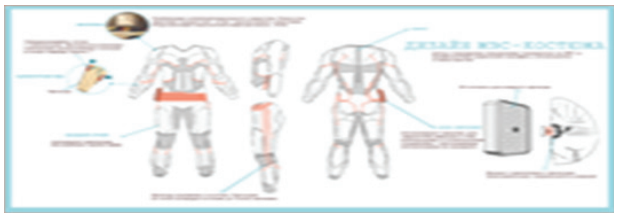
Alina Makasheva (NIS Almaty ChB) was awarded the 3rd Degree Diploma for the project "Installations to grow plants on a space station", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

284

Nargiz Seissek (NIS Almaty ChB) was awarded the 3rd Degree Diploma for the project "Installations to grow plants on a space station", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

285

Toktarova Altynai (NIS of Astana) was awarded the 3rd Degree Diploma for the project "EMS (electric muscle stimulation) suit for muscle atrophy", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

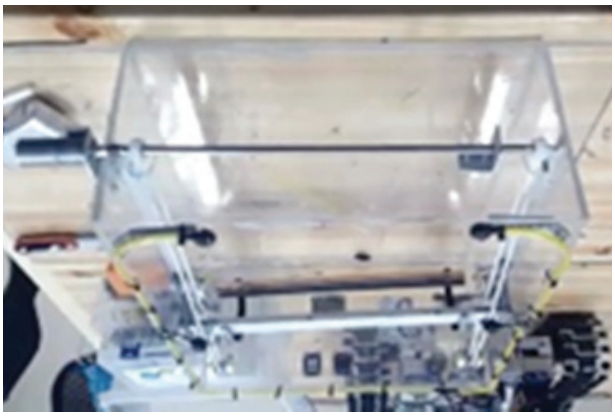


286

Kamila Omarova (NIS of Astana) was awarded the 3rd Degree for the project "EMS (electric muscle stimulation) suit for muscle atrophy", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

287

Alikhan Tynyshbayev (NIS Taldykorgan PhM) was awarded the 3rd Degree Diploma for the project "Greenhouse robotic worker (space bot) looking after mushrooms in zero-gravity", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



288

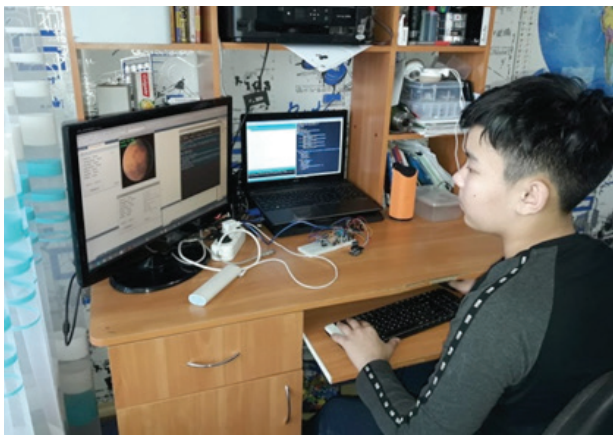
Vladislav Krupets (NIS Petropavlovsk ChB) was awarded the 3rd Degree Diploma for the project "Design and assembly of a universal agrotechnical platform on planets and satellites", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

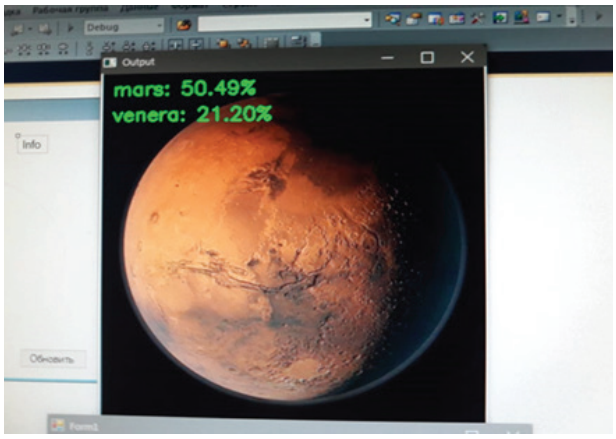
289

Arystan Tuleshov (NIS Petropavlovsk ChB) was awarded the 3rd Degree Diploma for the project "Design and assembly of a universal agrotechnical platform on planets and satellites", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

290

Elamir Kadyrgaliyev (NIS Uralsk PhM) was awarded the 3rd Degree Diploma for the project "Cosmo AI or space assistant", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.





