Назарбаев
Зияткерлік
мектептері

NIS

## NAZARBAYEV INTELLECTUAL SCHOOLS

# AEO ANNUAL REPORT for 2015

“Having initiated the Great Kazakhstani Way and the Mangilik El national idea, a great deal today depends on us. We already possess strategic long, medium and short-term plans of action.

We should continue the modernization of the education and health sectors, in the framework of programmes initiated earlier.”

*State of the Nation Address*
*by the President of Kazakhstan,*
*Nursultan Nazarbayev November 30, 2015*
*“Kazakhstan in the New Global Reality:*
*Growth, Reforms and Development”*

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# INTRODUCTION

In 2015, the educational work of Nazarbayev Intellectual Schools Autonomous Educational Organisation (NIS AEO) was implemented in accordance with the NIS Development Strategy through 2020 as approved by a resolution of the High Board of Trustees dated 18.04.2013.

> **http://www.nis.edu.kz/ru/about/str-doc/**

To achieve the strategic aim, **nine tasks** from **seven areas** were chosen:

> **Our strategic aim is the creation and implementation of an innovative educational model that integrates the best of Kazakh and international experience and practice.**

1) Administration and management;

2) Teaching and learning;

3) Quality assurance;

4) Professional development;

5) Formation of school enrollment;

6) Creation and development of the NIS network;

7) Dissemination.

The fulfillment of these tasks is aimed, in the first instance, at improving the quality of education, helping our students achieve academically, and disseminating the experience of NIS to the national system of secondary education as a whole.

> **http://www.nis.edu.kz/ru/about/reports/**

# 2015 IN BRIEF

*We achieved our strategic aim of opening a network of 20 schools!*

- **Schools were opened in Almaty, Petropavlovsk and Aktau**
- A boarding facility was opened in Taldykorgan

*NIS Astana was authorized to deliver the IB Middle Years Programme*

- 15 NIS schools became members of the Council of International Schools
- 30 comprehensive schools participated in a pilot school project developed jointly with the Altynsarin National Academy of Education aimed at trialing updated primary curriculum and programmes
- 99% of candidates for Altyn Belgi were successful
- 97% of candidates for a distinction in the High School Leaving Certificate (attestat) were successful
- 963 12th grade students received IELTS 6.0 or higher
- 218 graduates from 10 NIS schools were awarded International SAT certificates
- 92% of graduates from Nazarbayev Intellectual School of Astana graduated with a Diploma from the International Baccalaureate
- 99,9% of graduates went to higher education, with 94% gaining national scholarships[1]

**The NIS community is made up of**

- 13 448 students
- 2 759 teachers
- 24 NIS teachers were awarded a Masters degree from Nazarbayev University
- 22 NIS teachers were awarded a Bolashak scholarship
- 220 local teachers were trained in the context of the international teacher programme

[1] *One graduate was awarded a place at Nazarbayev University, but opted instead to work in Silicon Valley with a group of engineers developing software for Apple, another student did not enter a university as his family moved to Russia.*

# UNIT 1. ADMINISTRATION AND MANAGEMENT

*As part of the planned extension of autonomy to NIS schools, they were granted responsibility for recruitment of academic and other ranking staff members, for certification, and for procurement of certain types of goods and services.*

In order to provide transparency and openness to the functioning of the NIS schools, Boards of Governors were established for the individual schools.

**The following events were held during the reporting period:**

- 5 meetings of the NIS Board of Trustees;
- The Annual Meeting of the Chairperson of the Board of Trustees with the teachers;
- 60 meetings of the NIS Board of Directors;
- 5 meetings with the school principals.
- More than 112 standard orders were approved and updated.
- More than 110 enquiries from individuals and organisations were received, including 49 via our helpline.
- Around 1 000 articles were published in newspapers and magazines, more than 5 500 pieces online, including 3 000 on social networks, and we were featured on television on more than 500 occasions.

# UNIT 2.
# THE CONSTRUCTION OF NAZARBAYEV INTELLECTUAL SCHOOL

There are 20 NIS schools operating in the following cities across all regions of the country: Kokshetau, Semey, Ust-Kamenogorsk, Taldykorgan, Almaty (two schools), Uralsk, Karaganda, Shymkent (two schools), Astana (two schools), Aktobe, Taraz, Pavlodar, Kyzylorda, Atyrau, Kostanay, Aktau and Petropavlovsk.

*Figure. NIS schools, year of founding*


The construction of new school buildings in Semey and Ust-Kamenogorsk and of a dormitory in Kokshetau is currently underway.

# UNIT 3. SCHOOL ENROLLMENT

As of the end of 2015, 13 448 students had been enrolled at NIS, including 818 grade 1-6 students, and 12 630 grade 7-12 students.
There are 2 039 people living in NIS boarding facilities.
A total of more than 5 300 students fall into the following socioeconomic groups:

*Figure. Socioeconomic status (as of 1 October 2015)*

| Category | Number of Students |
|---|---|
| Children from single-parent families | 2 103 |
| Children from multi-child families | 1 501 |
| Parents of pensionable age | 238 |
| Both parents unemployed | 1 166 |
| Handicapped parents | 244 |
| Children living with guardians | 34 |
| Handicapped children | 33 |
| Children from rural areas | 1 285 |
| Children from villages and small towns | 1 650 |

## 3.1. ADMISSIONS TEST

Six selection tests were administered in the 20 NIS schools in 2015. To this end, we developed 1 010 test items focused on students' functional literacy and numerical competencies. All test items were validated and approved, and 13 540 students sat the 7th grade admissions test.
**14 777 candidates across Grades 1-11 participated in admissions tests, and 2 858 of them were enrolled.**

*Конкурстық іріктеу кезінде үміткерлерді тіркеу, Өскемен қаласы, 2015 жыл*

## ADMISSIONS TEST RESULTS FOR APPLICANTS FOR ENROLLMENT TO GRADE 7 in the 2015-2016 academic year

A total of 13 540 Grade 6 students from secondary schools from all over the country took part in the competition for a scholarship at NIS.
Year on year the number of candidates per place is increasing. In the current year, there were 6.1 applicants per place.

*Figure. Trend in the number of candidates for Grade 7 entry*

| Year | Number of candidates | Number of places | Applicants per place |
|---|---|---|---|
| 2014 | 14 458 | 2 476 | 5,8 |
| 2015 | 13 540 | 2 236 | 6,1 |

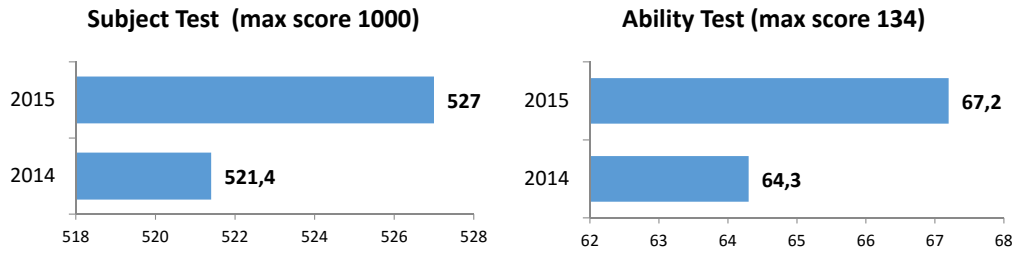
## SUBJECT TEST RESULTS

**The average score** on the Subject Test was **527** out of a maximum possible score of 1 000. **The highest score** (984) was achieved by a candidate from Astana.

## ABILITY TEST RESULTS

The average score on the Ability Test was **67.2** out of a **maximum possible** score of **134.** Again, **the highest score (132)** was achieved by the same candidate from Astana.

*Figure. 2014, 2015 subject test and ability test results (average score)*

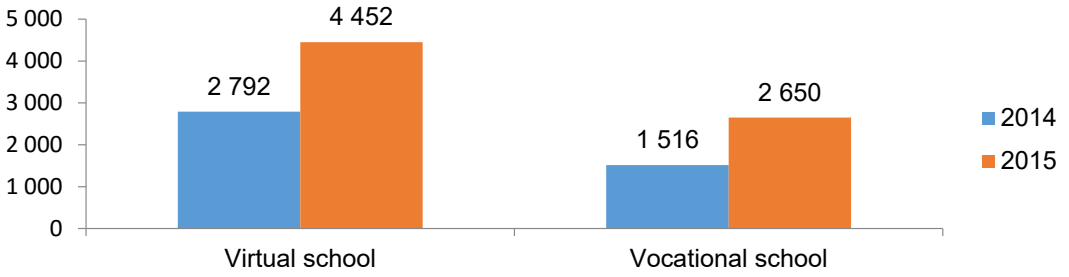



The data in the charts above shows that test scores have improved in both the Subject Test and Ability Test.

## 3.2. VIRTUAL AND VACATION SCHOOLS

The Virtual School and Vacation School projects aim to prepare learners for the NIS admissions tests, and are conducted in cooperation with the regional education authorities.

*Figure. Number of Students at the Virtual School and Vacation School, 2014-15.*




There has been a growth in the number of students at both the Virtual School and Vacation School.

### Virtual School

During the reporting period, 4452 students from different secondary education organizations took part in the Virtual School. This was an increase of 1600 learners from the previous year. The largest number of students was in Astana (626).

*Figure. Number of Students participating in the Virtual School*

| № | NIS school | Grade 5 participants | Grade 6 participants | Total |
|---|---|---|---|---|
| | PhM Astana | 257 | 369 | **626** |
| | PhM Kokshetau | 178 | 220 | **398** |
| | ChB Ust-Kamenogorsk | 187 | 144 | **331** |
| | PhM Semey | 59 | 123 | **182** |
| | PhM Taldykorgan | 109 | 87 | **196** |
| | PhM Uralsk | 118 | 158 | **276** |
| | PhM Aktobe | 54 | 217 | **271** |
| | ChB Karaganda | 126 | 216 | **342** |
| | PhM Shymkent | 125 | 171 | **296** |
| | ChB Shymkent | 117 | 171 | **288** |
| | ChB Pavlodar | 134 | 249 | **383** |
| | ChB Kyzylorda | 99 | 121 | **220** |
| | PhM Taraz | 75 | 109 | **184** |
| | ChB Atyrau | 187 | 143 | **330** |
| | PhM Almaty | 0 | 129 | **129** |
| | **Total** | **1 825** | **2 627** | **4 452** |

## Vacation School

Students who are successful in the Virtual School and who pass the subject tests, are invited to their local NIS school for a full-time Vacation School programme in Mathematics, Kazakh, Russian and English.

Thus, 59.5% Virtual Schools participants were invited to attend Vacation School.

During the reporting period, 995 grade five students and 1 684 grade six students from comprehensive schools took part in Vacation School. Thus, 2015 witnessed an increase of 1 134 learners. A plurality of participants were from Astana (465 in total).

*The Virtual School and Vacation School have proven to be efficient: 34.7% of participants went on to be awarded a First President of the Republic of Kazakhstan Grant.*


NIS
NIS
Кусаинова
Майра

# UNIT 4. PEDAGOGICAL STAFF

2 759 teachers are employed in Nazarbayev Intellectual Schools, including 2 459 local teachers and around 300 international teachers.

## 4.1. TEACHER SELECTION PROCESS

New teaching teams have been established at the newly opened schools (NIS Aktau, NIS Almaty and NIS Petropavlovsk) and the needs of those teams have been fulfilled.
To ensure transparency and automatize the selection procedure, subject knowledge testing of the selection process moved to an online regime.

### The Selection Process for Local Teachers

In the 2015-16 academic year, 2 572 candidates took part in the teacher selection process. Two hundred and ninety six people out of this number were recommended for the employment at NIS, while 186 people were reserve listed. The selection competition rate is 7 applications per vacancy.

> **http://www.nis.edu.kz/ru/teachers/teach-notice/**

### Recruitment of International Teachers

In order to implement our trilingual policy and teach the main subjects in English for high school students qualified international teachers were hired.
International teachers are recruited based on an assessment of their professional competency and individual interview results, taking into account the demands of the NIS environment.
The recruitment process is supported by strategic partnerships with Teachanywhere (United Kingdom), Teacher International Consultancy (United Kingdom), Search Associates (United Kingdom), Edvectus (United Kingdom), and Teach Away (Canada).
Out of two thousand applications received throughout the recruitment campaign, over 300 candidates were invited to an interview, and 92 successful candidates were employed at Nazarbayev Intellectual Schools.
From the existing staff, 208 international teachers had their employment prolonged for the 2015-2016 academic year.

## 4.2. TEACHING STAFF COMPOSITION

*NIS manages a system that combines teacher professional development, the formation of a succession pool, and the ongoing replacement of international teachers.*

The quality of our teaching staff is improving year on year.

*Figure. NIS Teachers by Qualification*

| Highest Qualification | 2014 | 2015 |
|---|---|---|
| PhD | – | 2 |
| Predoc | 15 | 15 |
| Postgraduate degree | 351 | 582 |
| Postgraduate degree at Nazarbayev University | 24 | 25 |
| Graduates of the Bolashak Programme | 35 | 48 |

## Age and teaching experience

The proportion of teachers aged 40 and below from the total number of teachers (2 459) is 64.9%:

- up to 30 years – **946** (38.4%);
- 31-40 – **652** (26.5%);
- 41-50 – **535** (21.8%);
- 51 and older **326** (13.3 %).

The number of teachers by years of teaching experience:

- without teaching experience – 120 (4.8%),
- up to 10 years – 1 110 (45%),
- from 11 to 20 years – 590 (24%),
- from 20 to 30 years – 484 (20%),
- from 31 to 40 years – 149 (6%),
- over 41 years – 6 (0.2%).

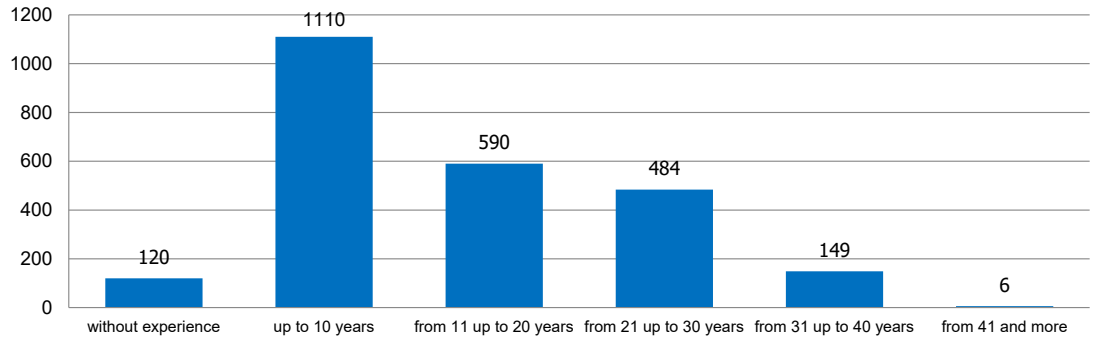



*Figure. The number of teachers, by years of teaching experience*

According to the analysis, there is a balance between young specialists (with up to ten years' teaching experience, 49.8%) and experienced teachers (with over 11 years' experience, 50.2%).

The gender balance among NIS teachers is 27.6% male to 72.4% female.

*Table. Gender balance data from NIS schools*

| № | School | Number of teachers | Gender | |
|---|---|---|---|---|
| | | | Male | Female |
| 1 | NIS Astana | 117 | 25 | 92 |
| 2 | NIS Astana PhM | 160 | 41 | 119 |
| 3 | NIS Atyrau ChB | 124 | 29 | 95 |
| 4 | NIS Aktau ChB | 83 | 17 | 66 |
| 5 | NIS Aktobe PhM | 136 | 39 | 97 |
| 6 | NIS Almaty PhM | 134 | 40 | 94 |
| 7 | NIS Almaty ChB | 119 | 49 | 70 |
| 8 | NIS Karaganda ChB | 116 | 29 | 87 |
| 9 | NIS Kostanay PhM | 106 | 25 | 81 |
| 10 | NIS Kyzylorda ChB | 119 | 40 | 79 |
| 11 | NIS Kokshetau PhM | 126 | 22 | 104 |
| 12 | NIS Petropavlovsk ChB | 84 | 19 | 65 |
| 13 | NIS Pavlodar ChB | 120 | 27 | 93 |
| 14 | NIS Semey PhM | 120 | 26 | 94 |
| 15 | NIS Taldykorgan PhM | 121 | 26 | 95 |
| 16 | NIS Taraz PhM | 138 | 35 | 103 |
| 17 | NIS Uralsk PhM | 114 | 39 | 75 |
| 18 | NIS Ust-Kamenogorsk ChB | 108 | 21 | 87 |
| 19 | NIS Shymkent ChB | 127 | 45 | 82 |
| 20 | NIS Shymkent PhM | 116 | 75 | 41 |
| 21 | International School of Astana | 71 | 10 | 61 |
| | **Overall** | **2 459 (100%)** | **679 -27,60%** | **1 780 -72,40%** |

The **number of international teachers** with significant experience teaching at Nazarbayev Intellectual Schools increases year on year: the number with five years' experience is seven, with four years' experience, 20; with three years' experience, 65; and with two years' experience, 116.

*Table. International teachers by highest qualification*

| Academic degree | Number | % |
|---|---|---|
| PhD | 8 | 2,6 % |
| Postgraduate degree | 157 | 52,3% |
| Postgraduate Certificate in Education (PGCE) or equivalent | 69 | 23 % |
| International teaching certificates (CELTA, DELTA, IBDP, TESOL, ESL, TEFL, IELTS examiner, QTS) | 111 | 37 % |

Apart from teaching subjects in the English language, international teachers:

- prepare students for IELTS, TOEFL, SAT, SET examinations in order to enter Nazarbayev University as well as international universities;
- lead continuous professional development in the NIS network;
- take part in subject teacher professional communities and social projects;
- organize extracurricular and methodological activities;
- take part in preparation for Council of International Schools (CIS) international accreditation; and,
- contribute to the development of textbooks and assessment tools.

## 4.3. PROFESSIONAL DEVELOPMENT SYSTEM

To improve professional capacity, NIS teachers are offered continuous professional development activities:

- at school level: **6 320 teachers** participated in school-based courses;
- at the national level: **29 courses** have been attended by **6 736 teachers**;
- overseas: **four courses** have been attended by **63 teachers**;

**1 416 teachers** participated in the Cambridge International Examinations (CIE) workshops. The total number of teachers who took part in professional development activities is **14 535.** The number of professional development activities per teacher is on average between six and seven.

Teacher professional development was planned out on the basis of the following considerations:

- the identification of the professional development needs and the professional challenges faced by teachers at newly-opened schools, in order to determine a personal professional 'route plan';
- the differentiation of activities based on the teachers' levels of excellence;
- the involvement of internal resources (certified trainers, teachers with high levels of excellence, teachers trained on different programs etc.) in order to organize cascading learning opportunities within the pedagogical community through mentoring and coaching;
- the creation of mini-training libraries (lit. 'methodological piggy bank') and creative laboratories with online networking via the Centre of Excellence website;
- the development of the research culture and skills of teachers, participation in international conferences, and publication in journals with a high impact factor;
- networking in the field of professional development with higher educational institutions.