291

Aimira Tarylpikbayeva (NIS Taraz PhM) was awarded the 3rd Degree Diploma for the project "3D animated launch of a carrier rocket-assisted airplane", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

292

Darya Taratynova (NIS Ust-Kamenogorsk ChB) was awarded the 3rd Degree Diploma for the project "A suit model for maintaining the best conditions of the astronauts' activities", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

293

Kadyrkhan Agybayev (NIS Kyzylorda ChB) was awarded the 3rd Degree Diploma for the project "Recycling space junk", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

294

Zhanybek Dzhurabekov (NIS Aktau ChB) was awarded the 3rd Degree Diploma for the project "The ways of cleaning the International rocket station from pathogenic microorganisms", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

295

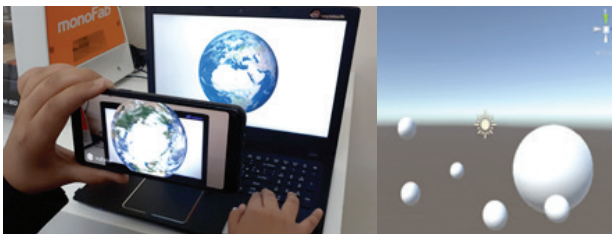
Amina Abil (NIS Aktau ChB) was awarded the 3rd Degree Diploma for the project "The ways of cleaning the International rocket station from pathogenic microorganisms", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

296

Zhamilya Kenzhetai (NIS Pavlodar ChB) was awarded the 3rd Degree Diploma for the project "Producing fruit marmalade with kelp for functional nutrition", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

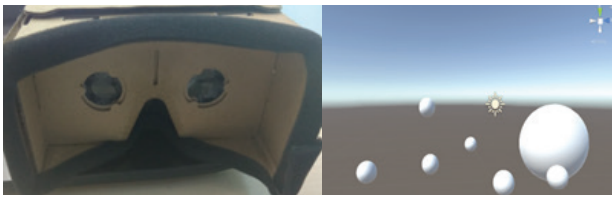
297

Kenessary Begesh (International School of Astana) was awarded the 3rd Degree Diploma for the project "Using an augmented reality technology in exploring astronomical objects", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



298

Gulnaz Serikbai (NIS Shymkent ChB) was awarded the 3rd Degree Diploma for the project "Space VR", IX Nauryz meetings, 14-19 March 2019, Kyzylorda.



299

Maksim Tsoi (NIS Kyzylorda ChB) was awarded the 3rd Degree Diploma for the project "Infinity" spacecraft 3D modelling, IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

300

Alikhan Shakiman (NIS Kyzylorda ChB) was awarded the 3rd Degree Diploma for the project "Infinity" spacecraft 3D modelling, IX Nauryz meetings, 14-19 March 2019, Kyzylorda.

IMPLEMENTATION OF INNOVATIVE PROJECTS

To encourage students' research activities, NIS schools implement research projects involving students of NIS and comprehensive schools.

In 2019, NIS implemented 2 projects of national significance: "Solar power for schools" in Aktau and Uralsk and at Nauryz meetings.

THE "SOLAR POWER FOR SCHOOLS" PROJECT IN AKTAU AND URALSK

As part of the Memorandum on Support of the Project "Solar power for schools" in Kazakhstan signed on 17 May 2018 between the Ministry of Energy of Kazakhstan, Akimat of Astana, Nazarbayev Intellectual Schools AEO, and Shell Kazakhstan Development B.V., in 2018-2020 solar photovoltaic systems will be installed in 5 Nazarbayev Intellectual Schools in Nur-Sultan, Almaty, Aktau, Atyrau, Uralsk to encourage a shift of Kazakhstan to renewable sources of energy and green economy.

A pilot project of the world oil and gas brand Shell "Solar power to schools" was presented on 1 December 2018 in Nur-Sultan city at the forum "Heirs of the Great Steppe" dedicated to the 10th anniversary of Nazarbayev Intellectual Schools AEO.

In 2018, solar panels were successfully installed in two Nazarbayev Intellectual Schools of Astana. A photovoltaic power station generates electricity by converting solar photoelectric modules. They save up to 20% of the school's energy consumption per year and supply excess electricity to the urban network.

On 6 September 2019, Nazarbayev Intellectual school of Chemistry and Biology in Aktau launched the second stage of the project "Solar power for schools". In total, 320 solar panels were installed in the school area. The ceremony was attended by the Deputy Akim of Mangistau region Kanybek Zhumashev, Chairperson of Nazarbayev Intellectual Schools AEO Kulyash Shamshidinova and representatives of Shell Kazakhstan Development B.V.

Aidan Murphy, Commercial General Manager of Shell Kazakhstan Development B.V. and Askar Galammadin, Grade 12 student, the winner of national and international research competitions had the honour of launching the station.

On 16 October 2019 Nazarbayev Intellectual School of Physics and Mathematics in Uralsk launched a solar power station. The ceremony was attended by the First Deputy Akim of West Kazakhstan oblast Mukhtar Mankeyev, Chairperson of Nazarbayev Intellectual Schools AEO Kulyash Shamshidinova, representatives of the Ministry of Energy and Director for Government Relations of Shell Kazakhstan Development B.V. Zarina Bakenova.

Photovoltaic solar panels with a capacity of 100 kW/h allow schools to save up to 20% of energy consumption per year and supply the urban network with excess electricity.

In 2020 solar panels will have been installed in Almaty and Atyrau.

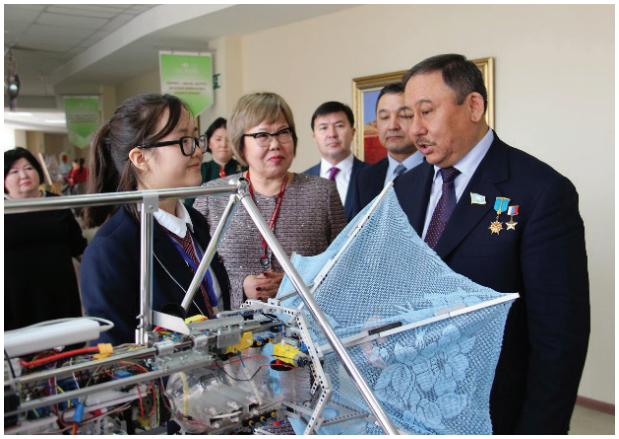
IX NAURYZ MEETINGS "SPACE. SCIENCE. INTELLECT"

As part of the Year of Youth, on 14-29 March 2019 Nazarbayev Intellectual School of Chemistry and Biology in Kyzylorda held traditional NIS IX Nauryz meetings. By tradition, about 200 students of NIS and mainstream schools of Kazakhstan gathered on one of the largest academic platforms for young researchers. The topic of the IX Nauryz meetings was "Space. Science. Intellect".

For the first time, Nauryz meetings were launched at the Baikonur cosmodrome on 15 March 2019 at 00:14 am, Nur-Sultan time, simultaneously with the manned spacecraft launched to the ISS 'Soyuz MS-12'. A delegation of NIS students visited the Baikonur cosmodrome which is a huge rocket-launch complex, the first and largest cosmodrome in the world. The first major object of the Baikonur cosmodrome is a launch site №1also known as 'Gagarin's start'. It is a site where the first rocket and later on the first artificial Earth satellite were launched. It was named Gagarin's start after the first cosmonaut Yuri Gagarin. More than 600 rockets were launched from there. Today it is used to journey cosmonauts to the International Space Station. Here all the participants of Nauryz meetings saw the Russian cosmonaut Aleksey Ovchinin, NASA astronauts Christina Koch and Nick Hague off on their trip to the ISS.

The participants visited the Museum of Space History that is a large building with thousands of exhibits, an outdoor exhibition with real missile engines and the space shuttle "Buran" and the houses of Korolev and Gagarin where the father of cosmonautics and the world's first cosmonaut lived.

The Akim of Kyzylorda oblast Krymbek Kusherbayev, the first Kazakh cosmonaut, Hero of Kazakhstan, test pilot, professor, Doctor of Engineering Toktar Aubakirov, the first cosmonaut of independent Kazakhstan travelled to outer space three times, Hero of Kazakhstan, Major General of the Aviation of the Republic of Kazakhstan, Doctor of Engineering, member of the Senate Talgat Musabayev, Kazakhstani cosmonaut, Hero of Kazakhstan, Deputy Chairman and member of the Production Board of Kazakhstan Gharysh Sapary NC JSC Aidyn Aiymbetov were the special guests of the meetings.



The participants of the Nauryz meetings listened with great interest to the lectures delivered by foreign and national speakers on:

- "Space exploration: science and human spaceflight future" by Michael Lutomski, world space expert for safety and risk at SpaceX and NASA, the USA, for 33 years. In 2013, he started to work at Space Exploration Technologies (SpaceX) managed by Elon Musk and contributed to the certificated launch of the USA air forces, future flights of NASA astronauts to the International Space Station;

• "Biochemistry and space" by Praveen Prathapan, NASA researcher, Great Britain, a graduate of the University of Oxford, developer and Director General of the digital platform Meetual;

• "CAVES and PANGEA astronaut training programmes" by Igor Drozdovskii, an academic adviser of the European Astronaut Centre of the European Space Agency, Germany;

• "Formation and evolution of star clusters" by Bekdaulet Shukirgaliyeva, a researcher of the Astronomical Calculation Institute of the Centre for Astronomy of Heidelberg University, Germany, who studied the dynamic evolution of active galactic nuclei using the computer modelling methods;

• "Application of Space Technology to Geodynamics" by Berik Iskakov, a head of the Geodynamics Department of the National Center of Space Research and Technology JSC, author of more than 30 scientific papers and 2 patents engaged in the investigation of geodynamics, geophysics and Earth science, development of 3D models for the strain-stress state of the Earth's crust using modern innovative technology, data from global navigation satellite systems such as GPS and modern geodynamic methods for analyzing the strain-stress state of the Earth's crust in lithosphere;

• "The current state and development of astronomical studies in Kazakhstan" by Bauyrzhan Omar, an engineer of the laboratory "The Physics of Nebulae and Stars", Astrophysical Institute named after V.G. Fessenkov;

• "The application of the Earth remote sensing data in different economic activities" by Sergey Sartin, head of the Department at M.Kozybayev North Kazakhstan State University engaged in the investigation of nanostructured liquid-saturated media, astrophysics, GIS technology and ERS;

• "Space weather as a result of solar-terrestrial relations" by Botagoz Seifullina, a research researcher of the Department of Ionosphere, National Center of Space Research and Technology JSC, engaged in the investigation of the structure and dynamics of the cosmic ray flux, earth magnetic field,

ionosphere and atmosphere to diagnose and predict the state of the adjacent space.

The meeting with cosmonauts was the major event for students. Young researchers lined up to ask the conquerors of the universe personal questions. Space heroes got acquainted with students' works and highly appreciated their scientific potential. They also highlighted their audaciousness and practical importance.