Teachers attended continuous professional development activities in Kazakhstan and overseas:

| Theme | Course |
|---|---|
| **Development of critical thinking skills, solution of inventive tasks** | • Creativity Development in Science (Triz pedagogy) (30 participants);<br>• Design Thinking (200 participants);<br>• Mental Numeracy (20 participants);<br>• Teaching Gifted Students (64 participants);<br>• Modern Pedagogy (25 participants). |
| **Development of language competencies** | • CELTA training (5 participants);<br>• English Language (100 participants). |
| **Development of subject skills and competencies** | • Test Development (Cito) (44 participants)<br>• SET Preparation (18 participants);<br>• Essay Writing (39 participants);<br>• Montessori Education (10 participants)<br>• Introduction to Teaching Parkour (17 participants);<br>• PASKO Lab Equipment Training for Physics, Chemistry and Biology teachers (40 participants);<br>• Narcotics Trafficking and Possession (178 participants);<br>• Finance for Non-Specialists (20 participants). |
| **Development of IT skills and implementation of innovative technological tools in the teaching and learning process** | • ICT Didactics (17 participants);<br>• Microsoft Certified Teacher (60 participants);<br>• Developing Digital Educational Resources (44 participants);<br>• Training Robotics Trainers (17 participants) |
| **Development of communicative and personal competencies, required for effective collaboration during the lesson, organization of dialogical teaching and usage of active learning methods** | • Emotional Intelligence (20 people);<br>• Performing Arts and the Intellectual (20 people);<br>• Achieve! teambuilding (458 people);<br>• Basic Public Speaking (83 people);<br>• Psychology of Gifted Students (38 people). |
| **Renewal of educational content** | • Trainer Development for Educational Renewal in Kazakhstan (48 people);<br>• Methodology for the National Primary Education Standards Development Programme (16 people) |

## THE DEVELOPMENT OF PROFESSIONAL NETWORKS

Professional networking among NIS teachers takes place through the Center of Excellence portal, which offers learning opportunities through creative laboratories in the following areas:

### 1. The improvement of teaching quality:

- Design Thinking;
- Giftedness;
- Language Competency Development;
- The Theory of Inventive Problem Solving (TRIZ)
- Critical Thinking Skills Development;
- Action Research as a Tool to Improve Teaching Practice;

### 2. Supporting the integrated educational program:

- Lesson Planning;
- Test Item Development;
- Working with Technology;
- Academic Honesty;
- Teacher Leadership.

### 3. Pedagogical support of teaching and learning process:

- Psychology for the Teaching and Learning process;
- Career Counselling Supports for the Students;
- Organization of Pastoral Care at School.

*Professional development activity is geared towards improving professional collaboration within schools and professional networks by making the best use of our internal resources, i.e. trained teachers.*

In April 2015, an experience-sharing event took place in Taldykorgan and Pavlodar in the context of an Action Research Project.

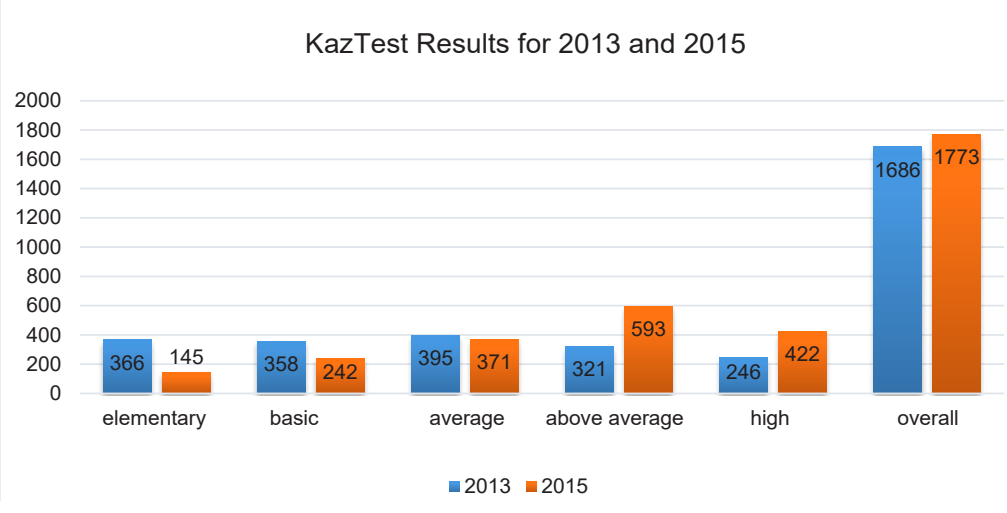
*The effectiveness of NIS professional development programmes is confirmed by our participation in international academic conferences where the experience of NIS is presented on an international level.*

| | |
|---|---|
| **Zhanar Nurmaganbetova, English teacher** (Astana) | Awarded the status of Microsoft Certified Teacher, International Forum in Redmond, Washington, United States |
| **Nazym Ospanova, English teacher** (Pavlodar) | Presented a report entitled "The study of teachers' perceptions of collaborative culture and its effect on teachers' practices in NIS" at an international conference in Glasgow, United Kingdom |
| **Arman Imansharipova, Physics teacher** (Astana) | Attended the 10th European Conference on Innovation and Entrepreneurship in Genoa, Italy |
| **Nurbolat Bissengaliyev, English language teacher** (Astana) | Attended the 2015 European Conference on Education Research (ECER) in Budapest, Hungary |
| **Nurgali Yelshibekov, Mathematics teacher** (Taraz) | Attended the 2015 European Conference on Education Research (ECER) in Budapest, Hungary |
| **Rinat Zhumabayev, Mathematics teacher** (Semey) | Attended the 2015 European Conference on Education Research (ECER) in Budapest, Hungary |
| **Viktor Sosin, Mathematics teacher** (Taldykorgan) | Attended the 2015 European Conference on Education Research (ECER) in Budapest, Hungary |

## 4.4. MONITORING LANGUAGE AND IT COMPETENCIES

Data collected show that, in 2015, NIS teachers' level of Kazakh improved: the number of teachers with an elementary level of Kazakh (Qarapaiym dengei) decreased, and the number with an advanced level (Zhogari dengei) increased.
Out of 1773 teachers tested on their knowledge of the official national language, 1 386 (78.1%) teachers were assessed as being of intermediate or upper intermediate level.

*The improvement in the trend compared to 2013 equals to 21,1%.*




The results of **APTIS,** an English language test developed by British Council, show an increase in the English language competency among teachers.
In the 2014-2015 academic year, 1 425 passed APTIS as opposed to 1 595 in the previous year.

The percentage of teachers with APTIS B2 and C rose from 19% in 2013-2014 to 33% in 2014-2015.

*Figure. APTIS Participation and Scores*[2]

| Academic year | B2 | C | Teachers with APTIS (%) (percentage of all teachers) | Teachers who passed test |
|---|---|---|---|---|
| 2013-2014 | 188 | 121 | 19% | 1 595 |
| 2014-2015 | 327 | 146 | 33% | 1 425 |

At present, 882 teachers have **IELTS** 5,0 and above:

- 381 subject teachers;
- 340 English teachers;
- 13 school principals;
- 148 teachers and equivalently ranked school professionals.

*Table. Number of teachers who teach in English*

| Subjects (taught in the English language) | Number of teachers (who teach in the English language) |
|---|---|
| Mathematics | 27 |
| Chemistry | 16 |
| Physics | 13 |
| Biology | 16 |
| Computer Science | 25 |
| Global Perspectives | 83 |
| Other subjects (Economics, Social studies, etc.) | 40 |
| **Overall** | **220** |

## IT skills of teachers

In the 2014-15 academic year, **1 735** teachers participated in the IT Competency Test, and achieved the following results:

- **989 (57%)** – high level;
- **639 (36.8%)** – intermediate level;
- **107 (6.2%)** – low level (new schools).

*Figure. IT Scores for NIS Teachers*

| Academic Year | Participants | High level | High level | Low level |
|---|---|---|---|---|
| **2014** | 1 602 (100%) | 268 (17%) | 556 (35%) | 778 (48%)* |
| **2015** | 1 735 (100%) | 989 (57%) | 639 (36,8%) | 107 (6,2%) |

* low (615) and critical (163) levels

*Comparative analysis of teachers IT skills demonstrate that 52% of teachers had high or intermediate levels of IT in 2014; this percentage reached 94% in 2015.*

[2] *B2/C levels – independent/proficient user of language, Common European Framework of Reference for language (CEFR)*

## 4.5. TARGETED AND ADVANCED PROFESSIONAL DEVELOPMENT

The replacement of international specialists by Kazakhstani teachers is being achieved by a variety of means:

- internships through the Bolashak programme;
- postgraduate degrees at Nazarbayev University; and,
- internships with international partnership schools.

In 2015, **22** Nazarbayev Intellectual Schools staff members were granted internships through the Bolashak programme

- University of Cambridge Faculty of Education, United Kingdom (nine teachers):
- HAMK, JAMK Universities of Applied Sciences, Finland (two teachers);
- University of Sussex, United Kingdom (eleven teachers).

Forty-eight Nazarbayev Intellectual Schools teachers are pursuing postgraduate studies at **Nazarbayev University.**

Teachers visited international partnership schools through an **internship** program:

- twenty-four teachers from Astana, Taldykorgan, Ust-Kamenogorsk and Kokshetau schools studies an internship program at SUPER schools of the University of Cambridge Faculty of Education, United Kingdom;
- ten NIS teachers participated in the STEM internship program New Methods and Innovations in Teaching STEM Subjects in High School at Silicon Valley Innovation Center, San-Mateo, California, United States.

## 4.6. TEACHER ATTESTATION

New rules for teacher attestation have been approved to improve the teacher professional evaluation process at Nazarbayev Intellectual Schools.

Attestation of teachers who apply for the levels of excellence from “teacher-moderator” to “teacher-master” is carried through AEO attestation committee.

In order to expand school autonomy, attestation of teaching staff who apply for “basic”, “first” and “teacher” levels of excellence is transferred to the school attestation committee.

During 2015, 528 teachers and 95 teaching staff members, 16 school principals, 60 deputy principals and 1 head of kindergarten were assessed.

As a result of the professional evaluation, all school principals and all but one deputy principals successfully passed attestation. The candidate who failed to pass the attestation process was invited to reapply.

Of the 306 teachers participating in attestation, 35 were awarded with the status of teacher, 168 with teacher-moderator, 97 with teacher-expert, and six with teacher-researcher.

*For the first time during the attestation process, six teachers achieved the teacher-researcher level of excellence, a high level of professional excellence.*

*Table. Number of teachers, by level of pedagogical excellence*

| Year | Levels of Pedagogical Excellence | | | | | |
|---|---|---|---|---|---|---|
| | Trainee Teacher | Teacher | Moderator | Expert | Researcher | Total |
| 2014 год | 416 | 1 270 | 267 | 107 | - | 2 060 |
| 2015 год | 453 | 1 657 | 383 | 178 | 6 | 2 677 |

## 4.7. TEACHER ACHIEVEMENTS

Thirty-nine NIS teachers received awards and titles in 2015:

- The Y. Altynsarin Award (three teachers);
- The Educational Specialist Award (three teachers);
- Ministry of Education and Science Certificate of Appreciation (32 teachers);
- Winner of the National Teacher of the Year Competition (one teacher).


In the continuation of an established NIS tradition, the annual Teacher of the Year competition was held with 18 teacher participants. The participants provided master classes, held exhibitions of teaching materials and curricula which they had created.

The results of the competition were as follows:
**Grand Prix** – Samat Sharipov, Physics teacher at Nazarbayev Intellectual School of Aktobe, Physics with English as the language of instruction.
**1st place** – Larissa Ovchinnikova, Physics teacher at Nazarbayev Intellectual School of Petropavlovsk.
**2nd place** – Serik Mukanov, Computer Science teacher at Nazarbayev Intellectual School of Kokshetau, Computer Science with English as the language of instruction.
**3rd place** – Yeraly Bizhanov, Computer Science teacher at Nazarbayev Intellectual School in Taldykorgan.

*All participants demonstrated a high level of professional excellence, solid citizenship and readiness to disseminate accumulated experience.*

# UNIT 5. EDUCATIONAL CONTENT

# 5.1. EDUCATIONAL PROGRAMMES

## INTEGRATED EDUCATIONAL PROGRAMME

The teaching in 19 NIS schools is carried out according to the Integrated Educational Programme (IEP).

During the reporting period NIS continued working with its strategic partner, Cambridge International Examinations (CIE) in the following areas:

- The implementation of IEP in Grades 1-3 and 7-12;
- Monitoring the implementation of IEP; and,
- The development and review of subject programmes and course plans.

**IMPLEMENTATION of IEP** is carried out according to the schedule.

*Figure. IEP Implementation Schedule*

| Оқу жылы | Grades | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2012-2013 | | | | | | | | | | | | |
| 2013-2014 | | | | | | | | | | | | |
| 2014-2015 | | | | | | | | | | | | |
| 2015-2016 | | | | | | | | | | | | |

In the 2014-2015 academic year, the pilot implementation of subject programmes and course plans was carried out in Grades 2 and 9, and the Physical Education subject programme in Grades 1 and 7.

Sixteen subject programmes and 32 course plans for primary and secondary school were evaluated (48 in total).

The implementation of IEP in Grades 3 and 10, and for Physical Education in Grades 8-12 will be continued throughout the 2015-2016 academic year. Sixty documents are currently being evaluated (28 subject programmes and 32 course plans).

**Teacher training** on the approaches to implementing the subject programmes and course plans is held annually to support the implementation of the curriculum. **1 314** NIS teachers have been trained at **68** subject training sessions:

- **38 training sessions** were conducted by CIE consultants involving **700 NIS teachers:**
- in all subjects for Grade 10 teachers;
- in all subjects for Grade 3 teachers;
- in Global Perspectives and Project work for Grade 11-12 teachers;
- in Physical Education for Grade 8-12 teachers.
- CEP subject specialists conducted **30 training sessions,** where **614 NIS Grade 7-9 and 11-12 teachers** were trained across all subjects.

**Fifty mobile training seminars** were arranged for teachers of the newly opened schools (Kostanay, Petropavlovsk, Aktau, Almaty), involving **329 teachers.**

Guidelines for the organisation of the educational process were developed and sent to the schools, which provided clarification on specific aspects of the subject programmes and course plans, as well as some recommendations for the effective organization of teaching activities.

To provide additional academic and educational resource support to the teachers in the reporting year, 22 teacher handbooks were developed and replicated in three areas: introduction of subject programmes and course plans, implementation of trilingual education and language immersion programmes.

## MONITORING THE IMPLEMENTATION OF IEP

Monitoring of piloting is an integral part of IEP implementation process.

The main **objective** of the monitoring is to identify problems in the subject programmes and course plans, as well as difficulties experienced by teachers and learners in the course of educational process. The monitoring is carried out with the use of mixed research methods.

In the reporting period:

- Across Grades 3, 7, 8-12 in 15 NIS schools 522 lessons were observed;
- An online survey was carried out, as a result of which 1 367 teachers and 3 472 students were surveyed. The results have been analyzed in detail and preliminary reports drafted for each subject indicating strengths and problems identified in the course of implementation of subject programmes and course plans.
- To triangulate the data collected during the 2014-2015 academic year, review visits have been made in cooperation with CIE international consultants to NIS schools in Astana, Kokshetau, Karaganda, Atyrau, and both Shymkent schools. After the visits, a one-day coordination seminar was carried out where the groups discussed the data collected during the visits. In addition, CIE consultants provided feedback to each CEP subject specialist in order to improve their monitoring skills.
- Teaching support in terms of feedback on lessons observed has been provided to teachers of the newly opened schools, as well as the answers to their questions on the content of the integrated subject programmes and teaching methodology.

## DEVELOPMENT AND REVIEW OF SUBJECT PROGRAMMES AND COURSE PLANS

The results of monitoring the implementation and evaluation have been used in the review of subject programmes and course plans.

Twenty-three seminars have been conducted to develop and review 121 subject programmes and course plans, which involved participation of NIS teachers and CIE consultants.

### As a result:

- **In cooperation with CIE**
  - 17 subject programmes for primary, secondary and high school have been reviewed and revised;
  - 18 course plans for Grades 3 and 10 have been reviewed and revised;
  - 5 course plans on Physical Education have been developed for Grades 3-6 and 10.
- **CEP independently**
  - has revised 9 subject programmes for primary, secondary and high school;
  - has revised 45 course plans for Grades 1-3 and 7-12;
  - substantially revised 13 subject programmes (Mathematics, Physics, Chemistry, Biology, Geography, Kazakh language (as the first language – L1), Integrated Kazakh language and literature (as the second language – L2), Kazakh literature, Russian language (as the first language – L1), Integrated Russian language and literature (as the second language – L2), History of Kazakhstan, World History, Kazakhstan in the modern world) and 14 course plans in all these subjects for Grade 7.

## IMPLEMENTATION OF TRILINGUAL EDUCATION

Trilingual education is an integral part of the implementation of the IEP. Trilingual education is implemented in accordance with the Policy of Trilingual Education and the guidelines for schools on its implementation, as well as with the guidance on team teaching and content and language integrated learning (CLIL).

To support the effective implementation of trilingual education teacher training on teaching methods and techniques is provided annually by international consultants in the field of multilingual education.

As an example, in the reporting year, Alan Crawford, emeritus professor of California State University, conducted:

1) 4 seminars for 212 teachers of NIS schools in Aktobe and Uralsk (47 teachers), new schools in Kostanay (55 teachers), Aktau (53 teachers), Petropavlovsk (57 teachers);

2) 2 seminars for language coordinators (16 people) on how to organize the work of teachers and how to use CLIL approaches;

3) a seminar for the staff of Altynsarin National Academy of Education (ANAE) (21 people).

Peeter Mehisto, an international consultant from the UCL Institute of Education provided training for language coordinators (19 people) to introduce modern trends in international research and explain how to plan work in schools.

Therefore, a total of 252 NIS teachers and ANAE staff members have been trained in the field of trilingual education.

## IMPLEMENTATION OF THE IEP KAZAKH LANGUAGE IMMERSION PROJECT CONTINUED IN 2015.

The project involves 60 childhren divided into a junior, middle and senior group from the NIS Taldykorgan Kindergarten, and Grades 1-3 students from the NIS Taldykorgan Primary School and NIS Kokshetau Primary School, comprising 118 students in total of different nationalities (Kazakhs, Russians, Chechens, Ingush, Tatars, Ukrainians, Koreans, Uyghurs etc.).

By the end of the 2014-2015 academic year, the quality of knowledge in Grade 2 of Kazakh immersion programme in Kokshetau reached 100%, and in Taldykorgan, 93%.

In the reporting period, **speech posters** (10 poster set), **teacher handbooks and reading books** (11 items) for pre-school and primary education were developed according to language immersion programme.

**The two-part students' book Menin Ortam (trans. My Environment)** complete with workbook for Grade 2 was revised to support the educational process;

**Workshops on language immersion** were organized to provide methodological support for **141 NIS teachers** in Astana, Kokshetau, Taldykorgan, and teachers of pilot schools in Akmola and Almaty regions:

- Language Immersion: Innovation and Experience workshop, 17-18 March, in Taldykorgan **(34 participants)**.
- Monitoring workshop by consultants from the INNOVE Estonian Language Immersion Centre, November 16-20, Kokshetau **(50 participants)**.
- Monitoring workshop by consultants from the INNOVE Estonian Language Immersion Centre, December 7-11, Taldykorgan **(57 participants)**.
- Based on the results of the monitoring our Estonian colleagues came to the following conclusions:
- teachers successfully use language immersion methods;
- lessons making use of methods of active learning, individual learning, learning in pairs are successfully carried out in accordance with the lesson objectives;
- Grade 1 and 2 students understand Kazakh speech, and actively participate in activities to achieve the lesson objectives, however they use Russian words in some sentences in communication.
- Grade 3 students communicate in Kazakh, read and understand the content of the texts very well, and perform written and oral assignments in the Kazakh language.