In total, about 80 design projects on aerospace engineering were introduced in the competition. They include 3D models of celestial bodies and spacecrafts, projects of orbital stations, multifunctional airborne devices and rockets, a space assistant prototype, the use of innovative technology, augmented reality and laser energy. Young researchers paid a lot of attention to the issues of protecting and cleaning the ISS and optimizing the onboard conditions such as nutrition, medicine and special equipment.

The authors of 7 projects were recognized to be the winners of the IX Nauryz meetings: Yerassyl Tauekel and Rakhat Zhakiyenov, Nur-Sultan (project "Reusable space transportation system and Impulse launch complex"), Alnur Akchurin, Nur-Sultan (project "The use of agricultural gel to grow plants in space") and Alikhan Talipbayev (project "Smart colonization"), Amir Alzhaksin, Atyrau (project "3D clinostat modelling to create simulated weightlessness"), Daniil Okrug, Kostanay (project "Mathematical modelling and visualisation of physical processes and phenomena using Augmented Reality Technologies"), Akylbek Maksutov, Uralsk (project "ExRCH4 reactor in the life support system on a spacecraft"), Akylbek Sakenov and Danil Prokhorekno, Almaty (project "3D modelling of celestial bodies through research interplanetary instruments: electronic mapping of planetary surfaces"). 8 educational grants of the International IT University and two educational grants of Akhmet Yassawi International Kazakh-Turkish University were awarded to the winners of Nauryz meetings in Kyzylorda. Personal certificates were the best gifts for NIS students, parents, and teachers on the eve of the vernal equinox.

Annex 1

Table 1. List of NIS research projects

No	Research project	Coordinator	2019-2020	Status
1	NIS employee satisfaction in 2014-2015	Human Resources Department	2014-2015	complete
2	Research on the implementation of trilingual education in NIS schools	CEP	2016-2017	complete
3	The effect of studying in Intellectual schools on further education and career based on the opinions of 2010-2016 graduates	NIS Development department, Research Department	2015-2017	complete
4	Advantages and barriers to implementing the projects "Action Research" and "Lesson study in Nazarbayev Intellectual Schools	Research Department	2015-2017	complete
5	Research on the welfare of children in Kazakhstan	Nazarbayev University, University of Cambridge	2015-2017	complete
6	Assessment procedures as part of the attestation of NIS teachers and equal-status employees	CPM	2015-2018	complete
7	Results of NIS school graduates' survey on their satisfaction with the education quality in Kazakhstani universities	CPM	2015	complete
8	Validation study of reading literacy "Validity of assessment of NIS students' reading literacy as part of the trilingual education policy"	CPM, Institute of Pedagogical measurement Cito	2015	complete
9	Evaluation of the effectiveness of in-service training and leadership programs implemented by Centre of Excellence in Kazakhstan	CE, University of Cambridge, Nazarbayev Intellectual Schools	2016	complete
10	Introduction of the renewed content of education and assessment in primary schools (Grade 1) of Kazakhstan	Nazarbayev University, University of Cambridge, Research Department	2016	complete
11	Review of the primary education programme in Kazakhstan (Netherlands institute for curriculum development, NIS)	CEP	2016	complete
12	Validation study of the effectiveness and predicted validity of the competitive selection of students (CiTO, NIS)	Institute of Pedagogical measurement Cito, CPM	2016	complete

13	Validity of assessment of NIS students' reading literacy as part of the trilingual education policy (CiTO, NIS)	CPM, Institute of Pedagogical measurement Cito	2016	complete
14	Study of the health status of NIS students	Nazarbayev University	2016	complete
15	Academic load of NIS students	Research Department, Department for Education Quality Assessment and International Accreditation	2017	complete
16	The level of job satisfaction and subjective well-being of NIS educators	Human Resources Department, CE	2017-2018	complete
17	Validation study of the test bank designed for the monitoring of students' performance in Mathematics	CPM, Institute of Pedagogical measurement Cito	2017	complete
18	Diagnostic testing of pilot school students	CPM	2015-2019	complete
19	Implementation of NIS Integrated Criteria-based Assessment Model (Evaluation of NIS assessment effectiveness)	CPM	2015-2020	underway
20	Monitoring the introduction of NIS educational programme - NIS-Programme	CEP	Annually since 2013	monitoring of 2017-2018 is complete; monitoring of 2018-2019 is complete; monitoring of 2019-2020 is underway
21	Introduction of a new model for the attestation of NIS teachers	CPM	2017-2019	stage of 2017-2018 is complete, stage of 2018-2019 is underway
22	Dissemination and continuity of education innovations in the secondary education system of Kazakhstan	Nazarbayev University, University of Cambridge	2018-2020	в процессе реализации
23	Validation study of the students' abilities as part of the monitoring of NIS students' performance in Mathematics	CPM, Institute of Pedagogical measurement Cito	2018-2019	underway
24	Research among NIS graduates studying at universities	Department for Education Quality Assessment and International Accreditation	2019	underway

25	Research on the implementation of independent assessment in teacher's training courses	CPM	2019-2021	underway
26	The impact of differentiation on the quality of education of gifted children.	CPM	2018-2019	underway
27	Independent assessment as part of NIS teachers' attestation (evaluating the effectiveness of the teachers' assessment system)	CPM	2019-2020	underway
28	Validation study of the effectiveness of the renewed competitive selection of NIS Grade 7 students	CPM, Institute of Pedagogical measurement Cito	2020	underway
29	Development of Kazakh language skills in students studying in Kazakh as part of the trilingual education policy	Samat Kalmenov (CEP)	2018-2019	complete
30	Development of students' historical thinking through concept-based learning (following the results of a monitoring study in the 2018-2019 academic year)	Zukhra Shegenova (CEP)	2018-2019	complete
31	Analysis of the implementation of the salary-based system in NIS schools (quarterly reports for 2018; report for the first half-year of 2019)	Research Department	2018-2019	complete
32	Survey analysis of employees at oblast departments of education, local and regional education offices and regional departments of education control	Research Department	2019	complete
33	Survey analysis "The second foreign language in Nazarbayev Intellectual Schools"	Research Department	2019	complete
34	Survey analysis of NIS students and teachers on their project/ research activities	Research Department	2019	complete
35	Leading schools as a mechanism for achieving the effectiveness of professional development in teachers of regional general education organizations	CE	2018-2020	underway
36	How can the bottom up approach effect the implementation of the Lesson study	CE	2018-2020	underway
37	School sociology: social orientation of a modern teacher and its change under the influence of the training course	CE	2019	complete

38	Effectiveness of formative assessment techniques considering the students' zone of proximal development	CE	2019-2020	underway
39	Development of teacher's competencies in the renewed education content	CE	January-April 2019	underway
40	Development of self-assessment skills in the self-regulation system	CE	2018-2019	complete
41	The effect of scenario 3 Lesson study on the school's organizational culture: values of teachers and students	CE	2019 - 2021	underway
42	Lesson study: effect on the teachers' professional development	CE	January 2017-December 2020	underway
43	A dynamic model for lesson study via the school pool in Ekibastuz	CE	March 2019 – May 2020	interim results are being collected and analyzed
44	Broadening the options for lesson study by improving teacher's reflection skills	CE	September 2018 December 2020	data collection, processing and interpretation
45	How the Lesson Study approach effects the methodological work of the ED	CE	2017-2020	underway

PUBLICATION ACTIVITY AND PARTICIPATION IN ACADEMIC CONFERENCES

1) II Republican virtual conference of research projects "THE WORLD OF SCIENCE" devoted to the 85th anniversary of Al-Farabi Kazakh National University, 2019, Almaty,

COLLECTION OF MATERIALS Section: Biology, ecology, medicine	
1	1ADVERSE EFFECT OF INFORMATION TECHNOLOGY ON CHILD PSYCHOLOGY Baimakhanova Amina, Akshalova Aigerim Grade 11L NIS ChB Almaty, p.13-19.
2	HEALTHY WAYS TO HEAL A HUMAN BODY Ismail Zhibek, Garde 9 D, NIS PhM Shymkent, p. 22-23.
3	HOW FAR THE TUBERCULOSIS IS SPREADED IN KAZAKHSTAN Alibekova Albina Grade 11 D NIS ChB Almaty, p.44-51.
4	HOW DID TECHNOLOGY AFFECT PEOPLE'S HEALTH IN KAZAKHSTAN Bektemis Yeldana Grade: 11 D NIS ChB Almaty, p.51-57.
5	THE EFFECTIVENESS OF IVF AGAINST INFERTILITY IN KAZAKHSTAN AND UK Turmagambet Luiza Grade: 11 D NIS ChB Almaty, p.57-69.
6	AIR QUALITY DEFINING PROJECT– AUA, Yerlanova Dana Grade 11 A, NIS PhM Almaty, p. 69-71.
7	ENERGY SAVING TECHNOLOGY FOR DISPOSAL OF HARMFUL MULTICOMPONENT GAS EMISSIONS Yevadilla M.A. Grade 9 E, NIS PHM Shymkent, p.75-78.
8	MONITORING OF THE ENVIRONMENT AND ECOLOGICAL MAP OF UST-KAMENOGORSK Kabykenova Nazerke, Kassymova Kuralay, Grade 11, NIS ChB Ust-Kamenogorsk, p.78-84.
9	COMPARATIVE EVALUATION OF SOIL IN KAZAKHSTAN (EKO) AND ARMENIA Kabykenova Nazerke, Kassymova Kuralay, Grade 11, NIS ChB Ust-Kamenogorsk, Arutyunyan Ani, Sarkisyan Eteri Grade 11, Ayb School, Yerevan, p.84-88.
10	POLYMORPHISM IN ETHANOL METABOLISM GENE ADH1B IN THE KAZAKH POPULATION Sherali Gulsanem, Kenzhebek Aizhan, Grade 10 C, NIS ChB Almaty, p.88-91.
11	STUDY OF THE GENOTOXICITY OF ENVIRONMENTAL POLLUTANTS THROUGH THE EXAMPLE OF MEXICAN MARIGOLD (Tagetes erecta L.) IN THE URBAN ECOSYSTEM CONDITIONS Dzhaboldinov Alinur, NIS PhM Almaty, p.91-94.
12	DESCRIPTION OF STUDENT HEALTHCARE IN NAZARBAYEV INTELLECTUAL SCHOOLS Akhmetkulova Marzhan, Serikova Dinara, NIS ChB Almaty, p. 94-95.
13	ANALYSIS OF THE KINSHIP BETWEEN KAZAKHS AND EURASIAN PEOPLE BASED ON THE Y CHROMOSOME Khaidar Aisholpan, Grade 10C NIS ChB Almaty, p.99-101.
14	RESEARCH ON THE GENETIC DIVERSITY OF THE WORLD APPLES' PROGENITOR Malus sieversii (MALUS MALL) Khaidar Kuralay, Grade 10C, NIS ChB Almaty, p.101-102.
Section: Geography, ecology, local history, tourism	
15	ONLINE MUSEUM "TEH VOICES OF DEAD TREES" Kachalo Varvara, Kobeleva Irina, Grade 12, NIS PhM Uralsk, Kazakhstan, Grade 8, MBGEI GES №18 in Bratsk, Russia, p.108-110.
Section: Computer Science, programming, IT technology	
16	VR TECHNOLOGY IN EDUCATION Zhanabay A. N. Grade 10 B, NIS PhM Almaty, p.135-140.