*An interim analysis of the results* ***shows the overall success of the project,*** *as learners of language immersion programme achieve the expected results in all subjects, and possess age appropriate semantic comprehension skills with oral and written texts in the Kazakh language.*

### INTERNATIONAL BACCALAUREATE PROGRAMMES

Nazarbayev Intellectual School of Astana provides programmes authorized by the International Baccalaureate (IB).

In the 2014-2015 academic year, Grade 12 students completed the Diploma Programme (DP).

The school also delivered the Middle Years Programme (MYP). Course outlines were developed for subjects across the eight subject groups: Language Acquisition, Language and Literature, Individuals and Societies, Sciences, Mathematics, Arts, Physical and Health Education, and Design.

The reporting period saw 15 training workshops for 147 subject teachers organised. New Grade 8 curricula were developed for Integrated Sciences and Basic Social Sciences (Қоғамдық ғылымдар негіздері), and changes were made to 82 primary and secondary school course outlines. The MYP programme aims to develop students' research, thinking, communication, self-management, and cross-cultural communication skills.

The school underwent an IB MYP Authorisation Visit.

IB Primary School Programme authorisation is currently in underway.

*In November 2015, NIS Astana was authorized to deliver the Primary Years Programme, fulfilled one of the objectives of the NIS Development Strategy.*

## 5.2. EDUCATIONAL RESOURCES

Monitoring of the implementation process for the Integrated Educational Program demonstrated the need for textbooks and digital educational resources to ensure that the educational process in NIS schools operated more efficiently.

### DEVELOPING TEXTBOOKS FOR PRIMARY AND SECONDARY SUBJECTS

In 2015, **primary school textbooks** were being developed for Grade 3 ICT, Arts, Music, Science and World Understanding, and Grade 2 Mathematics.

Two workshops were conducted for 74 authors and editors together with the representatives of our strategic partner, Cambridge University Press, in order to improve the textbook content development skills, and in order to familiarize developers with active learning methods and principles, and differentiated teaching and assessment methods.

**Textbooks and Integrated Educational Program for Secondary School**

Progress was made in the development of textbooks for the following 9 subjects at Grade 7: Mathematics, Arts, ICT, Physics, Chemistry, Biology, Geography, World History and the History of Kazakhstan.

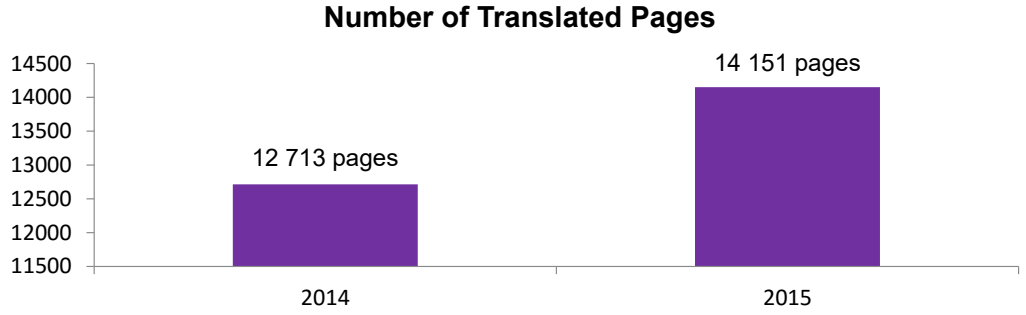
In order to increase the textbook development capacity of local developers, four workshops were conducted together with our strategic partner, UCL Institute of Education, for 92 authors and editors.

The authors of the Grade 7 textbooks finished developing their materials, taking into account changes in the different curricula. Final versions of the textbooks have been handed over for proofreading and design.

**Translating and Editing Textbooks**

An important aspect of developing textbooks is high-quality translation of learning materials and proofreading.

During the reporting period, **14 151 pages of text** were translated from Kazakh into Russian and English, from Russian into Kazakh and English, from English into Kazakh and Russian.




One innovation in the work of the translation team was the introduction of the translation process automatizing system called **ABBYY SmartCAT** which significantly facilitated the translators' work with similar texts containing generic phrases and sentences. Using this system helped the translation team to accelerate the translation process and enhance the efficiency of its work.

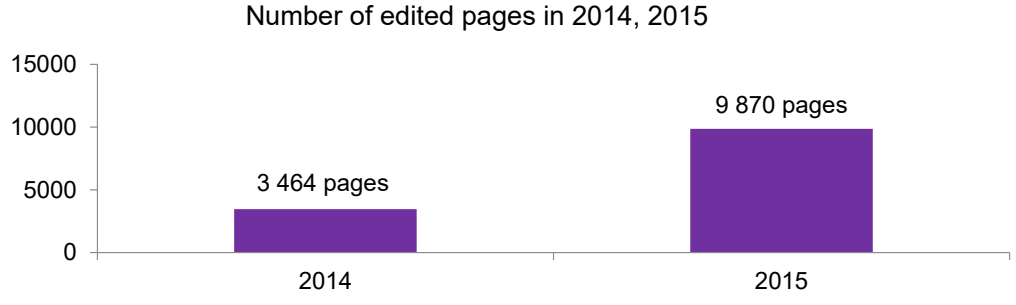
Access to system is available for all NIS staff.

In order to provide consistent style to the learning materials, the following monographs were edited in accordance with the State Compulsory Educational Standard: three versions of textbooks for four language subjects for Grade 1 and five non-language subjects for Grade 2, for nine IEP secondary school subjects, and for five primary subjects for Grade 1.

*A total of* **9 870** *pages of Kazakh and Russian learning materials have been created and edited, fulfilling another NIS objective.*

The content was analyzed based on the guide for editors, the materials were checked for matching the editorial criteria checklist, editorial corrections were introduced.

The editors were trained in three projects of textbook developing and participated in 13 workshops within the reporting period.



## Textbook review

### Confirmation of textbook compliance with the subject programs

So as to identify the level of the textbooks' compliance with the content of the subject program by the CEP staff, the textbooks for the Intellectual Schools were reviewed by CIE.
The review process was implemented in accordance with "Textbook review guide" and included the review of the three textbook components for each subject: Learner's Book, Learner's Workbook and Teacher's guide.
The workshop focused on textbook review and testing for compliance with the subject program was conducted in September to train the CEP subject teachers in this area.

**Thus, the following textbooks were reviewed and their compliance with the subject program was confirmed:**

- Grade 1: Math Book 2;
- Grade 1: Kazakh L1, Kazakh L2, Russian L1 and Russian L2 language subjects;
- Grade 2: Science, ICT, Arts, Music and World Understanding.

The Republican Center "Uchebnik" reviewed the textbooks developed in accordance with the State Compulsory Educational Standard as a part of updating the Grade 1 education content for the following subjects: Math, Natural Study, World Understanding, Arts, Kazakh, Kazakh L1, Russian, Russian, Russian L1.

*The Republican Center "Uchebnik" reviewed the textbooks developed in accordance with the State Compulsory Educational Standard as a part of updating the Grade 1 education content for the following subjects: Math, Natural Study, World Understanding, Arts, Kazakh, Kazakh L1, Russian, Russian, Russian L1.*

## Textbook Piloting

Within the reporting period, the textbook drafts for the following subjects for Grade 1 were approbated in the Intellectual Schools of Taldykorgan and Kokshetau, and in the International school of Astana: Math, Science, World Understanding, ICT and Arts both in Kazakh and Russian.
Since September 2015-2016, the piloting of the textbook drafts for the language subjects for Grades 1 and 2: Kazakh L1, Kazakh L2, Russian L1, Russian L2.
Certain textbook materials for Grade 7 are partially evaluated so as the content can be improved by the authors-developers and editors.

## Monitoring of Textbook Piloting

Monitoring was implemented along with the textbook piloting by means of visiting lessons, interviewing teachers and subject teachers working in Grade 1, collecting comments and surveying teachers.
The monitoring results showed the positive feedback from all participants of learning process (learners, teachers, parents). The textbooks are revised considering those recommendations and suggestions.
So as to provide methodical support and consulting to teachers piloting the primary textbooks for Grade 1, the pilot comprehensive schools in Almay, Taldykorgan and Astana (Ilinka) were visited.

*Joint analysis of the textbook components and recommendations on their use in the learning process showed that teachers are satisfied with the textbooks' quality (use of the active learning methods, interesting activities, step-by-step guide on conducting lessons).*

*Textbooks for Grade 1 students developed by NIS were introduced into practice of the Intellectual Schools in September 2015.*

### Developing Digital Educational Resources (DER)

According to international best practice, the educational process is more efficient if textbooks are used along with digital educational resources.

Within the reporting period, ERC specialists finished the development of 194 DER for the following subjects primary and secondary school: Kazak L1, Kazakh L2, Russian L1, Russian L2, English, Science, World Understanding, Arts, ICT, Math, Physics, Chemistry, Biology, Computer science.

A World of Knowledge cartoon representing the textbooks for Grade 1 was created. Grade 1 students and their parents familiarize in an engaging and colorful way with the world of knowledge and the things they will learn.

Applications were created for the most popular modern mobile platforms such as iOS, Android and PCs.

200 DERs with and without localization for secondary school, and also 10 interactive virtual laboratories for physics, chemistry, ecology and biology to be used in NIS schools were created.

The training course focused on creating DER development concepts was conducted to improve teachers' potential (involving 44 NIS teachers).

The course resulted into 280 concepts (scenarios) prepared for DER development.

Moreover, digital versions of ten textbooks in Kazakh and Russian for the following five primary subjects for Grade 1 were created: Math, ICT, Arts, Science and World of Understanding. The soft copies of ten were integrated with NIS Play for the DER platform.

There were 30 interactive mobile applications developed for iOs and Android platforms.

The Best Digital Educational Resource contest was conducted among the NIS teachers (171 participants) which is aimed at popularizing the online learning and digital educational content, developing skills of NIS teachers, creating engaging and relevant scenarios.

All the developed resources were placed on NIS Play platform.

" **http://play.nis.edu.kz.**

## INFORMATION AND COMMUNICATIONS TECHNOLOGY

### Developing a single communications network

ICT equipment of all the Intellectual Schools was integrated into a single network which made it possible to perform the following functions:

- free long-distance calls via 'internal' extension among all the Centers and the Intellectual Schools;
- access to the internal file hosting services from any computer of the network;
- access to any CCTV camera of the Intellectual Schools.

In 2015, all the CCTV systems of the Intellectual Schools were integrated into the single system **cctv.nis.edu.kz.**

The system enables users to centrally select a CCTV camera in any NIS school and watch streaming from this camera online, as well as to view our schools from a distance, including surrounding objects such as pedestrian crossings, roads, bus stops, etc.
The system includes the alert function which, in case of identifying a danger, sends a message to those in charge of the safety in the Intellectual Schools.

*The aforementioned work provided for significant enhancements to the safety system of NIS schools.*

## Automation of Teacher Selection Procedures

*In 2015, the NIS hiring process switched to an online regime.*

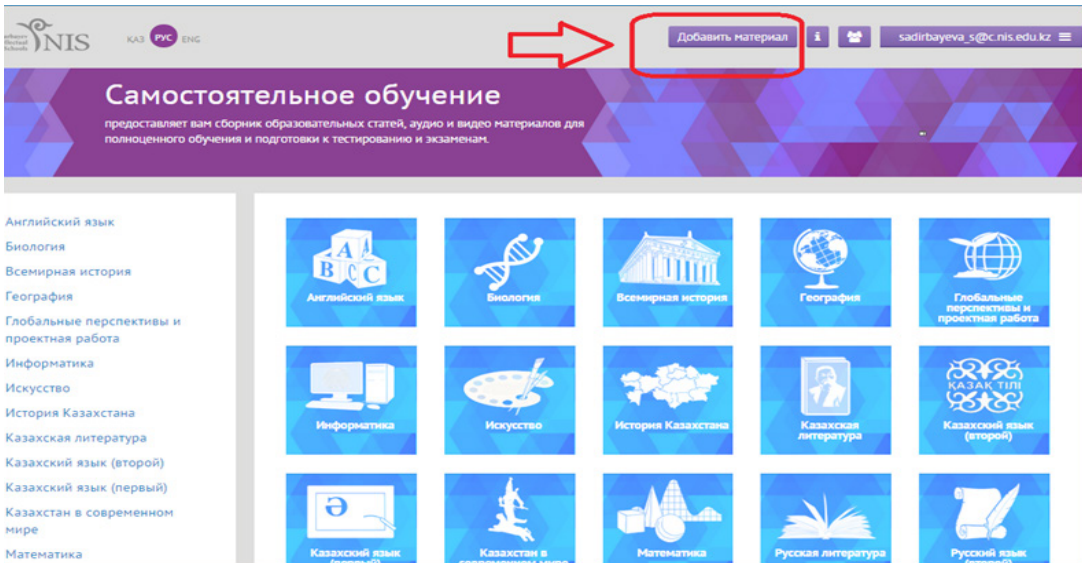
The open source solution, Lime Survey was selected as a platform. The system is the web-application without limits on the number of surveys created or participants, and provides the major statistical and graphical analyses of survey findings.
Surveys may be made openly available or sent to selected participants, and may be assigned or anonymised.

## Online Textbooks (OT)

An online resource containing interactive materials for learners was created to provide learners with the opportunities to consolidate and revise their knowledge of some complex topics they already learnt, with 24-hour access to textbooks, and the opportunities to check their knowledge by doing online testing.
OT's website sk.nis.edu.kz includes a new function called "Independent learning" enabling learners of Grades 7-12 of the Intellectual Schools to study the following 18 subjects in either Kazakh, Russian or English: English, Biology, World History, Arts, Math, Russian L1, Russian L2, Literature, Self-understanding, Physics, Chemistry, Computer Science, Geography, Kazakh L1, Kazakh L2, Kazakh Literature, Kazakhstan in Modern World, Global prospects and Project Work, Economics.
The website module called "Independent Learning for NIS Students includes the following:

- A set of learning materials for NIS students to independently study the subject material using resources in a range of formats:
    1) Text document in MS Word (.doc)
    2) Image (.jpeg)
    3) Presentation (.ppt)
    4) Audio (.mp3)
    5) Table or data in MS Excel (.xls)
    6) Notepad document (.txt)
    7) Adobe document (.pdf)
    8) Archived document (.rar, .zip)
    9) Graphical document (.png)
- The organisation of online testing to enable learners to self-check their level of knowledge.

The authors and editors of those materials are teachers continuously updating them to maintain learners' interest in the learning process.




**The module includes 6 619 learning materials. There are 7 598 learners using the module.**

*The creation of this online resource provided learners with the opportunity to establish their individual educational space.*

## LIBRARIES

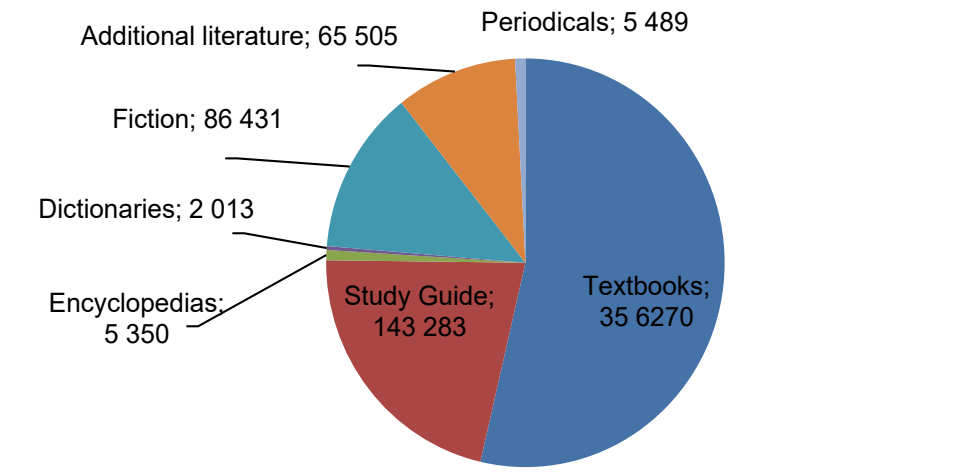
### Library Collection

The acquisition of the library collection is conducted according to the Library Policy and the Proscribed List of textbooks, teaching materials, reference, fiction, scientific books and literature recommended for the NIS schools.

NIS is partnering with a variety of publishing houses in Kazakhstan, Russia and other foreign countries, including Pearson, Longman, MM Publication, Bloomsbury Publishing, Penguin (United Kingdom), Barron's, Kingfisher, DK, Scholastic (United States), AST, ECSMO, Rosman (Russia). It allows learning quickly about the latest updates.

By November 2015, the total collection amounted to 671,695 books about education, teaching methods, fiction and non-fiction books in print and electronic formats.

*Figure. NIS Library Collection*




In order to make best use of the library collection NIS schools are able to exchange books in order to best meet their students needs.

Students and teachers use a range of local and international electronic resources, including BilimLand, Mektep, Twig-bilim.kz and EBSCOhost.
To make effective use of these resources, webinars and seminars with participation of the companies' representatives have been conducted.
The library cataloguing program **KABIS** is used for the full automation of library processes and the creation of electronic catalogs.
To ensure the security of the library collection, all NIS school libraries are equipped with electromagnetic protection gates.

## The Development of Reading and the Promotion of Functional Literacy

Libraries of the Intellectual Schools use active forms of work:
The development of a culture of reading, the following programmes were developed: Find a Book; BookBingo; and Books are Conquering the World, The Book I Want to Tell You About and other activities.
The Drop Everything and Read; Reading Time; 123; READx initiatives and projects combine traditional and modern approaches to development of reading and the promotion of functional literacy.

The 100 Recommended Books Project has been successfully implemented in NIS schools. Its aims are to support the schools' trilingual education policy, to promote knowledge about the world history and culture and contribute to the development of tolerance towards other nations through reading literature in Kazakh, Russian and English. As a part of the project, theatrical performances, quizzes, library events, book reviews are organized; book trailers and other videos are created.

## Formation of Information Literacy and Research Skills

One of the School libraries' main priorities is to develop the information literacy.
In order to develop students' research skills, analysis and processing of information cycles of library lessons are conducted.

To develop the research skills of students, training sessions for teachers and students were conducted to study the models of research and guided learning and their application in practice.
For the participants of the Tugan elge tagzym research expedition, sessions on planning project work were conducted

The librarians in their work pay great attention to the formation of students' academic honesty. All participants in the educational process were assisted in the search for and selection of relevant literature (Pathfinder), including online resources.

**Cooperation with Parents**

Librarians involve parents into the their work by organizing family reading clubs and holding the informal meetings (the Ambassadors of Love Reading, and Favebook projects). The involvement of parents strengthens communication between school and parents, and promotes moral and family values.

**Organization of Workshops and Transfer of Experience**

Great attention is paid to improving NIS librarians' level of professional knowledge and skills.

In 2015, the library staff took part in a number of workshops delivered by expert international librarians. Among them were Developing Information Literacy, where employees learned innovative methods of work on the development of information literacy and research activities; The Role of School Libraries in Preparing Students for Leadership in the Information Space that facilitated the adoption of best practice from libraries in South Korea and Malaysia. Librarians attended the 44th Annual International Conference IASL-2015 (Netherlands).

## 5.3 PASTORAL WORK

NIS operates an integrated system of pastoral work. The values of the educational process are aligned with the values of the Mangilik el national concept.

Pastoral work is based on values-oriented education, the combining of pastoral work and teaching, and the involvement of all participants in the educational process.

During the reporting period, social projects and practices within the pastoral work were devoted to the anniversaries celebrated in 2015: the 550th anniversary of the Kazakh Khanate, the 70th Anniversary of VE Day, the 20th anniversary of Kazakhstan Nations' Assembly and the Constitution of an Independent Kazakhstan.

The **Serving Society** program involves NIS students in a systematic programme of volunteering.

Schools organize charity fundraising events. Fairs and other events were conducted to support needy families. Nine children with cerebral palsy received support (training devices were given). As part of this community service, riverbanks, lakes, and parks were cleaned up, trees were planted, among other projects.

One hundred and eighty events were held as part of the **Three Good Deeds for Kazakhstan** project.

In the course of **Take a Child to Work**» project, 3380 students of Grades 7-8 visited 500 enterprises where their parents are employed.

*Students believe* **Two Weeks in the Countryside** *to be one of the best Intellectual Schools' projects. During the reporting period, 2694 students took part in this project. The national values, the respectful system of relationships between the generations living together in the same family motivated participants to reflect on how they can take care of people and be proud of their ancestors.*

The careers guidance activity **Ten Days at your Parents' Work** was held for Grade 9-11 students, and 2857 students of the Intellectual Schools took part in it.

Along with these social practices, 2015 witnessed the launch of the Young Friends of EXPO-2017 projects, in the course of which students of the Intellectual Schools acted as EXPO ambassadors, visited remote rural regions and met with the villagers in order to promote the international exhibition EXPO-2017 in Kazakhstan.

Students received **career guidance** within the framework of cooperation between Nazarbayev Intellectual Schools AEO and the Samruk-Kazyna JSC.

Seven hundred and fifty eight students gained experience with industrial technology at the S.M. Kirov Car Manufacturing Plant, Zenit Ural Factory JSC, Tau-Ken Altyn LLP, met leading engineering and technical personnel of Munaymash JSC, KEGOC JSC, received practice-oriented training on the premises of Kazakhstan Engineering JSC laboratories.

Career guidance work continues in the framework of the summer project **Tugan elge tagzym.** In geographical expeditions students got acquainted with 152 historical, geographical, industrial, cultural sites, carried out case studies, wrote articles in blogs of social networks as yvision.kz, facebook.com, vkontakte.ru, conducted field research work at 15 sites. Three hundred and six students and 51 teachers of Intellectual Schools took part in the local history research expedition **Tugan elge tagzym.**

There are 20 **TEDx NIS** clubs at the Intellectual schools working to support the development of research skills, partnerships and teamwork, public speaking, fostering respect for diverse views and opinions. Four hundred and fifty students are members of TEDx NIS clubs. The TEDx NIS channel was created on the website www.youtube.com, with more than 700 videos of speeches in three languages posted.

**Wikipedia clubs** aim to develop students' skills in finding information, translating, writing, editing articles in three languages, in accordance with the principles of academic honesty. During the reporting period, the students of the Intellectual Schools have written 18,581 articles in the online encyclopedia, of which 18,206 are in Kazakh, 300 are in Russian, and 75 are in English. In addition, three NIS students have received the Altyn Kalam award, established by Wikipedia.

At NIS, **student self-government** is achieved through the work of **school councils** and the **Shanyrak** student community. Three thousand eight hundred and seventy five students are involved in the school councils, and there are 280 Shangyrak communities in operation

On the premises of Kazmedia Ortalygy», the Energy of the Pen media forum was conducted aiming at the comprehensive development of students, including writing articles, public speaking, filming school video clips and creating training videos. At this event, students visited the newsrooms of such TV channels as Khabar, Kazakhstan, Khabar 24, and the Astana and Kazakh radio stations, met well-known television journalists, and took part in the program Kesh Zharyk on Astana radio.

In order to form values and develop students' creativity, the Second NIS Art Festival was conducted with the participation of 380 students from 17 NIS schools. The main topic of the festival was the values of the Mangelik El national idea. Students demonstrated the historical development of Kazakhstan over 550 years through drama, musicals, shadow theatre, and other creative work, including painting, crafts, art-photo, national crafts, and contemporary art.

*Social projects and practices implemented in the NIS schools contribute to the formation of Kazakhstani patriotism among the students, respect for and observance of laws, social responsibility, a sense of pride for their country and their people.*

## ELECTIVE COURSES AND SUMMER SCHOOLS

Various elective courses and summer schools are in operation and are aimed at deepening subject knowledge and the ability to use it in real life, the development of research skills and language acquisition.

### Elective Courses

Elective courses are held in schools, within the country and abroad.
Each school is free to determine the list and programs of elective courses.
During the reporting period there have been implemented elective courses for Grades 7-12 (376 courses).
Some elective courses have been held on behalf of the National Nuclear Center of the Republic of Kazakhstan in Kurchatov, South Kazakhstan State Pharmaceutical Academy in Shymkent, Himfarm JSC in Karaganda, enabling the learners to study Kazakhstani scientists' research in the field of nuclear and solid body physics, radio-ecological research, pharmaceutical production development in Kazakhstan, and the use of medicinal plants.
External elective courses have been held at world-leading educational and scientific organizations. The content of these courses is linked to deepening of knowledge and the development of skills in core subjects, and improving the language skills of learners.

*Table. List of foreign elective courses*

| Extracurricular courses | Number of Participants |
|---|---|
| Science and Mathematics courses at the Center for Talented Youth, Johns Hopkins University, United States | 36 |
| Physics, Chemistry and Biology courses at the Summer Camp in the University of Malaya, Malaysia | 40 |
| Design Thinking course in the Silicon Valley, United States | 19 |
| Immersion into Science course at the University of Nottingham, Malaysia | 20 |
| Science and Technology course at the Discover Science Center for Creative Youth, Singapore | 20 |
| Science and Mathematics cources in the PERMATApintar summer camp, Malaysia | 20 |
| International Youth Program, Stanford University, United States | 15 |
| PHYWE Mastery in Sciences course based on the Phywe system GmbH & Co.KG, Germany | 51 |
| Science, Technology, Engineering and Mathematics course at West Nottingham Academy, United States | 51 |
| Sciences and Humanities courses at the South Kent School, United States | 40 |
| Leadership and Management course at the Blue Ridge School, United States | 51 |

**Extracurricular courses** are aimed at forming research skills, functional literacy and socialization of students.
The students gained knowledge and skills of scientific work, leadership and effective team-building by attending lectures and mini-courses, visiting Stanford University laboratories, Silicon Valley companies, the Center for Talented Youth, among others.
As a result, the students have acquired skills in the following directions: environmental protection, alternative energy, media production, and digital technologies world. They have developed mini-courses in order to exchange their experiences with their fellow NIS students and with state school students.
While experimenting in the laboratory, the students haven't only acquired a vast experience of practical work, but they have also initiated several projects.
In addition, the participants organized training workshops for their peers using the equipment available at the school.
The courses assisted significantly in the writing of students' scientific projects.

## Summer Schools

Every year, Summer Schools are conducted for Grade 1-11 students at NIS. The main directions of the Summer Schools are:

1) the development of STEM, scientific and technical creativity;
2) the development of project writing activities and creative thinking;
3) the formation of leadership qualities; and,
4) the development of students language skills.

During this period, for the second year, the Summer School for Secondary School Grade 7-8 Pupils from Socially Vulnerable Groups project was held.
During the reporting period, 8 601 NIS students and 1 240 public school students participated in summer schools.
The Summer Schools have implemented the following courses:

- «Entertaining Mathematics;
- Laboratory Activities in Physics and Chemistry;
- Ecosystem of the Soil;
- Enticing Chemical Experiments;
- The Preparatory Course for the SAT Exams in Physics, Chemistry and Biology;
- The Intensive Course in the Kazakh, Russian and English Languages;
- Writing for IELTS;
- Critical Reading and Writing; Robotics;
- 3D-modeling.

As a result of these courses, the students have deepened their academic knowledge, research, language, communication and creative thinking skills.

## Partner Schools

The Intellectual Schools have launched the student exchange programs in order to evolve students' cross-cultural communication skills, global thinking and tolerance.
As a part of the program, in October 2015, there was organized a two-week training for NIS Astana PhM students at the School of the Center for Gifted Students, PERMATApintar, Malaysia. The training of Malaysian students is scheduled to take place at NIS Astana PhM in January 2016.
In December 2015, a Student Exchange Program between NIS Almaty PhM and the Zhautykov National Specialized Physics and Mathematics Secondary Boarding School for Gifted Students was initiated.
This program enables students to apply the skills of social adaptation to the new learning environment, develop communication skills, broaden their horizons, and share their schools ideas and practices.

# 5.4. NIS RESEARCH PROJECTS

According to the NIS Development Strategy, the primary goal of academic research conducted by NIS is the identification and improvement of practice in order to fulfil the mission and vision of Nazarbayev Intellectual Schools.

In the context of the implementation of the NIS Development Strategy, a Research Department was opened in 2015 (hereafter, RD). The first research project, "On the Role of the Intellectual Schools in the future learning and careers of its alumni" was presented at the Seventh NIS International Research-to-Practice Conference, entitled "Education: Research and Sustainable Development". Participants in the research, among whom were the first graduates of the intellectual schools, their parents and their teachers, commented on the high levels of competitiveness among the students, the importance of the role of the teacher in their education, and the importance of the school-based curriculum.

This theme will continue to be studied annually with successive cohorts of NIS alumni (in 2016 we'll study the 2011 graduates; in 2017, the 2012 graduates; in 2018, the 2013 graduates, and so on…) in order to identify trends and the influence of specific initiatives on student success.

The following priority research themes have been identified:

1. Trilingual policy;
2. The integrated criteria-assessment model;
3. Teacher attestation;
4. Action research and lesson study;
5. NIS alumni.

### Practitioner Research

At NIS, more than 600 teachers have conducted action research, while around 250 teachers are participating in lesson study. Teacher participation in research has a significant influence on the improvement of teaching practice.

The themes chosen by the teachers for their research projects are topical and correspond to the objectives of the intellectual schools.

### Development of Internal and External Cooperation

A Research Advisory Board (hereafter, the Board) has been formed from local and international researchers and experts in the field of education, in order help systematize research work at NIS.

The Board has approved a Research Development Framework, Code of Ethics, and Procedure for Obtaining Approval to Conduct Research at NIS.

The RD is coordinating its work with NIS structural subdivisions and with external partners, including Nazarbayev University Graduate School of Education, the Kazakhstan Educational Research Association (KERA), and Cambridge University Fa culty of Education.

### Communication

The website **http://research.nis.edu.kz** has been developed as an online experience-sharing venue with a wide range of publications and research findings, in order to effective inform stakeholders of research conducted.

A Research Forum has been developed on the teaching and learning database at **http://sk.nis.edu.kz/,** facilitating joint research projects, and discussions about materials uploaded to the platform, which have been developed by teachers in the process of conducting research.

# UNIT 6. EDUCATION QUALITY ASSESSMENT

The following assessment procedures are used for quality assessment in NIS schools:

- initial and ongoing progress monitoring of student achievement;
- criteria-based assessment; and,
- external summative assessment of graduates.

## 6.1. MONITORING OF STUDENTS' EDUCATIONAL ACHIEVEMENTS

In order to ensure appropriate interventions and to develop the organization of educational process, the following monitoring of students' educational achievements were conducted:

- initial monitoring in newly opened schools;
- monitoring of students' progress across subjects and grades.

Based on the monitoring results of the above, students, parents, teachers and school administration were provided with the following reports:

- individual reports showing data on the achievement levels of every student across units and topics of subject programme aiming at the development of an individual learning path;
- a report on grades demonstrating the level of acquisition of units and topics in subject programmes across grades and schools aimed at the enhancement of the organisation of the education process;
- an Analytical Report for NIS and NIS school administrations showing the main trends of students' development across schools in general and a comparison with the results of other schools. The school administration should make decision based on this report.

### 1. INITIAL MONITORING OF STUDENTS' EDUCATIONAL ACHIEVEMENTS IN NEWLY OPENED INTELLECTUAL SCHOOLS

In 2015, initial monitoring was administered in NIS schools in Kostanay, Almaty (CB), Aktau and Petropavlovsk in grades 7, 8, 9 and 11.

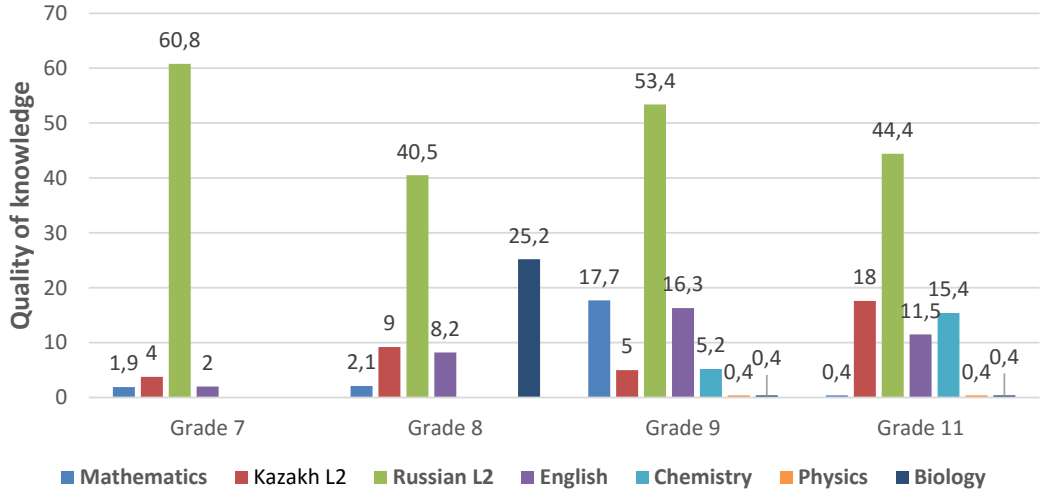
The aim of this monitoring was to determine the level of students' preparedness to learn in accordance with the expected outcomes of Integrated Educational Programme as well as to identify gaps in students' knowledge and organize individual support for them.

*Figure. Structure of initial monitoring across various subjects and grades*

| Subject | NIS schools | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Kostanay | | | | Almaty (CB), Aktau, Petropavlovsk | | | |
| | G 7 | G 8 | G 9 | G 11 | G 7 | G 8 | G 9 | G 11 |
| Kazakh L1 | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Kazakh L2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Russian L1 | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Russian L2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| English | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Chemistry | | | ✓ | ✓ | | | ✓ | ✓ |
| Physics | | | ✓ | ✓ | | | ✓ | ✓ |
| Mathematics | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Biology | | | | | | ✓ | ✓ | ✓ |
| **Date** | **January 2015** | | | | **September 2015** | | | |

In order to conduct initial monitoring, 1 590 items were developed, and over 15 000 samples of monitoring materials (brochures, answer sheets, guidelines on test administration) were prepared and sent to schools.
Results across subjects show that learners from comprehensive schools have knowledge gaps in all subjects in every newly opened NIS school.
The diagram below shows the results of the starting monitoring among students from NIS Petropavlovsk. Similar results were noted in NIS schools of Kostanay, Almaty (CB) and Aktau.

*Figure. 'Quality of knowledge' for NIS Petropavlovsk students following initial monitoring across various subjects, %*




The analysis of the monitoring results indicated one common trend in relation to the level of preparedness of students from different schools:

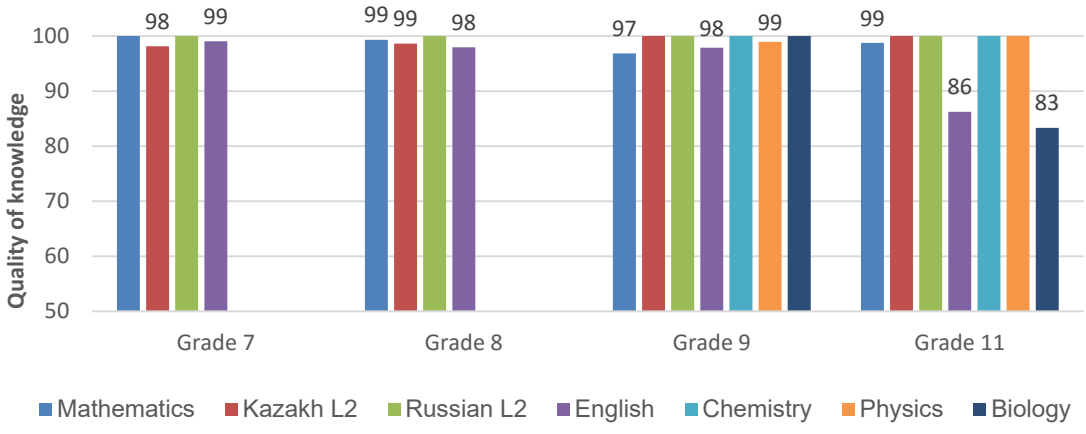
- students are good at tasks which involve reciting and reproducing information as required by the State Compulsory Educational Standard of the Republic of Kazakhstan. However, they find difficulties with the application and integration of knowledge, skills of analysis, generalization, listening and speaking tasks that are in the NIS Curriculum.

It should be noted that prior to entering NIS schools these students had good or excellent marks in their transcripts, which signals about selection of best learners from secondary schools among those who participated in the selection tests.

*Monitoring of Grade 7 students' achievements in Mathematics*

A total of 8 149 individual reports, comprising 2 465 reports for Grade 7, 2 055 for Grade 8, 1 721 for Grade 9 and 1 908 for Grade 11 were prepared in order to develop recommendations on ways of removing identified gaps.
Based on the results of monitoring, awareness-raising activities were held with parents and students, individual classes and consultations were organized aimed at supporting students academically. All these measures allowed us to raise indicators for 'quality of knowledge' by the end of the second term of the 2015-2016 academic year.

*Diagram. 'Quality of knowledge' of students in NIS Petropavlovsk following the results of Term 2 of the 2015-2016 academic year, %*




## 2. CURRENT MONITORING OF STUDENTS' EDUCATIONAL ACHIEVEMENTS

### Monitoring of Mathematics Scores

In 2015, the monitoring of students' achievements and test piloting in Mathematics were organized and conducted in cooperation with our strategic partner, the Institute for Educational Measurement, Cito B.V., the Netherlands (Cito):

- Grade 7, 8, 11 and 12 students in 16 NIS schools in January 2015; and,
- Grade 7, 8, 9 and 12 students in 19 NIS schools in September 2015.