34	METAPHOR IS THE MAIN EXPRESSIVE MEAN IN MODERN RAPPING Nurushev Ilyas, Grade 9, NIS PhM Uralsk, p.360-363.
2) Republican research-to-practice conference for young researchers and students "XXIst CENTURY: SCIENCE AND INNOVATIONS", Zhansugurov University, 4-5 April 2019, Taldykorgan.	
COLLECTION OF MATERIALS	
35	"THE ANATOMICAL STRUCTURE OF MÁLUS SIEVÉRSII И MALUS DOMESTICA ANNUAL TWIGS", Alikanova Madina, NIS PhM Taldykorgan, p.262-265.
36	"RESEARCH ON SAUSSUREA SPECIES DIVERSITY IN ZHONGAR ALATAU NATIONAL PARK" Baigulzha Dilnaz, NIS PhM Taldykorgan, 2nd Degree Diploma, p.258-262.
3) XVIII Kolmogorov Readings International Scientific School Conference, 3-6 May 2018, Chemistry, Moscow.	
COLLECTION OF MATERIALS	
37	Baranov Anton, Grade 10, NIS ChB Pavlodar, topic "Production and investigation of the pheromones of the Colorado potato beetle (leptinotarsa decemlineata) and further theoretical synthesis of their analogues", p.11-12.
4) Republican scientific, cultural and educational, and business journal "Intellectual society" registered in the Committee for Communication, Informatization and Information of the Ministry of Investment and Development of Kazakhstan № 15170-Zh dated 18 March 2015, №5 (42), 2019.	
38	Kaidarov Amir, Grade 10, topic "Medical Exoskeleton", p. 2, №5 (42), 2019.
39	Sapar Y., Rakhimzhanov A., Grade 10, topic "Search for the places favourable for installing alternative energy generators in Pavlodar region", p.3, №5 (42), 2019.
40	Daniyar Kalymov, Maya Kakimova, Grade 7, NIS ChB Pavlodar, topic "Research on the major ways to improve the environmental safety of transport", p. 4-5, №5 (42), 2019.
41	Sabyr Kasiyet, Urazbayev Dinmukhammed, Grade 10, NIS ChB Pavlodar, topic "Investigation of optical properties and modelling of space mirrors", p. 6, №5 (42), 2019.
42	Isseyeva Adelya, Kireyeva Aziza, Grade 10, NIS ChB Pavlodar, topic "English Grammar and laws of Physics", p.7, №5 (42), 2019.
43	Sarsikeyev Kuanysh, Parkhomchuk Alina, NIS ChB Pavlodar, topic "Measuring the angle of the Sun above the horizon on spaceship board", p.8, №5 (42), 2019.
44	Zhumabay N., Kazbekova A., Grade 8, NIS ChB Pavlodar, topic "A mobile laboratory of NIS naturalist", p. 9, №5 (42), 2019.
45	Kozhanova Guldana, Grade 9, NIS ChB Pavlodar, topic "Obtaining solar power from the space via a solar orbiter", p. 10, №5 (42), 2019.
46	Belgibayev Tamirlan, Makazhanov Alisher, Grade 8, NIS ChB Pavlodar, topic "A planetarium in your city", p. 11, №5 (42), 2019.
47	Dayana Dinmukhamed, Asylkhan Faizullin, Grade 11, NIS ChB Pavlodar, topic "The ways of cleaning up space debris", p.12-13, №5 (42), 2019.
48	Akzholova A., Grade 10, NIS ChB Pavlodar, topic "Solving problems using mean value inequalities", p.14-15, №5 (42), 2019.
49	Utegenova D., Grade 9, NIS ChB Pavlodar, topic "Finding the area of a trapezoid using D.I.Ismoilov's arithmetic identitiy", p.16-17, №5 (42), 2019.
50	Turkovskii A., Grade 10, NIS ChB Pavlodar, topic "Study of Pythagorean and Heron triangles using D.I. Ismoilov's arithmetic identity", p.17-18, №5 (42), 2019.