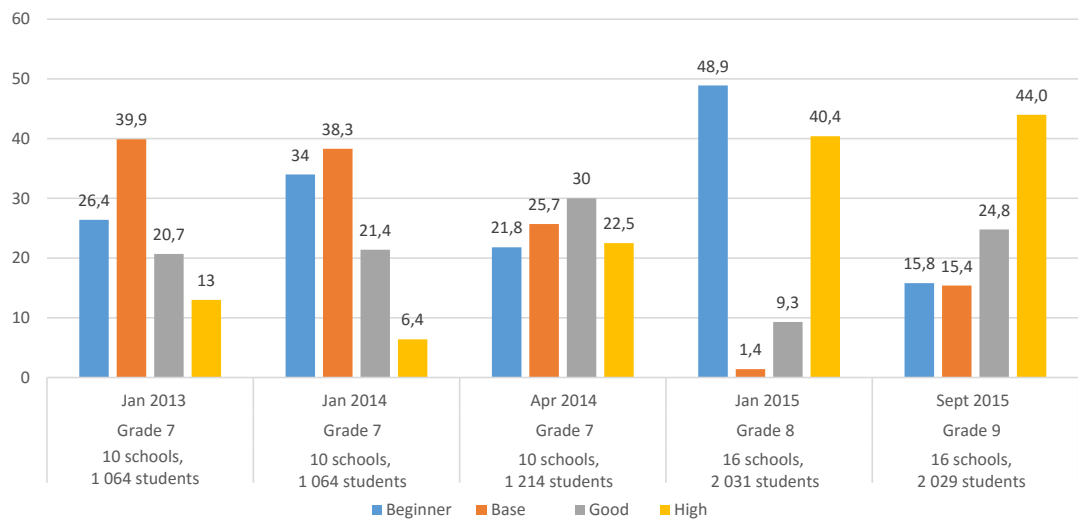
The main purpose of the monitoring is to track students' educational achievements and assessment of students' progress in dynamics. This allowed to provide schools with recommendations on correcting individual learning path of each student, and also to

provide pedagogical support in achieving learning objectives.
The monitoring covers five domains of the subject programme for Mathematics: Numbers, Algebra, Geometry, Statistics and theory of probability and Mathematical modelling and analysis. The number of domains in each monitoring is defined by the contents of the Subject Programme.
The monitoring system allows tracking students' progress in their learning thanks to a unified scale where results of all students' are indicated, compared by year and students are differentiated by the level of educational achievements. Assessment standards for levels are developed by teachers of Intellectual schools under the supervision of Cito experts:

- **Beginner –** student knows certain mathematical terminology, main mathematical formulas and solves the simplest tasks;
- **Base –** determines patterns and applies knowledge and skills in non-difficult situations;
- **Good –** can use algorithms, assess own results while solving difficult tasks;
- **High –** analyses data, solves nonstandard tasks and draws conclusion on rationality of solving methods.

*Analysis of students' results showed progress in learning during three years.*

*Diagram. Distribution of students by the level of Subject Programme learning on Mathematics in dynamics across years.*




Good results on domains as geometry, mathematical modelling and analysis enabled increasing proportion of students on a high level. It is worthwhile to mention that students can find radius and diameter of a circle in the context of practical tasks, can find coordinates of points on a given conditions, determine metrical relations of triangle elements, apply formulas of circle area and circle length while solving difficult tasks. On the mathematical modelling and analysis students have showed research skills of graph functions, skills for finding domain and multiple values of functions.
Increasing proportion of students on the beginner level in Grade 8 in January is linked to the opening of new schools and 862 students were participating in the monitoring for the first time who were enrolled from comprehensive schools of the country. Besides, in Grade 8 students start studying a new domain "Statistics and theory of probability" in depth

which is a relatively difficult topic to study at school. In Grade 9 the proportion of students on the beginner level decreased significantly and the proportion of students on advanced level increased.

In 2015, 15 892 individual reports were prepared and sent to schools: 3 911 – for Grade 7 students, 4 495 – for Grade 8 students, 2 566 – for Grade 9 students, 1 943 – for Grade 11 students, 2 977 – for Grade 12 students.

Based on these reports schools organized individual lessons for students; these lessons were devoted to elimination of identified gaps in knowledge on certain topics and domains of the Subject Programme.

During the year 4 workshops on item development and expertise were conducted with Cito experts aimed at improving the system of monitoring and expanding the item bank.

Approbation of new test items for Grades 8, 9 and 12 was conducted to determine the quality of items and improve the process of students' educational achievements in 19 Intellectual schools.

Additionally 308 items were developed and screened to update the item bank.

The developed system on monitoring individual progress in education and students' results were presented on a conference which was organized by the International Association for Educational Assessment (IAEA) (United States) and Association for Educational Assessment Europe (AEAE) (United Kingdom). A major interest of participants attracted approaches and key features of item development process, statistical analysis and reports on the results of monitoring for students, teachers and methodological unions.

## Monitoring on subjects Kazakh language as a second, Russian language as a second and English

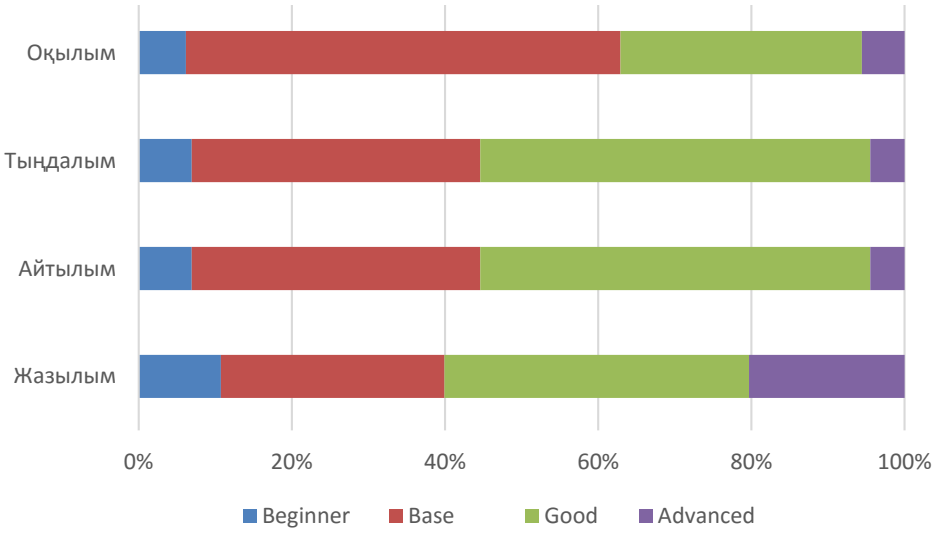
A monitoring of students' achievements was conducted in 16 NIS schools for the first time in April 2015, where 1 774 students were involved. In addition, approbation of test items for Grade 8 was conducted.

The monitoring is designed to check 4 types of language activities: Reading, Listening, Writing and Speaking. Tasks are developed to reflect the Common European Framework of Reference (CEFR). Students are assessed at four levels which are set by teachers of NIS schools under the supervision of international experts:

- Beginner – understand and able to use familiar words and expressions on daily topics in his/her speech, has limited vocabulary.
- Base –understand the overall idea of short texts on a familiar topics, information on daily topics, can participates in a talk if a peer speaks slowly and clearly, create short texts (letter, advertisement, statement, etc.), however has a limited vocabulary, find expressing own opinion difficult, have grammatical and punctual errors.
- Good – understand the overall content of texts on different topics with comprehensive sentence structures, can determine main idea, aim, text structure, target audience, understand content when information is provided slowly and clearly, determine peer's opinion. Student has sufficient vocabulary for writing, can communicate his/her own opinion in a talk on familiar topics, has some errors.
- • Advanced – determine the main idea of a text, understand the content of comprehensive texts on different topics, aims, determine the text structure, target audience, recognize the hidden meaning, indicate details. Differentiate idea of listen texts, understand fast speech, determine author's idea, recognize hidden meaning, understand comprehensive syntactic constructions, dialects and features of pronunciation. Can determine idea of listening texts based on mass media materials, which are connected with personal, subject and social interests, and recognising speech types and styles.

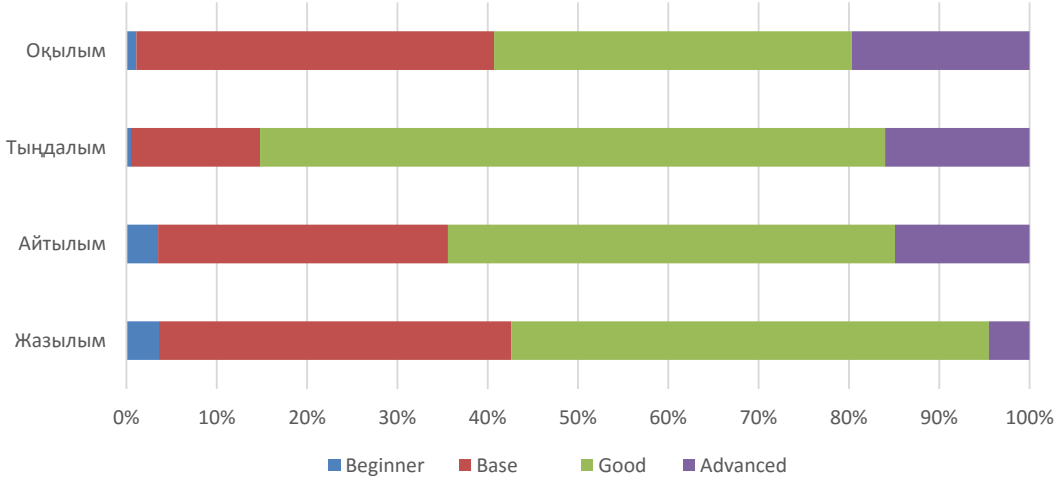
The analysis of results has shown that a large proportion of Grade 7 students have either basic or good levels of proficiency in all languages, and a small proporation of students have an advanced level.
For Kazakh L2, the proportion of students with either good or advanced level skills was as follows: for reading, around 40%; for listening and speaking, over 50 %, and for writing, 60%.

*Figure. Educational achievement levels for Grade 7 students across different skills for Kazakh L2, %*




Our students have large vocabularies, and an ability to describe different real-life situations using logically structured pieces of writing. They demonstrate an understanding of and an ability to extract the main idea of the listening texts, to continue the main idea of the extract, and to answer questions using a broad vocabulary.

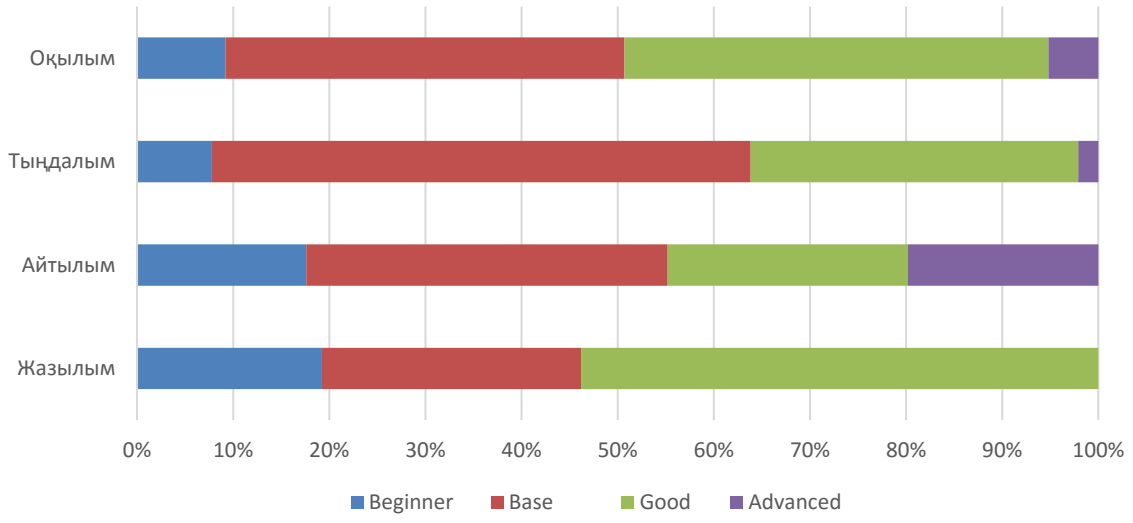
*Figure. Educational achievement levels for Grade 7 students across different skills for Russian L2, %*




For Russian L2, the proportion of students with good or advanced skills was as follows: for reading, around 60%; for listening, over 80%; for speaking, over 60 %; and for writing, over 50%.

Our students are able to highlight significant details, to make conclusions based on the listening materials and to recognize types of speech and registers from the majority of sources. They are able to define a hidden idea of the text, a logical sequence of information in different types of materials, and to evaluate an author's point of view.

*Figure. Educational achievement levels for Grade 7 students across different skills for English, %*




For English, the proportion with either good or advanced levels skills was as follows: for reading, 50%; for listening, around 40%; for speaking, around 50%; and for writing, over 60%.

Students with fluent writing skills are able to present their own opinion, and describe situations related to daily experience. In colloquial language, they have sufficient vocabulary to describe events, and express their feelings and thoughts. In reading, they demonstrate an understanding of the main idea, the author's position, and are able to present a logical chain between different textual elements.

To summarise the results of the monitoring therefore, 18,903 individual students reports, reports on grades and cohorts level for teachers and methodological associations indicating domains and themes of the subject programme, and also on evaluated skills which cause difficulties for students, were prepared and sent to schools. Teaching collectives use these materials in collaborative planning with the ultimate goal of improving students' language skills.

Teacher professional development in the area of assessment continues apace. During the reporting period, three training workshops on item development and validation, as well as standard setting and analysis of the results of validation have been conducted with the participation of 22 teachers from ten NIS schools.

## 6.2. CRITERIA-BASED ASSESSMENT SYSTEM

In order to assess students' academic achievements, a criteria-based assessment system was used in the current year in 16 NIS schools.

The Handbook for Formative and Internal Summative Assessment containing practical recommendations on standardization procedures, marking and moderation was developed in collaboration with CIE to support teachers in their teaching practice.

In relation to changes in subject programs and plans according to the results of our

approval process, 204 recommendations on teaching practice for formative assessment were made for teachers, and 167 test specifications for internal summative assessment for grades 1-2, 7-12 were updated.

In relation to the implementation of the IPD beginning in Grades 3 and 10, 40 recommendations on the practice of conducting formative assessment and 36 test specifications for internal summative assessment by subjects were developed to support teachers.

An online teaching practice database containing internal summative assessment materials among other things was established in order to ensure a standardized approach to assessment and the organisation, development and validation of assessment materials by our professional community of teachers. (http://sk.nis.edu.kz/)

Collections of sample formative and internal summative assessment tasks grades were prepared in three languages by subject, and published on the NIS website.

An online survey was conducted in February 2015 with the aim of reviewing the application and modernization of criteria-based assessment in NIS schools. Fifteen NIS school principals and deputy principals, 779 teachers, 4 947 grade 7-12 students and 2 486 parents participated in the survey. The results show that the criteria-based assessment system permits the objective assessment of assessment objectives, and is able to determine students' progress, and gaps in knowledge and skills. According to the results of the survey, teachers have difficulties in choosing tasks for criteria, especially for the assessment of high order thinking skills.

To develop formative and internal summative assessment skills, more than 1 100 NIS teachers were trained over the course of the year by Professor Gordon Stobart from UCL Institute of Education, United Kingdom. During the workshops, Prof. Stobart observed the lessons of teachers from three schools, and gave constructive recommendations on the organisation of formative assessment.

*Presentation by Professor Gordon Stobart during the criteria-based assessment course*

This year, the Integrated Criteria-Based Assessment Model by which students' results are assessed was copyrighted.

*Details of the implementation of criteria-based assessment at NIS was presented at conferences held by international and European associations on educational quality assessment in Singapore and Estonia, and attracted interest from participants from a variety of different countries.*

## 6.3. EXTERNAL SUMMATIVE ASSESSMENT OF STUDENTS OF GRADE 11 AND GRADE 12

In the current year, the External Summative Assessment (ESA) was held with the participation of Cambridge International Examinations (CIE). The participants in the ESA were as follows:

- 1 526 Grade 11 students from 14 schools (Astana PhM, Kokshetau, Semey, Taldykorgan, Ust-Kamenogorsk, Aktobe, Karaganda, Shymkent PhM, Shymkent ChB, Uralsk, Atyrau, Kyzylorda, Pavlodar, Taraz);
- 1 122 Grade 12 students from 10 schools (Astana PhM, Kokshetau, Semey, Taldykorgan, Ust-Kamenogorsk, Aktobe, Karaganda, Shymkent PhM, Shymkent ChB, Uralsk);

*Figure. List of subjects examined*

<table>
<tr><th>Grade 11</th><th colspan="2">Grade 12</th></tr>
<tr><th>Subjects</th><th>Compulsory subjects</th><th>Optional subjects</th></tr>
<tr><td rowspan="3">First Language<br>(Kazakh, Russian)</td><td>Mathematics</td><td>Physics</td></tr>
<tr><td rowspan="2">Kazakhstan in the Modern World</td><td>Chemistry</td></tr>
<tr><td>Biology</td></tr>
<tr><td rowspan="2">Second Language<br>(Kazakh, Russian)</td><td rowspan="2">English (IELTS)</td><td>Computer Science</td></tr>
<tr><td>Geography</td></tr>
<tr><td></td><td colspan="2">Every student took the examination in either five or six subjects</td></tr>
</table>

Grade 12 students took examinations on non-language subjects in different languages based on their language of instruction:

- 431 students took examinations in Kazakh;
- 258 students took examinations in Russian;
- 433 students took examinations in English.

Examinations for each subject include two or three components and are held of the course of several days.

The examination materials are focused on assessing a wide range of skills such as creative use of knowledge, critical thinking; research and experimental skills, the use of information communication technologies, communication competencies, including language skills (writing, reading) and functional literacy.

Different types of tasks were used during the examination, including multiple choice questions and short or extended answers, essays, coursework, and experimental and practical papers.

In all schools, external summative assessment was conducted in accordance with the CIE requirements keeping the principles of academic honesty which is confirmed by the observations of our international experts.

*External summative assessment in progress*

*All candidates received the CIE certificates. Thirty seven graduates were awarded very high grades at the examinations, allowing them to enroll directly in the first year of Nazarbayev University.*

The results showed that the students understood the L1 and L2 texts very well. Students could define the author's purpose, identify the target audience, state the ideas freely, and also write essays in a literary style.

The Mathematics results showed that the students can reproduce, choose and use mathematical data, notions and techniques, perform operations on complex numbers, and choose and apply the appropriate methods of problem-solving techniques.

For Kazakhstan in the Modern World, students demonstrated an ability to sift \facts and evidence, state their own ideas, apply different statistical data, and interpret qualitative and quantitative indicators.

For Geography, students demonstrated good subject knowledge and good skills in applying knowledge acquired to real-life situations. The students could give arguments for their own inferences convincingly, specify visual examples, analyze and synthesize information by integrating knowledge from different areas of the school subjects.

For Chemistry, Physics and Biology, students demonstrated their ability to predict and hypothesize, apply knowledge in a new situation, evaluating and analyzing information, also showing the skills in performing experiments and using the equipment and measuring devices appropriately.

On "Computer Science" subject the students demonstrated good skills in programming, using appropriate notions, terminology in describing computing processes and applying different forms of receiving and processing data. However, the students should pay attention to the consistency of the argumentatively chained construction and changes appearing in the course of evidences.

On the basis of summative assessment results there was prepared a report on analysis of performing each task across the subjects, languages of assessment and schools for providing a methodological support for teachers and correcting the students' preparedness for the examinations.

*In 2015, the NIS approach to organising external summative assessment and our graduates' results were presented at the International Association of Assessment in Education Conference themed 'The Three Most Important Issues in Assessment: Validity, Validity, Validity' in Lawrence, United States.*

### NIS ASTANA STUDENTS IB DIPLOMA PROGRAMME RESULTS

For the first time in 2015, graduating students from NIS Astana sat the International Baccalaureate Diploma Programme examinations. A total of 41 graduating students participated.