51	Bazilova D., Grade 10, NIS ChB Pavlodar, topic "Solving first-degree linear equations with two variables using D.I.Ismoilov's arithmetic identity", p. 21-22, №5 (42), 2019.
52	Kaidash Valeri, Tlegenov Insar, Grade 10, NIS ChB Pavlodar, topic "Analysis of popular science channels in social networks", p. 23, №5 (42), 2019.
53	Sabyr K., Grade 10, NIS ChB Pavlodar, topic "Development of the English application based on the unit 'Electron' in Physics", p.24-25, №5 (42), 2019.
54	Kuanyshbai A., Grade 11, NIS ChB Pavlodar, topic "Development of the 'architecton' website: online gallery of creative works for sharing experiences and finding like-minded people", p. 26, №5 (42), 2019.
55	Orel Daniil, Grade 11, NIS ChB Pavlodar, topic "Prediction of cardiovascular diseases through machine learning methods", p. 27, №5 (42), 2019.
56	Yedilov Azat, Grade 11, NIS ChB Pavlodar, topic "Research on the ability of dry fruits and vegetables to adsorb heavy metal ions", p. 28-29, №5 (42), 2019.
57	Yeraliyeva L., Baibakova A., Grade 8, NIS ChB Pavlodar, topic "The study of changes in the content of ascorbic acid in fruits during storage", p. 30, №5 (42), 2019.
58	Kurenbai A., Kokibai A., Grade 7, NIS ChB Pavlodar, topic "Analysis of active elements in medicinal plants of Pavlodar region using spectrometry", p. 31, №5 (42), 2019.
59	Dekteryuk Yu., Iseyeva A., Grade 10, Moldagazinov T., Baigal D., Grade 8, topic "The manufacture of biological products out of agricultural raw materials", p.32-33, №5 (42), 2019.
60	Kireyeva A., Yakubova E., Zhanymkhanov A., Kamaldinova A., Grade 7-10, NIS ChB Pavlodar, topic "Production of fermented milk product from goat milk", p. 34, №5 (42), 2019.
61	Shabenova Aruzhan, Kabdulla Asem, Grade 8, NIS ChB Pavlodar, topic "Some features of the effect of phytoncides on biological objects", p. 35, №5 (42), 2019.
62	Parkhomchuk A., Kazbekova A., Grade 8, NIS ChB Pavlodar, topic "Herbal tea in the life of modern people", p. 36, №5 (42), 2019.
63	Klokova Kseniya, Grade 11, NIS ChB Pavlodar, topic "Biotechnology for the production of fermented milk drink based on the Tibetan milk mushroom", p. 37, №5 (42), 2019.
64	Mustafina N., Maralbayeva K., Asanov I., Abyshev A., NIS ChB Pavlodar, topic "Development and production of herbal tea out of wild plants growing in Pavlodar region", p. 38-39, №5 (42), 2019.
65	Kenzhetai Zhamilya, Grade 11, NIS ChB Pavlodar, topic "Development of a recipe for fruit marmalade with laminaria for functional nutrition of cosmonauts", p. 40-41, №5 (42), 2019.
66	Smagulova Diana, Yakupova Irina, Grade 11, NIS ChB Pavlodar, topic "The effect of respiratory gymnastics on the psycho-emotional state of a person", p. 42, №5 (42), 2019.
67	Abdirakhmanova Nargiza, Kenzhetai Zhamilya, Grade 11, NIS ChB Pavlodar, topic "Scoliosis. How to treat it?", p. 43, №5 (42), 2019.
68	Rafik Ayaulym, Sailau Arsen, Grade 9, NIS ChB Pavlodar, topic "Production of decor items from plastic recyclables?", p. 44, №5 (42), 2019.
69	Ganzhurov Y., NIS ChB Pavlodar, topic "The history of evacuation hospital No. 2448 in Pavlodar during the Great Patriotic War according to the materials of the state archive", p. 45, №5 (42), 2019.