According to IB policy every student choses six subjects: three higher level and three standard level subjects. Their subject choices helped determine their final choice of subject at university.

In order to receive the IB Diploma, Extended Essay, "Theory of Knowledge" (TOK), "Creativity, Action and Service" (CAS).

*An analysis of the results of the examinations shows relatively high final results, which are of a comparable level to results internationally, both on the results of the examinations in general and across assessment subjects.*

*A total of 37 students out of 41 candidates (or 90.2% of the total) were awarded International Baccalaureate Diplomas, while only 79% of all the candidates around the world were awarded IB Diplomas in 2014. In contrast to the global norm, none of the NIS Astana students were studying in their native language.*

## 6.4. ACCREDITATION OF INTELLECTUAL SCHOOLS

Accreditation is a internationally recognized approach of objectively externally assessing education quality in order to aid school development.

In 2014, Nazarbayev Intellectual Schools started preparation for accreditation in accordance with the internationally recognized standards which are applied to schools in 109 countries of the world by the Council of International Schools, the Netherlands. The standards aim to assess education quality in accordance with the following standards:

**1. Mission and vision** – school has clear mission, vision and education objectives; develop intercultural understanding and internationalism.

**2. Teaching and learning** – curriculum reflects schools mission and vision, covers academic, social, physical and emotional needs of students; effectively supports implementation of curriculum and assessment of student achievements.

**3. Governance and leadership** – school autonomy in using financial resources, organization of education process, taking decisions.

**4. Faculty and employees** – number of employees with appropriate qualification; employment in accordance with the labour contract and school policy.

**5. Access to education** – schools defines academic needs of students; support for students with different skills and abilities; effective career guidance.

**6. School culture** – work atmosphere is based on mutual respect and trust; effective cooperation of school and parents; ensuring students' safety.

**7. Operations** – financial provision in accordance with the international practice and local legislation; material and technical facilities stipulates effective learning.

International accreditation includes several stages:

- Membership Visit and gaining Council of International Schools membership;
- Preliminary Visit and gaining Accreditation Candidacy status;
- Self-evaluation;
- Team Visit and gaining decision on international accreditation.

## Membership Visit

In 2015 Intellectual School of Astana (PM, IB), Kokshetau, Ust-Kamenogorsk, Semey, Taldykorgan, Uralsk successfully hosted membership visits and applied for international accreditation.

Council of International Schools accreditation entitles schools to undertake international accreditation, create school account on international online portal, to nominate students for International Student Awards.

## Preliminary Visits

NIS Astana, NIS Astana PhM, NIS Kokshetau, NIS Taldykorgan, NIS Ust-Kamenogorsk and NIS Semey hosted preliminary visits from Council of International Schools regional officers and . As a result of these preliminary visits, NIS schools were accorded Candidate Status. The self-study process is considered to be main stage of the accreditation and evaluation process and takes about 12-15 months to complete.

NIS schools of Shymkent ChB, Shymkent PhM, Kyzylorda, Taraz, Pavlodar, Karaganda, Atyrau and Aktobe which are operating less than 3 years hosted Council of International Schools membership visits and as a results were granted membership of the organization.

*Council of International Schools membership visit*

All international accreditation visits are conducted by highly qualified international experts of Council of International Schools, who represent different countries of the world including Switzerland, the United States, Italy, Germany, Russia and also by team of external experts that includes principals of different international schools accredited by Council of International School (Leysin International Schools, Switzerland; Bilkent Laboratory and International School, Turkey; Lower School Principal, International School of Stuttgart, Germany).

During the visits experts held interview with students, teachers, parents and employees, randomly attended lessons, inspected the safety insurance of students and staff. Based on the visit results, international experts prepared reports with recommendation for self-evaluation and further improvement of schools.

In order to support Intellectual Schools with the international accreditation process in 2015 there was arranged a workshop with participation of Council of International Schools. The main purpose of the workshop was explanation of the self-evaluation process, preparing reports and collecting evidence on school alignment with international standards of Council of International Schools.


NORTH KAZ
KOSTANAY
AKMOLA
PAVLODAR
WEST KAZAKHSTAN
AKTOBE
KARAGANDY
EAST KAZAKHSTAN
ALMATY

# UNIT 7. RESULTS OF STUDENTS' EDUCATIONAL ACHIEVEMENTS

# 7.1. ACADEMIC PROGRESS AND QUALITY OF KNOWLEDGE

At the end of the academic year 2014-2015, there were 11 725 students studying at 17 NIS schools.

'Academic progress' was 100%, and 'Quality of Knowledge' was 92.4%. The highest indicator of 'Quality of Knowledge' was at NIS Uralsk (96.7%).

The number of students who completed the academic year with[3]:

- excellent mark, 2 180 students (18.8%);
- good mark, 8 558 (73.6%);
- satisfactory mark, 883 (7.6%).

The highest proportions of students completing the year with 'excellent' marks were at the following schools:

- the proportion of students awarded an **excellent mark** was highest in Uralsk (30.2%), Kokshetau (29.1%), Semey (28.7%), and Astana PhM (28%);
- the proportion of students awarded a **good mark** was highest in Shymkent ChB (86.1%), Kyzylorda (82.4%), Taraz (82.1%), and Aktobe (82%)

In the academic year 2014-2015, 67 school graduates ended their school assessments with high enough marks to gain honours grade, out of whom 64 went on to defend their marks in the final examination. The proportion of Diploma on completion of High schools with honour holders was 3.8% of the total number of students who finished NIS schools. The highest indicator was at PM school in Kokshetau (13,7%).

There were 75 students who finished High School with honours and Altyn Belgi, among them 74 candidates (98.7%) defended their finished grade in the final examinations which is considerably above the national average for Kazakhstan (52%).

The proportion of NIS students who graduated with Altyn Belgi was 4.4%. The highest results were achieved by NIS Ust-Kamenogorsk (10.4%), NIS Atyrau (9.1%) and NIS Taldykorgan (8.2%).

*Figure. Number and proportion of school graduates who gained Diploma on Completion of High School with honor and Altyn Belgi at the end of the academic year 2014-15*

| № | School | Total | Number, person | | Proportion, % | |
|---|---|---|---|---|---|---|
| | | | Holders of Diploma with honours | Altyn Belgi certificate holders | Holders of Diploma with honours | Altyn Belgi certificate holders |
| 1 | Astana PhM | 91 | 11 | 5 | 12,1 | 5,5 |
| 2 | Astana | 42 | 0 | 0 | 0 | 0,0 |
| 3 | Kokshetau | 95 | 13 | 7 | 13,7 | 7,4 |
| 4 | Semey | 83 | 5 | 0 | 6,0 | 0,0 |
| 5 | Taldykorgan | 97 | 3 | 8 | 3,1 | 8,2 |
| 6 | Ust-Kamenogorsk | 67 | 3 | 7 | 4,5 | 10,4 |
| 7 | Uralsk | 133 | 9 | 7 | 6,8 | 5,3 |
| 8 | Karaganda | 166 | 9 | 6 | 5,4 | 3,6 |
| 9 | Aktobe | 135 | 3 | 0 | 2,2 | 0,0 |
| 10 | Shymkent PhM | 127 | 1 | 2 | 0,8 | 1,6 |
| 11 | Shymkent ChB | 129 | 1 | 0 | 0,8 | 0,0 |
| 12 | Atyrau | 176 | 4 | 16 | 2,3 | 9,1 |
| 13 | Pavlodar | 160 | 1 | 9 | 0,6 | 5,6 |
| 14 | Kyzylorda | 101 | 1 | 7 | 1,0 | 6,9 |
| 15 | Taraz | 97 | 0 | 0 | 0,0 | 0,0 |
| | **Total:** | **1 699** | **64** | **74** | **3,77** | **4,36** |

[3] *In this distribution, Grade 1 students are not taken into consideration, i.e. Kazakh language immersion groups at 2 NIS schools.*

# 7.2. STUDENTS' RESULTS IN INTERNATIONAL AND NATIONAL OLYMPIADS, SCIENTIFIC COMPETITIONS AND CONFERENCES

During 2015, more than 2 329 NIS students collectively took part in over 40 national and international intellectual competitions and scientific project contests, in the course of which 1 321 students earned awards.

*The chart below lists the number of winners of the national and international scientific contests.*

| № | Name of schools | National Olympiad | International Olympiad | National scientific competition | National scientific competition | Competitions | Distant Internet Olympiads | Total |
|---|---|---|---|---|---|---|---|---|
| 1 | Astana PhM | 6 | | | | 6 | | **12** |
| 2 | Astana IB | 5 | 7 | 2 | 7 | 5 | | **26** |
| 3 | Aktobe | | 1 | 22 | 5 | 2 | | **30** |
| 4 | Almaty PhM | 9 | 32 | 11 | 2 | 33 | | **87** |
| 5 | Atyrau | 1 | | | | 7 | 17 | **25** |
| 6 | Karaganda | 2 | | 3 | | 1 | 5 | **11** |
| 7 | Kokshetau | 2 | | 6 | | 210 | 6 | **224** |
| 8 | Kyzylorda | 1 | | 1 | 2 | | 545 | **549** |
| 9 | Pavlodar | 6 | 9 | | | 44 | 6 | **65** |
| 10 | Semei | 5 | 3 | 2 | 4 | 4 | 2 | **20** |
| 11 | Taldykorgan | 8 | 4 | 1 | | 1 | | **14** |
| 12 | Taraz | | | 5 | | 2 | 3 | **10** |
| 13 | Uralsk | 18 | | | | 35 | | **53** |
| 14 | Ust-Kamenogorsk | 3 | 51 | 5 | | 112 | 9 | **180** |
| 15 | Shymkent PhM | 2 | | 1 | | | 6 | **9** |
| 16 | Shymkent ChB | 1 | | 5 | | | | **6** |
| | **TOTAL** | **69** | **107** | **64** | **20** | **462** | **599** | **1 321** |

NIS students participated in the following international competitions: Zhautykov International Olympiad; Tuymaada International Olympiad; Balkans International Junior Olympiad; International Asia-Pacific Olympiad; Silk Way International Olympiad; Business-Shark; the 11th International Olympiad in Basics Sciences (in Russian); the Russian as a Foreign Language international competition; the Zolotoye Runo international context; the 11th Basic Sciences Olympiad; the Infoznaika international contest; the Mathematics for All international contest; and, the Hour of Code international contest.

A total of 69 students won prizes at national competitions (the National Educational Competition on Comprehensive Subjects, Presidential Olympics and Intellectual Olympiads.) Among them were:

- 8 students in Mathematics (Taldykorgan, Almaty PhM, Aktobe, Astana IB)
- 8 students in Physics (Semey, Uralsk, Taldykorgan, Almaty PhM, Astana PhM, Astana IB)

- 9 students in Chemistry (Pavlodar, Ust-Kamenogorsk, Karaganda, Almaty PhM, Astana PhM)
- 5 students in Biology (Astana PhM, Almaty PhM)
- 1 student in Ecology (Almaty PhM)
- 4 students in Computer Science ( Taldykorgan, Semey)
- 5 students in Geography (Karaganda, Taldykorgan, Uralsk)
- 9 students in History of Kazakhstan (Kokshetau, Shymkent (PhM and ChB), Kyzylorda, Ust-Kamenogorsk)
- 2 students in the English Language (Astana PhM, Almaty PhM, Uralsk)
- 1 student in the French Language (Astana PhM)
- 1 student in the Russian Language (Atyrau)
- 2 students in the Kazakh Language (Karagandy, Astana PhM)
- 14 students in Robotics (Astana PhM, Kostanay, Aktobe, Uralsk, Kokshetau, Taldykorgan, Atyrau, Petropavlovsk).

Also, NIS students participated in a variety of international scientific competitions and contests, conducted by the following organisations: the Small Academy of Sciences, the International Competition of Pupils' Research on Mathematics and Mechanics, named after U. Dzholdasbekov; the Open the World of Science international competition; and, the International Mathematics and Engineering scientific competition.
NIS students from Almaty, Pavlodar, and Ust-Kamenogorsk came in first place in international competitions and research project contests in Biology, Physics, Engineering, Computer Science, and Electronics.

Pupils actively participated in the distance internet team contest in Kazakhstan and Russia in all secondary subjects.

Nazarbayev Intellectual Schools AEO as the national coordinator for robotics held the Second National Robotics Contest in accordance with the rules of the World Robotics Olympiad on the WRO[4], in which 158 pupils from nine regions of the country participated, including 91 teams, (52 teams from comprehensive schools, and 39 NIS school teams).
The Olympiad had four categories: WRO Regular Category, WRO Open Category, WRO Main Categories, and a category entitled Football WRO GEN II Football.
During the competition, pupils presented more than 50 mechanical devices capable of performing a variety of actions – to solve complex tasks, play sports, find minerals, recognize precious metals and radioactive substances, and explore the underwater world[5].
According to the results of the Olympiad, six of our pupils were came in first place; three came in second, and five came in third.

The following NIS pupils won the 1st place at the Olympiads:

- Dinara Almanova, Aidana Assangaliyeva, Adilet Beketov, Erbol Abai (Uralsk);
- Nuriya Umirbekova (Kostanay);
- Kazybek Toktarov, Aibek Kabi (Petropalvosk); and,
- Mazhit Zharaspay, Nurzhigit Mukhanov (Aktobe).

The International University of Informational Technologies and the Kazakh British Technical University collectively awarded educational grants to four NIS students, two from Uralsk, and two from Taldykorgan.
The winners of the Olympiad were selected to represent Kazakhstan in the International Olympiad WRO-2015 in Qatar.

[4] *http://www.wroboto.org*
[5] *http://www.analitika.kz/promyshlennost/29450-22092015-v-astane-proshla-respublikanskaya-olimpiada-po-robototexnike*


*The results exceeded the NIS Development Strategy targets on the number of NIS students taking part in international competitions and olympiads in Mathematics, Science, Humanities.*

## 7.3. RESULTS OF INTERNATIONAL EXAMINATIONS

**IELTS international examination**

In order to determine NIS graduates' level of English proficiency annually sit **IELTS international examinations,** the results of which are accepted by leading higher education institutions worldwide.

The IELTS international examination is compulsory for all Grade 12 students.

In 2014-2015 academic year, 1 699 NIS graduates sat IELTS. The average score across all schools is 5.8.

In November 2015, 2 072 graduates from 16 NIS schools sat IELTS. The average score across all schools was 5.8. At the same time the average score was **6.0** at schools where examination had been sat for more than three years (in seven schools). The highest average score was achieved by NIS Astana PhM, namely **6.4 score.**

*Figure. NIS students' IELTS results*

| № | School | Year of Foundation | 2013-2014 | 2014-2015 | 2015-2016 |
|---|---|---|---|---|---|
| 1 | Astana | September 2010 | 5,8 | 6,7 | - |
| 2 | Astana PhM | January 2009 | 6,5 | 6,4 | 6,4 |
| 3 | Kokshetau | September 2010 | 5,9 | 5,8 | 5,9 |
| 4 | Semey | September 2010 | 5,8 | 6,2 | 6,0 |
| 5 | Taldykorgan | August 2010 | 5,9 | 5,9 | 6,2 |
| 6 | Ust Kamenogorsk | September 2010 | 5,9 | 5,8 | 6,0 |
| 7 | Uralsk | October 2012 | 5,6 | 5,8 | 5,6 |
| | **Overall /Average** | | **5,9** | **6,0** | **6,0** |
| | **Total number of students** | | **483** | **608** | **723** |

NIS Students' IELTS scores have been rising over the past three years.
In the 2014-2015 academic year, eight NIS schools (Karaganda, Atyrau, Shymkent ChB, Shymkent PhM, Pavlodar, Taraz, Kyzylorda, Aktobe) took part in the IELTS international examination for the first time. The average score was 5.5. In November 2015 this result was improved and the average score was **5.7.**

*Figure. NIS students IELTS' results*

| № | School | Year of Foundation | 2014-2015 | 2015-2016 |
|---|---|---|---|---|
| 1 | Karaganda | January 2013 | 5,7 | 5,9 |
| 2 | Shymkent PhM | March 2013 | 5,7 | 5,7 |
| 3 | Shymkent ChB | March 2013 | 5,7 | 5,7 |
| 4 | Aktobe | January 2013 | 5,6 | 5,7 |
| 5 | Kyzylorda | September 2013 | 5,4 | 5,5 |
| 6 | Taraz | September 2013 | 5,3 | 5,5 |
| 7 | Atyrau | September 2013 | 5,2 | 5,3 |
| 8 | Pavlodar | September 2013 | 5,2 | 5,9 |
| | **Overall /Average** | | **5,5** | **5,7** |
| | **Total number of students** | | **1 091** | **1 159** |

It should be noted that these students have studied English as part of our skills-based programmes focusing on reading, writing, speaking and listening for our two years.
Significant progress in language proficiency has been demonstrated by NIS Karaganda and NIS Pavlodar graduates.
Also in November 2015, the graduates of our newly opened schools (Almaty PhM and Kostanay) took IELTS for the first time. The average score was **5.5.**

*Figure. IELTS results for NIS Almaty PhM and NIS Kostanai students*

| № | School | Year the school opened | 2015-2016 | |
|---|---|---|---|---|
| | | | Number of graduates | IELTS average score |
| 1 | Almaty PhM | July 2014 | 161 | 5,8 |
| 2 | Kostanay | December 2014 | 29 | 5,2 |
| | **Overall /Average** | | **190** | **5,5** |

According to published data on the official IELTS website the average score in 2014 across Kazakhstan (for master's students, students and teachers) is 5.8 while the average score worldwide is 5.9.
**(http://ielts.org/researchers/analysis_of_test_data/test_taker_performance_2014.aspx).**

*Figure. Comparison of NIS students IELTS results with those of test takers from across Kazakhstan and worldwide*

| Average score of NIS students | Average score across Kazakhstan | Average score across worldwide |
|---|---|---|
| 5,8 | 5,8 | 5,9 |

## SAT international examination

The **Scholastic Assessment Test (SAT)** is not a compulsory for our students. In 2015, 218 graduates from ten NIS schools, namely NIS Astana, NIS Astana PhM, NIS Kokshetau, NIS Semey, NIS Taldykorgan, NIS Uralsk, NIS Karaganda, NIS Shymkent ChB, NIS Shymkent PhM, Kyzylorda sat SAT and were awarded a certificate.

Out of that total, 118 students sat SAT 1 (Mathematics, Critical Reading and Writing), while 101 students sat SAT 2 (Physics, Mathematics, Chemistry, Biology).

*In 2015, SAT was taken by 1.7 million people worldwide, with the average score being* **1 490.** *The average score of NIS graduates was* **1 545** *points higher than the worldwide average.*

*Figure. SAT results for 2015*

| Result | Number of participants | Total average score |
|---|---|---|
| **Worldwide**[4] | 1,7 млн. | 1 490 |
| **NIS Graduates** | 118 | 1 545 |

At the same time the cut score to enter 100 “top” universities in the United States is in range from 1 280 (University of Wisconsin-Madison) to 1 545 (California Institute of Technology) out of a maximum score of 2 400[5].

The highest average SAT scores were achieved by NIS Shymkent PhM students, namely 1 750 (out of a maximum of 2 400).

[4] *http://www.foxnews.com/us/2015/09/03/sat-scores-fall-to-lowest-level-in-10-years/*

[5] *http://www.forbes.com/sites/schifrin/2014/08/04/top-100-sat-scores-ranking-which-colleges-have-the-brightest-kids/*

# 7.4. UNIVERSITY ADMISSIONS

In the 2014-2015 academic year, 1 699 students graduated from NIS schools:

- 309 were awarded places at Nazarbayev University, including 36 students with direct entry into first year;
- 2 130 were awarded places at other Kazakhstani universities;
- 64 were awarded places in universities in three CIS countries; while,
- 274 were awarded places in seventeen foreign countries.

A total of 1561 NIS graduates, of 92% of the total, received scholarships, including 150 international scholarships in 14 countries.

*Figure. Trend in NIS graduates university admissions, by year*

| Year | Total number of graduates | Number of students awarded university places | | | | |
|---|---|---|---|---|---|---|
| | | Nazarbayev University | Other Universities of Kazakhstan | | CIS and foreign countries | |
| | | | Total | Scholarships | Total | Scholarships |
| 2013 | 451 | 131 | 290 | 281 | 30 | 19 |
| 2014 | 483 | 152 | 279 | 264 | 52 | 38 |
| 2015 | 1 699* | 309* | 1 186 | 1 102 | 202 | 150 |
| **Total number:** | **3 185** | **715** | **2 130** | **2 001** | **338** | **245** |
| **Percentage** | **100%** | **22%** | **67%** | **63%** | **11%** | **8%** |

** One graduate was awarded a place at Nazarbayev University, but opted instead to work in Silicon Valley with a group of engineers developing software for Apple, another student did not enter a university as his family moved to Russia.*

NIS graduates are pursuing further study at well-known universities such as Al-Farabi Kazakh National University (KazNU), The Kazakhstan Institute of Management, Economics and Strategic Research (KIMEP), Kazakh-British Technical University (KBTU), Eurasian National University (ENU), Moscow State University (Russia), St. Petersburg Polytechnic University (Russia), Warwick University (UK), University of Debrecen (Hungary), Pusan National University (Korea), and Hong Kong Polytechnic University (China) among others.

More the 80% of NIS graduates have chosen from one of four principal subject groups: engineering (38.8%), sciences (22.3%), medicine (15.3%), education (3.4%) and finance (8.5%). From these subject groups, they are studying specific subjects such as Aerospace Engineering; Robotics and Mechatronics; Nuclear Physics; Applied Physics; Energy and the Oil and Gas Industries; Information Technology; Computer Engineering and Software development; Radio Engineering and Electronics; Ecology; Inorganic Chemistry; Biophysics; Biotechnology; Chemical Technology of Organic Substances; General Medicine; Pharmacology and Public Health.


ӨЗ ОЙЫ
ОРЫ
inter
ОТ ИННОВАЦИЙ
через ПАРАДИГМЫ
к ТЕХНОЛОГИЯМ
ДЕНСАУЛЫҚ

# UNIT 8. EXPERIENCE SHARING

In fulfill the instructions from Nursultan Nazarbayev, President of the Republic of Kazakhstan, regarding sharing the experience of Nazarbayev Intellectual Schools with the rest of the national secondary education system, we have carried out work in two main areas:

- New educational methods and technologies; and,
- The renewal of the content of secondary education.

Preparation for reforming the system of education in Kazakhstan is carried out in cooperation with the following government and non-governmental organizations: the Altynsarin National Academy of Education; the Orleu National Center for Professional Development; Uchebnik RSE; the Pre-School Childhood Center RSE; Bobek REHC; eighteen national universities and teaching colleges; 35 national comprehensive schools and 30 pilot schools; 22 schools in the Kyzylorda region; and the Zhautykov RSFMSBS.

Memorandums on cooperation regarding the implementation of innovative teaching methods and the updated content of education were signed with the following universities: Abai Kazakh National Pedagogical University; Al-Farabi Kazakh National University; Kazakh State Women's Teacher-Training University; Kazakh British Technical University; KIMEP; Kazakh National Technical University; Pavlodar Pedagogical Institute; the National Chamber of Entrepreneurs; and, Kyzylorda Oblast Akimat.

## 8.1. DEVELOPING PROGRAMMES FOR IN-SERVICE TRAINING COURSES

In 2015, the Center of Excellence (CoE) developed in-service training programmes for teachers from regular schools in four areas:

**1. A programme of additional professional education for graduate students of liberal arts colleges,** developed on the basis of national multilevel in-service teacher training programme;

**2. An in-service training programme for the trainers at the Program of Further Professional Education** for liberal arts college graduates, developed on the basis of national multilevel in-service teacher training programme.

**3. An in-service training programme for the trainers of teaching staff from higher education institutions,** developed on the basis of national multilevel in-service teacher training programme

**4. An in-service training programmes for teachers on reforms to the national system of secondary education** (22 programmes for separate categories of teaching staff).

## 8.2. IN-SERVICE TRAINING

The professional competence of teachers is the main factor which can improve the quality of education where the content of secondary education is being updated.

The professional development of the teachers in the country's educational institutions was carried out in eight different ways, as follows:

**1. The multilevel in-service training programme for the teaching staff of the national educational organizations** (multilevel programs)

Work continued on the implementation of the multilevel in-service training programme which has been jointly developed by the Center of Excellence and the Faculty of Education of the University of Cambridge.

In 2015, **4 993 teachers** were trained in the multilevel in-service training programme, including[6]:

- **3 711** comprehensive school teachers;

- **1 243** NIS teachers;
- **39** teachers from the O. Zhautykov Republican Specialized Physics and Mathematics secondary boarding school (RSPMSBS);

Of the **3 711** teachers from the secondary schools who completed the multilevel in-service training courses, **935** were trained in the Third (Basic) Level Programme and **2 776** were trained in the First (Advanced) Level Programme;

**Of the 39 teachers from the RSFMSBS** who completed the multilevel in-service training courses, **14** were trained in the Third (Basic) Level Programme, **18** in the Second (Intermediate) Level and 7 in the First (Advanced) Level.

**1 243 NIS teachers** were trained, with a further **561** currently continuing their training.

*Figure. Numbers of teachers trained in the multilevel in-service training Programme in 2014 and 2015*

| Level | Number trained | | |
|---|---|---|---|
| | Total | By year | |
| | | 2014 | 2015 |
| Third (basic) | 2 953 | 1 004 | 1 949 |
| Second (intermediate) | 1 172 | 999 | 173 |
| First (advanced) | 5 972 | 3 101 | 2 871 |
| **Total:** | **10 097** | **5 104** | **4 993** |

During 2014-2015, **1 243 NIS teachers** completed courses in the multilevel in-service training programme.

*Figure. Number and percentage of NIS teachers trained in the multilevel in-service training Programme during 2014-2015*

| Number of teachers trained | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Level 3** | **%** | **Level 2** | **%** | **Level 1** | **%** | **Total number trained** | **% of the total of number of NIS teachers** |
| **1 000** | **41,03** | **155** | **6,36** | **88** | **3,61** | **1 243** | **51,00** |

*Figure. NIS teachers by qualification category*


[6] *According to the letter from the MES of RK dated 29.08.2015. № 01-4-02-5 / 2917-I courses for the second (intermediate) level on CoE basis for 1200 teachers suspended in 2015.*

## ASSESSMENT OF TEACHERS, TRAINED ON MULTI-LEVEL COURSES

According to the results of assessment from the twelve cycles of levelled courses, conducted in 2014-2015 at branches of CoE and the Orleu National Center for Professional Development JSC (Orleu), 13 157 teachers were certified in 2015. Final assessment of teachers was conducted on the basis of assessing components such as portfolios, presentations and qualifying examinations.

*Figure. Number of teachers, recommended for certification*

| Training center | Level 3 | | Level 2 | | Level 1 | | Total | |
|---|---|---|---|---|---|---|---|---|
| | teachers of general courses* | teachers for retake.* | teachers of general courses* | teachers for retake.* | teachers of general courses* | teachers for retake.* | teachers of general courses* | teachers for retake.* |
| CoE | 1 888 | 14 | 172 | 32 | 2 360 | 158 | 4 420 | 204 |
| Orleu | 7 527 | 204 | 730 | 72 | - | - | 8 257 | 276 |
| **Total** | **9 415** | **218** | **902** | **104** | **2 360** | **158** | **12 677** | **480** |
| | | | | | | | | **13 157** |

** Teachers of general courses – teachers, trained on levelled courses during 2015*
** Teachers for retake – teachers, trained on levelled courses in 2012-14 and retaking the assessment component(s) (portfolio and/or presentation and/or Qualifying examination)*

*Figure. Number of teachers, recommended for certification, by type of school*

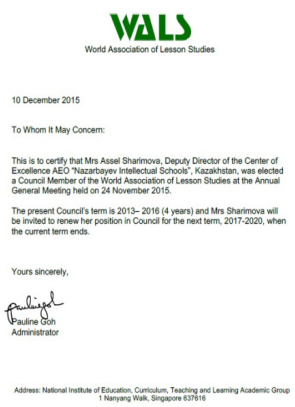
| Schools | Number of teachers, passed through assessment | | | Total | Number of teachers, recommended for certification | | | Total |
|---|---|---|---|---|---|---|---|---|
| | Level 3 | Level 2 | Level 1 | | Level 3 | Level 2 | Level 1 | |
| **comprehensive schools** | 9 137 | 968 | 3 129 | 13 234 | 8 649 | 834 | 2 437 | 11 920 |
| **NIS schools** | 1 020 | 155 | 88 | 1 263 | 970 | 154 | 75 | 1 199 |
| **RSPMBS** | 14 | 18 | 7 | 39 | 14 | 18 | 6 | 38 |
| **Total** | **10 171** | **1 141** | **3 224** | **14 536** | **9 633** | **1 006** | **2 518** | **13 157** |

**Methodological handbooks** on teacher assessment, on filling out Level 3, 2, 1 teacher portfolio summative assessment rubrics by trainers, on development, and on the validation and analysis of test items were issued during the multi-level courses.
Since 2015, 54 Kazakh and Russian question papers were created for the **Qualifying Examination** from those test items which passed validation and analysis. The analysis of test items was computerized with a help of the Winsteps program within IRT. This program allows to define psychometrical characteristics of test items with a small deviation in measurement among a huge number of test takers on the basis of integral consideration of test.
In 2015, a group of examiners participated in two professional development courses.
In total, from 2014 to 2015, 29,385 teachers were recommended for certification.

*Table: Number of teachers, recommended for certification*

| Course Level | 2014 | 2015 | Total |
|---|---|---|---|
| **Level 3** | 9 281 | 9 633 | 18 914 |
| **Level 2** | 4 094 | 1 006 | 5 100 |
| **Level 1** | 2 853 | 2 518 | 5 371 |
| **Total** | **16 228** | **13 157** | **29 385** |

## Implementation of Lesson Study



WALS
World Association of Lesson Studies

10 December 2015

To Whom It May Concern:

This is to certify that Mrs Assel Sharimova, Deputy Director of the Center of Excellence AEO "Nazarbayev Intellectual Schools", Kazakhstan, was elected a Council Member of the World Association of Lesson Studies at the Annual General Meeting held on 24 November 2015.

The present Council's term is 2013– 2016 (4 years) and Mrs Sharimova will be invited to renew her position in Council for the next term, 2017-2020, when the current term ends.

Yours sincerely,

Pauline Loh
Administrator

Address: National Institute of Education, Curriculum, Teaching and Learning Academic Group
1 Nanyang Walk, Singapore 637616

Since the implementation of the multilevel training programmes for the teaching staff of the Republic of Kazakhstan, Lesson Study has been introduced as a new approach.

On 24 November 2015, at the Association of Lesson Studies annual conference, the Deputy Director of International Projects in CoE was made a member of the WALS Council: **http://walsnet.org/council-members.html.**

The WALS website can be found at: **http://walsnet.org/.**

**2. The in-service training programme for comprehensive secondary school principals in Kazakhstan** (Leadership Programme)

In the reporting year, **956** principals were enrolled in the programme; **9** continued their training, having not completed it previously; and **660** principals who began their training in 2014 completed it.

This programme included more than 70% of the principals from K-12 comprehensive schools across the country. The programme is scheduled for completion in 2016, with in addition the start of the training of the leadership of the ungraded schools, taking into account the features of these organizations

*Figure. Numbers of principals trained in 2014 - 2015*

| Trainee category | 2014 | 2015 | Барлығы |
|---|---|---|---|
| Kazakhstan school principals | 583 | 660 | **1 243** |

**3. Programmes in the context of secondary education reform in Kazakhstan**

**Training trainers and teachers in context of secondary education reform in Kazakhstan**

With the implementation of the in-service training programs for teaching staff in the context of secondary education reform in Kazakhstan, **768** trainers collectively taught **1 859** Kazakh educationalists from June to November 2015, including:

- 1,091 teachers;
- 84 principals and vice principals from the 30 pilot schools;
- 500 methodologists and professional staff of the boards of education and local education authorities and programme offices from Almaty, Astana and the regions;
- 184 experts on the organization of the monitoring of the implementation of secondary education reform.

*Figure. Number of trainers, by educational organizations*

| Educational Institutions | Number of trainers |
|---|---|
| CoE and its branches | 185 |
| NIS schools | 49 |
| Altynsarin NAE | 19 |
| Orleu and its branches | 262 |
| Other educational organizations | 253 |
| **Total:** | **768** |

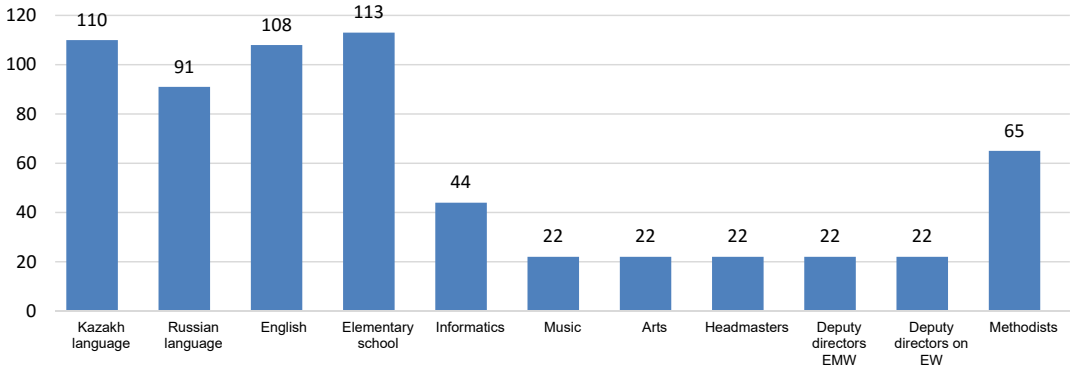
*Figure. Numbers of trainers and teachers, by region*

| № | Region/Province | Number of trained | |
|---|---|---|---|
| | | trainers | teachers |
| 1 | Astana | 77 | 141 |
| 2 | Almaty | 66 | 62 |
| 3 | Akmola region | 40 | 104 |
| 4 | Aktobe region | 47 | 120 |
| 5 | Almaty region | 54 | 115 |
| 6 | Atyrau region | 32 | 93 |
| 7 | East-Kazakhstan region | 57 | 121 |
| 8 | Zhambyl region | 44 | 134 |
| 9 | West-Kazakhstan region | 44 | 135 |
| 10 | Karagandy region | 41 | 131 |
| 11 | Kostanay region | 40 | 97 |
| 12 | Kyzylorda region | 50 | 135 |
| 13 | Mangistau region | 28 | 106 |
| 14 | Pavlodar region | 36 | 108 |
| 15 | North-Kazakhstan region | 38 | 89 |
| 16 | South-Kazakhstan region | 74 | 168 |
| | **Total:** | **768** | **1 859** |

## 4. The training of staff of the educational institutions of Kyzylorda region

Within the terms of the Memorandum on Cooperation between Nazarbayev Intellectual Schools AEO and Kyzylorda Region Akimat, training courses were organized for **641 teachers** from the Kyzylorda region at the CoE branch in Kyzylorda.

*Numbers of trainees by subject and position*



In March 2015, The Transformation of the Educational Environment, a national-level seminar was held with more than **300 teachers** from Kyzylorda region in attendance.

**5. The training of experts from the Uchebnik National Textbook Center.**

**227 experts** from the Uchebnik National Textbook Center were trained on the national educational reforms.

**6. In-service programme for the teaching staff of the higher education institutions in Kazakhstan.**

Under this programme, prepared on the basis of the multilevel training programmes, **298 trainers** from 18 universities of the country were trained with the participation of experts from Cambridge University.

**7. 250 academic staff** from 25 colleges were enrolled **in the programme for the trainers on Program of Additional Professional Education for liberal arts college graduates** and **250 academic staff** from 19 Kazakhstan universities were enrolled in the **programme for the trainers from teaching staff of higher education institutions, conducting teacher training.**

**8. 8 045 students** from 18 universities were trained **on programme of additional professional education of graduate students of universities, conducting teacher training,** developed on the basis of the multilevel in-service training courses.

## 8.3. PROFESSIONAL DEVELOPMENT OF TRAINERS

NIS carries out systematic work in building the capacity of trained trainers. During the reporting period, work continued in providing mentoring services by experts from the Faculty of Education of Cambridge University in the five branches of CoE and Orleu in Kokshetau, Taraz, Uralsk, Taldykorgan and Petropavlovsk.

**9 experts** from the Faculty of Education of Cambridge University delivered mentoring to 35 trainers who work on the multilevel programmes.

**7 experts** of the Faculty of Education of Cambridge University delivered mentoring to 20 trainers who work on the leadership programme.

The experts held seminars and training sessions where trainers were familiarized with the practical skills of planning, evaluation, conducting coaching and the integration of subject knowledge with the pedagogical content of multilevel programmes.

## 8.4. POST-COURSE SUPPORT OF TEACHING STAFF

Training of teachers is accompanied by the post-course support, designed to:

- Create a common information space where teachers and groups of educational organizations can network;
- Further improve the knowledge and skills of teachers;
- Intensify efforts to improve school practice;
- Respond flexibly to teachers' challenges and the arising needs of Kazakhstani schools.

In each region, **632 top schools** (TS) were identified; and around them professional communities of certified teachers have been created, focusing on work with 8-10 magnet schools.

18 regional seminars and forums and 4 regional competitions were organised.

*Figure. Number of events organised by the branch trainers as part of post-course support for certified teachers*

| Regional events | | Seminars and roundtables | | Coaching sessions | | Workshops | | Schools visited | | Lessons attended | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | At Top Schools | **Total** | At Top Schools | **Total** | At Top Schools | **Total** | At Top Schools | **Total** | At Top Schools | **Total** | At Top Schools | At NIS |
| **21** | 21 | **209** | 146 | **406** | 285 | **308** | 2 015 | **731** | 511 | **2 366** | 1 305 | **501** |

**Formative Evaluation**

During the implementation of the **In-service training programme for school principals,** CoE trainers travelled to different regions to provide formative evaluation of the trainees' activities. This procedure involved **808** school principals.

In the course of the formative evaluation, the trainers attended **1 376** lessons, **553** coaching sessions and **326** workshops. A total of 1 156 interviews were conducted with teachers, **1 328** with students and 520 with parents

## 8.5 MONITORING OF THE QUALITY OF PROGRAMME IMPLEMENTATION

Monitoring continued in order to assess the quality of the content and the effectiveness of the training programmes. This was conducted both during and after the courses by gathering information from certified teaching staff, their colleagues, heads of educational institutions, parents and students.