70	Ospanova Amina, Grade 7, NIS ChB Pavlodar, topic "Ornamented vessels of the Bronze Age - symbolism and technology", p. 46, №5 (42), 2019.
71	Mustafina Z., NIS ChB Pavlodar, topic "Photogrammetric 3D reconstruction of funeral structures of the Bronze Age in Pavlodar region", p. 47, №5 (42), 2019.
72	Zhetpisbayeva A., Grade 11, NIS ChB Pavlodar, topic "Research on the effect of transboundariness on the ecology of the Irtysh river", p. 48, №5 (42), 2019.
73	Ashimova Arailym, Grade 12, NIS ChB Pavlodar, topic "Development of museums in Pavlodar oblast using the example of Pavlodar local history museum named after G. N.Potanin, p. 49, №5 (42), 2019.
74	Aidana Baisekenova, Grade 12, NIS ChB Pavlodar, topic "The crime rate in Pavlodar oblast", p. 50-51, №5 (42), 2019.
75	Ishchanova Feiruza, Mailina Dariya, Grade 11, NIS ChB Pavlodar, topic "The Role of Persuasive Techniques in Public Service Advertisement", p. 52-53, №5 (42), 2019.
76	Yermat Alikhan, Bekmaganbet Adlet, Yessenbek Madiyar, NIS ChB Pavlodar, topic "A Social Issue of Communicating with Strangers online Highlighted Through Storyboard", p. 53-54, №5 (42), 2019.
77	Amernova Zhanel, Sarymova Kameliya, Grade 9, NIS ChB Pavlodar, topic "Comparative analysis of political leaders D.Trump and V. Putin via memes", p. 55, №5 (42), 2019.
78	Usmanova Daliya, Grade 10, NIS ChB Pavlodar, topic "Applications developing literacy skills", p. 58-59, №5 (42), 2019.
79	Ilyas Butayev, Grade 10, NIS ChB Pavlodar, topic "Anglicisms in the vocabulary of modern teenagers", p. 60, №5 (42), 2019 .
80	Chigodaikina Milena, Grade 8, NIS ChB Pavlodar, topic "Fan fiction at literature lessons", p. 61, №5 (42), 2019.
81	Aldisheva Dilnaz, Grade 8, NIS ChB Pavlodar, topic "Fan fiction is a phenomenon of the modern network literature", p. 62, №5 (42), 2019.
82	Sarimova Aidana, Kurumbayeva Maryam, Grade 8, NIS ChB Pavlodar, topic "The effect of Internet slang on the modern student's speech" (using Grade 7-9 NIS ChB students as an example), p. 63, №5 (42), 2019.
83	Bisimbayeva Tomiris, Grade 8, NIS ChB Pavlodar, topic "Recycling of solid packaging materials", p. 64, №5 (42), 2019.
84	Baibatsha Gulim, Grade 9, NIS ChB Pavlodar, topic "Kazakhisms in the Russian news websites of Kazakhstan", p. 65, №5 (42), 2019.
85	Usova Alexandra, Grade 9, NIS ChB Pavlodar, topic "Mythological images in the works of N.V.Gogol", p. 66-67, №5 (42), 2019.
86	Sakhnovskaya Valeriya, NIS ChB Pavlodar, topic "My family story about the Korean people deported to Central Asia in 1937", p. 68, №5 (42), 2019.
5) XXIV All-Russian competition of youth research projects named after V.I.Vernadskii, April - May 2017, Moscow, Russia.	
COLLECTION OF MATERIALS	
87	Vindergoler Tatyana, NIS Pavlodar, Kazakhstan ANALYSIS OF THE TOURIST AND RECREATIONAL POTENTIAL OF ARCHAEOLOGICAL MONUMENTS IN BAYANAUL
6) XXV All-Russian competition of youth research projects named after V.I.Vernadskii, April - May 2018, Moscow, Russia.	

COLLECTION OF MATERIALS	
88	Baranov Anton, Grade 10, NIS ChB Pavlodar, topic "Production and investigation of the pheromones of the Colorado potato beetle (leptinotarsa decemlineata) and further theoretical synthesis of their analogues", p.191-192.
6) XXVI All-Russian competition of youth research projects named after V.I.Vernadskii, April - May 2019, Moscow, Russia.	
COLLECTION OF MATERIALS	
89	Lyssakova Darya, Ussibaliyev Damir, Grade 11, NIS PhM Taraz, topic “The effect of molybdenum and tungsten ions on the growth and development of crops in Zhambyl region”, section “Agrobiology, agrochemistry, plant protection”, p. 29 – 35.
90	Zharkesh Daniya, Baigozhina Dariya, Grade 11, NIS ChB Pavlodar, topic “Archaeological textile as a source for the reconstruction of the nomadic weaving of the kimak and kypchak period”, section “Archaeology”, p. 263 - 267.

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4	NIS Aktobe	Astana dst., Mangilik El st., 8	+7 (7132) 70-47-80
5	NIS Almaty (PhM)	Zhamakayev st., 145	+7 (727) 331-01-00
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7	NIS Atyrau	Nursaya dst., 11 st., 22	+7 (7122) 55-85-51
8	NIS Karaganda	Shakhterov ave., 62	+7 (7212) 55-88-80
9	NIS Kokshetau	Mirzoyan st., 59	+7 (7162) 25-31-40
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11	NIS Kyzylorda	Sultan Beibarys st., 6	+7 (7242) 55-11-51
12	NIS Pavlodar	Tkachev st., 16/2	+7 (7182) 70-47-40
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14	NIS Semey	Karagaily dst., 1	+7 (7222) 63-63-50
15	NIS Taldykorgan	Karatal dst., 47	+7 (7282) 55-88-80, 55-88-81, 55-88-83
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18	NIS Uralsk	Moscow st., 16	+7 (7112) 55-45-12
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21	International School of Astana	Turkestan st., 32/1	+7 (7172) 91-61-77
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23	Centre for Educational Programmes	Nur-Sultan, Hussein Bin Talal st., 21/1	+7 (7172)
24	Centre of Excellence	Nur-Sultan, Hussein Bin Talal st., 21/1	+7 (7172) 23-57-50
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