217 007 respondents took part in the monitoring process, including:

- 12,441 – in relation to the multilevel programme;
- 1 576 – in relation to the programme for principals;
- 298 - in relation to the programme for the teaching staff of the universities;
- 2692 – in relation to the programme for secondary education reform.
- 140,600 respondents were involved in post-course monitoring, including:
- 83,725 in relation to the multilevel programmes;
- 48,530 in relation to the programme for school principals;
- 8345 in relation to the programme for the teaching staff of the universities;

In 2015, **six books** were published detailing the results of the above monitoring studies.

**According to the results of monitoring:**
1) 97.8% of certified teachers and head staff acknowledged the effectiveness of the use of acquired knowledge in practice;
2) 95% of certified teachers and principals noted improved skills in the effective use of new techniques and technologies of learning, reflected in their teaching practice and developing criteria for evaluation of students' achievement;
3) 94.7% of certified teachers noted an increase in their level of proficiency in planning for modern methods of teaching, research, analysis and assessment activities;
4) 83.7% of parents noted that their children showed increasing interest in learning, improving results;
5) 92.8% of students say that certified teachers' classes are dynamic, engaging at all times and do not cause boredom.

**The results of monitoring lead to the following conclusions:**
1) The content and format of courses promote a change in professional settings; transform the way in which teachers see their own teaching practice; promote self-analysis skills; and promote peer education.
2) The format of the courses is mostly aligned to practice.
3) The integrated use of the seven themes of the Multilevel Programmes is effective and contributes to enhanced student achievement and the formation of the skills of critical understanding, analysis and formulation of valid conclusions.
4) Students are taught in a structured system of «assimilation - testing - consolidation».

*The effectiveness of in-service training courses is supported by pupils' attainment results:*

*88% of schools examined (sample size: 674 schools) demonstrated improvement in their UNT scores.*

# 8.6. OUTREACH FROM THE NAZARBAYEV INTELLECTUAL SCHOOLS RESOURCE CENTER TO THE COUNTRY'S SECONDARY SCHOOLS

## PUBLICATION OF THE RESEARCH JOURNAL "PEDAGOGICAL DIALOGUE"

As part of the approach to sharing experience, the research journal 'Pedagogical Dialogue' is published quarterly in Kazakh, Russian and English. It is dedicated to the issues of teaching methodology and pedagogy in general.


Number №1 (11) on the topic of Effective Planning.


Number №2 (12) on the topic of Information and Communication Technologies in Teaching and Learning.


Number №3 (13) on the topic of Training of Colleagues: Coaching and Mentoring.


Number №4 (14) on the topic of the VII International Research-into-Practice Conference at NIS AEO themed 'Education: Research and Sustainable Development'

In 2015, four issues and 8 000 copies of the journal were published.
The journal publishes articles by teachers-practitioners and scholars from both domestic and foreign educational organizations.

*Table. Journal authors, by category*

| Issue Number / Author categories | №1 | №2 | №3 | №4 | Total | |
|---|---|---|---|---|---|---|
| | | | | | Number | % |
| NIS teachers | 11 | 7 | - | 1 | 19 | 32,3% |
| Comprehensive school teachers | 1 | - | 1 | - | 2 | 3,3% |
| CoE staff | 4 | 4 | 4 | 3 | 15 | 25,4% |
| University faculty | - | 3 | 2 | - | 5 | 8,4% |
| Foreign experts | 1 | 1 | 5 | 6 | 13 | 22% |
| Staff of educational institutions of Kazakhstan | 3 | 1 | - | 1 | 5 | 8,4% |
| **Total:** | **20** | **16** | **12** | **11** | **59** | **100%** |

### The publication of methodological literature

As part of the creation of a collection on teaching practice, publication work continued.

*Table. Number of educational materials published*

| № | Year | Number of educational materials published by CoE staff |
|---|---|---|
| 1 | 2014 | 50 |
| 2 | 2015 | 60 |
| | **Total:** | **110** |

In 2015, **60** books were published: 50 teacher guides; 9 monitoring studies; and one collection of essays. "Graphic Geometry of Kazakhstan" was also published for first-grade pupils as part of the programme of the reform of primary education..

## ONLINE LESSONS AND SEMINARS

494 online lessons were conducted in 2015. The educational practice of teachers of NIS schools was shared in this way.

During the reporting period, 48 online seminars were held on criteria-based assessment in relation to the following subjects: Mathematics, Physics, Chemistry, Biology, Elementary School, Kazakh, Russian, English, Global Perspectives and project work, Informatics and Arts. This related to grades 1, 2, 7, 8, 9, 11 and 12.

> All the materials from the online seminars and lessons are available and accessible on the portal at: **http://moodle.nis.edu.kz/.**

> Training videos and movies which were created by teachers are placed on the NIS for You channel on **youtube.com portal.**

## SCHOOL LIBRARIES

One of the aims of the dissemination is introduction of new techniques into school library practice, forming partnership relations, and the development of the country's library science in the context of international practices.

In order to improve the quality of library services and to form a positive impression of school libraries, NIS schools shared their experience with librarians of secondary and pilot schools, as well as students of library department of colleges and universities.
During the Bookcrossing annual initiative (Білімнің көзі – кітапта) conducted by NIS students, more than 8 700 fiction, non-fiction books and encyclopedias were presented to 39 secondary schools. This campaign is a tool to implement the idea of sharing books after reading among the students nationwide.

### INTERACTION WITH THE MASS MEDIA

According to statistical analysis of mass media output, as of November 19, 2015, 218 articles had been published on teachers' professional development, including 37 in national papers, 158 in regional papers and 23 online, including articles on:

- updating of secondary content;
- new methods of teaching;
- sharing pedagogical experience;
- school management.

## 8.7. SUPPORT OF TEACHING STAFF COMMUNITY NETWORK AND EDUCATIONAL PORTAL

There was continued work on the development of the trainee's community network of in-service training programme courses on the educational portal **www.cpm.kz.**
During the reporting period, new sub-sections in the in-service training programme were developed as follows:

- Teacher training as part of the programme of additional professional education of the graduate students of universities; and,
- In-service training programmes for teachers in the framework of the updated content of secondary education.

The materials for each programme are available in three languages (Kazakh, Russian and English) in a single browser page that contains: a pdf version of the course programmes; trainer's and student's manual; tasks for school-based practice (universities); and structured weekly handout material.
This year saw the beginning of the social networking environment. This took the form of blogs on the portal. Over the reporting period, 46 blog entries were posted.

From January to December of this year, there were **591 105** visits to the portal and **61 600 registrations.**

| № | Reporting year | Number of registered users | Number of visits |
|---|---|---|---|
| 1 | 2014 | 39 000 | 331 077 |
| 2 | 2015 | 61 600 | 591 105 |

In 2015, in addition to the database of teaching staff, data from the in-service training programme of the teaching staff and heads of the national educational organizations were developed:

- A database of university faculty and students was developed in the context of the additional professional education courses for teaching college graduates;
- A database of teaching staff in the context of the reforms to the system of secondary education; and,
- A database of our own in-service trainers.

For the effective functioning of **the trainers' community** on the **portal,** moderation processes are carried out through the **trainers' community** network of the multilevel programmes, the programme for principals and secondary educational reform programme. Work on the portal provides an opportunity for principals and teachers to improve their pedagogical skills through the exchange of experience and cooperation; and also discussion in online and offline mode.

On the portal, trainers held:

- **19 webinars** involving **388 participants.**
- **15 masterclasses.**

These activities focused on the development of teachers' and students' reflective skills; the formation of the ICT competencies of teachers; the development of critical thinking; creating a collaborative environment in the classroom; mentoring and coaching; planning and goal setting; leadership and management at school level; and post-course support of leading/supporting schools through the implementation of in-service training programmes.

The number of **electronic teaching materials** increased, with 700 materials containing the best lessons from NIS teachers trained in the framework of levelled courses. In total, there are 900 study guides were created.

The subjects with most study guides available on the website are: Kazakh Language and Literature (19%); Russian Language and Literature (19%); Mathematics (14%); and Biology (10%).

**The Development of Teaching and Learning Portal (TLM portal)**

A module for the 30 pilot schools has been released on the TLM Portal as part of the project on piloting the NIS education model. The portal can be found at **http://sk.nis.edu.kz/.**

The portal contains the samples of 100 lessons, 400 teaching materials, workshops, teaching practice guidelines in all primary school subjects, digital educational resources and other materials for primary school teachers. Teachers are instructed on how to work with the portal.

The Discussion Platform module is implemented at the portal and includes the following:

- questions on working with the portal;
- assessment system;
- electronic journal;
- pilot schools principals;
- a consulting service from the National Academy of Education;

- criteria-based assessment system;
- methodology and technology of teaching;
- general questions on textbooks;
- organizational issues of approbation;
- the content of subject programmes and course plans; and,
- textbook series for primary school subjects.

The TLM portal contains more than 100 lesson plans and relevant materials (presentations, didactic, audio and video resources) to provide methodological support to teachers in the approbation of State Educational Standard for primary education (SES PE) and the subject programmes. The online platform is also used to advise the teachers of the 30 pilot schools, to create a positive environment for cooperation and experience sharing with NIS teachers.

## 8.8. CONFERENCES

Nazarbayev Intellectual Schools holds an annual International Research-to-Practice conference and its August Conference for NIS teachers.
The conferences cover key topics and trends in the field of secondary education, content of education, and assessment of learners' achievements, leadership, and teachers' professional development.

The programme for the 8th International Research-to-Practice Conference themed Education: Research and Sustainable Development included the following: Primary Education Reform, Assessment, Curriculum Innovations, Pastoral Work and Student Wellbeing.


The conference was attended by NIS's strategic partners, including Nazarbayev University, University of Cambridge, Cambridge International Examinations, Institute for Educational Measurement Cito, Johns Hopkins Center for Talented Youth CTY, the central office of the International Baccalaureate, University College London (UCL), University of Pennsylvania (United States).
For the first time the Conference was attended by participants from the Netherlands Institute for Curriculum Development (SLO), Rhodes University (South Africa), College of Education, Lehigh University (United States), University of the Basque Country (Spain) and others.

> Conference materials are available on the website **http://conference.nis.edu.kz/october2014ru/**

At the annual National August Pedagogical Conference entitled "New educational programmes, innovations and competence approach – steps to a successful school", NIS organized an exhibition of teaching materials and educational resources developed for its 30 pilot schools (subject programmes for primary school and Grade 1 course plans, digital educational resources, and textbook series).

Workshops on primary school subjects were provided as part of the exhibition, where different ways of organising learning activities were presented with the use of available material. The TLM portal was also demonstrated.
In order to build teachers' Kazakh language capacity and to enable practical application of multilevel teaching of the national language, NIS held a national-level forum entitled "Innovative approaches in teaching the Kazakh language: the experience of Nazarbayev Intellectual Schools" which attracted more than 300 teachers from comprehensive schools from throughout the country.

## 8.9. UPDATING THE CONTENT OF EDUCATION IN THE REPUBLIC OF KAZAKHSTAN

In 2015, NIS continued its systematic work on translating the experience of Nazarbayev Intellectual schools to the national secondary education system as a whole. Planned activities were carried out in three areas:

1) the development and revision of state educational standards, subject programmes and course plans;
2) teacher training;
3) participation in national and regional conferences, roundtables devoted to educational reform.

The following documents were developed:

- state standards for primary, lower secondary and higher secondary education;
- 17 subject programmes and 12 course plans for primary school;
- 21 subject programmes and 16 course plans for lower secondary school;
- a programme of pre-school education;
- Guidelines on criteria-based system of assessment for schools of Kazakhstan;
- 20 documents on criteria-based system of assessment for learners of Grade 1: 18 teaching practice guidelines and two teacher guides.

The following documents were checked:

- 79 seminars on the development and revision of subject programmes and course plans, 18 seminars on subject programme and course plan review;
- three training seminars for 218 teachers of pilot schools on the work with the subject programmes in all subjects of primary education.

Primary school teachers, teachers of ICT, the Russian, Kazakh and English languages of pilot schools have been trained on criteria-based system of assessment.
The methodology behind the monitoring of the approbation of SES PE has been approved;

an electronic journal has been introduced in July for the new model of criteria-based system of assessment.

To provide resource support to teachers of the 30 pilot schools a library containing 38,600 copies of textbook series and teacher handbooks was prepared and submitted to schools containing the following:

- 1 768 syllabi;
- 1 360 course plans;
- 962 teacher handbooks;
- 2 250 guidelines;
- 32 235 textbook series (textbooks, workbooks).
- Collections of normative documents on the approbation of SES PE,
- Guidelines on the methodology of monitoring the approbation of SES PE in 2 languages,
- Illustrative geometry of Kazakhstan – a textbook.

Teachers of 30 pilot schools received the Library of Teaching Materials on CD. It contained the following:

- teaching and learning materials;
- workshops on 10 subjects;
- a collection of 50 Kazakh tales and epic poems;
- a collection of 50 children's songs, Bakytty balalyk shak ("A happy childhood");
- Kazakh national cognitive games aimed at implementing the values of national idea, Mangilik El (10 lesson plan samples)
- an animated 20-serial cartoon, Kazakh Yeli, based on the book by the President of the Republic of Kazakhstan, In the Stream of History (for teachers of World Understanding, Kazakh language, Literature).

Thus, the pilot schools have been fully resourced for the educational reform process.

**The approbation of primary school education programmes in the 30 pilot schools has been ongoing since 1st September 2015.** The approbation involves 143 groups of Grade 1 students, a total of 3 452 first-graders, and 433 first-grade teachers.

In September 2015, diagnostic monitoring was held to define the level of knowledge and skills of first graders in pilot and control schools across the country.

In order to provide methodological support to the teachers of 30 pilot schools during the first six months of the approbation, NIS organized and conducted **277 seminars for around 4 300 pilot school teachers,** and **140 training sessions for 1 800 teachers** on a variety of topics.

A group of NIS teachers provided **319 workshops** for the pilot schools in order to introduce new methods and approaches to teaching, including **146 lessons demonstrating team teaching.**

Methodologists from Nazarbayev Intellectual Schools observed **474 lessons of pilot schools teachers** to provide practical assistance.

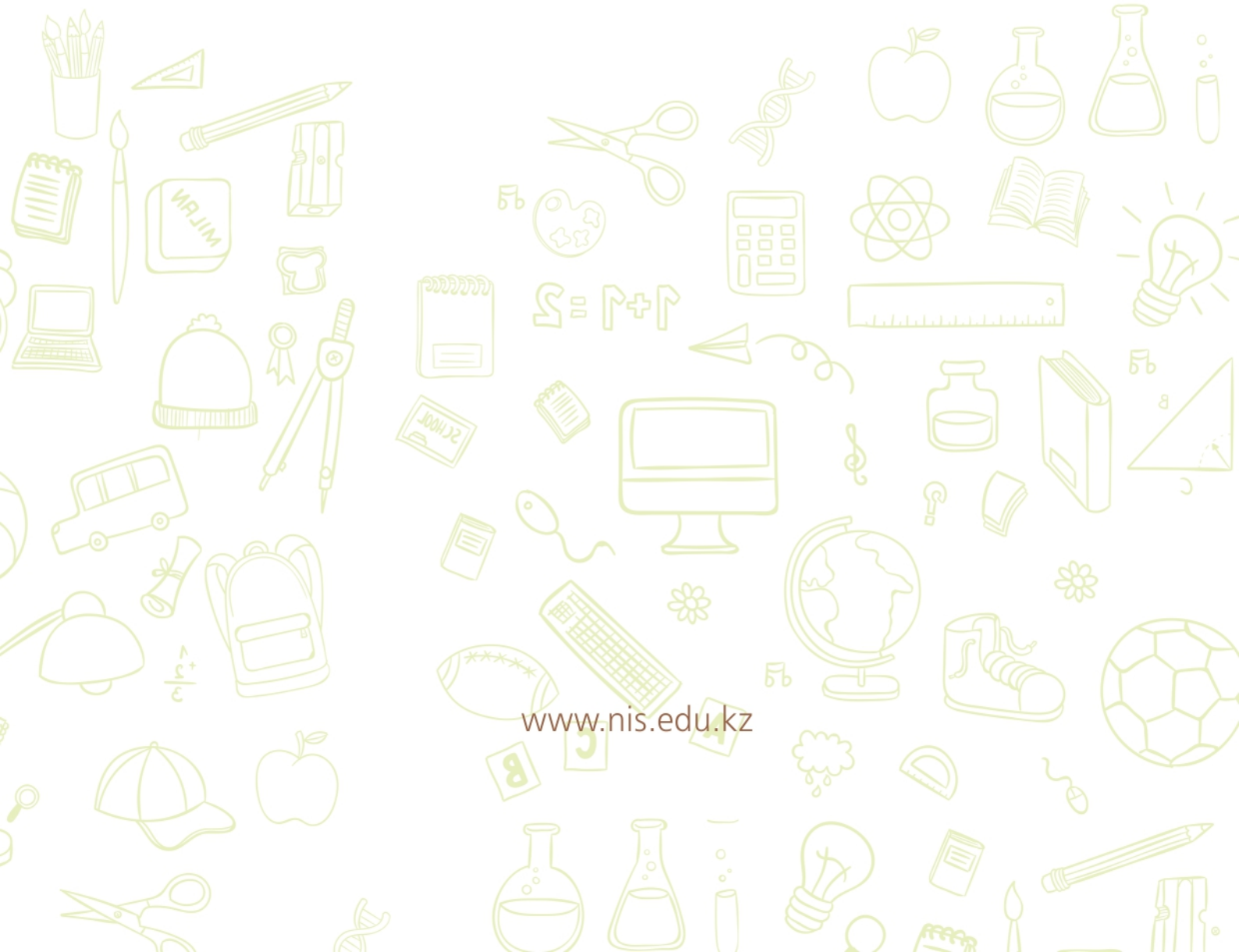
**Language courses in the English language** were organized for 138 subject teachers **in 24 schools.**

*NIS established a consulting service (consisting of authors and developers of subject programmes, textbook series, assessment system), which provides support and advice for teachers of the pilot schools at the forum: sk.nis.edu.kz*

Thereby, the following key indicators of the NIS Development Strategy were achieved in the reporting period:

- The establishment of a network of 20 Nazarbayev Intellectual Schools;

- NIS Astana receiving authorization to deliver the IB Middle Years Programme;
- Approbation of Integrated Educational Programme, and the development and review of subject programmes and course plans;
- Cooperation with partner schools: the SUPER Partner Schools of the University of Cambridge, Faculty of Education, United Kingdom; Silicon Valley Innovation Center, San Mateo, Silicon Valley, California, United States; Center for Gifted Children PERMATApintar, Malaysia; Zhautykov National Physics and Mathematics Boarding School for Gifted Children;
- Draft versions of textbook series on languages were developed jointly with the Cambridge University Press for Grades 1 and 4;
- 9 870 pages of learning materials developed by the authors were edited in the Kazakh and Russian languages;
- 44.5% of teacher are able to work in both the Kazakh and Russian languages;
- 220 Kazakhstani teachers teach in English;
- 420 teachers are certified teacher trainers;
- 1 321 students won national and international academic competitions and scientific projects contests;
- the system of competitive selection of learners in Grade 7 of Nazarbayev Intellectual Schools and the system of monitoring learner achievements operate successfully;
- NIS alumni are successfully admitted to Russian, Kazakh and English language higher educational institutions;
- a network community of teachers is functioning; and,
- the experience of Nazarbayev Intellectual Schools is being transferred to the system of secondary education in the country.



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