

# The improvement of the secondary education curriculum of Kazakhstan in the context of modern reforms

Fourth Report  
on the research collaboration between  
University of Cambridge Faculty of Education  
Nazarbayev University Graduate School of Education

October 2015

**SHORT VERSION**

**PART ONE**

## **Acknowledgements**

The research team gratefully acknowledge the support provided for this research by the Ministry of Education and Sciences of the Republic of Kazakhstan through Nazarbayev University Graduate School of Education.

They also acknowledge the ready and fulsome contributions to the research made by colleagues at all levels in the education system from the Ministry of Education and Science through Oblast and Rayun administrators and colleagues in universities, pedagogic institutes and schools.

Finally, they are extremely grateful for the support they have received from staff at Nazarbayev University, in particular, Aida Sagintayeva, Kairat Kurakbayev, Assel Kambatyrova and the team in Astana, and colleagues in the Cambridge Faculty of Education, including Head of Department, Professor Geoff Hayward, Director of International Programmes, Mike Younger and our administrators, Laura Carnicero and Chloë Gayer-Anderson, not least, in the case of our administrators for their part in the final editing and compilation of this report.

## **The research team**

### *University of Cambridge*

Professor David Bridges (Research Director)

Dr Olena Fimyar

Dr David Frost (Principal Investigator)

Dr Ros McLellan

Dr Fay Turner

Dr Liz Winter

Dr Natallia Yakavets

### *Nazarbayev University Graduate School of Education*

Professor Carole Faucher

Leila Iyldyz

Aimzhan Iztayeva

Assel Kambatyrova

Daurenbek Kuleimenov

Dr Kairat Kurakbayev (Principal Investigator)

Aidar Khoroshash

Alfira Makhmutova

Tolkyn Omarova

Dr Aida Sagintayeva

Aray Saniyazova

Dr Duishonkul Shamatov

Arailym Soltanbekova

Dr Daniel Torrano

Madina Tynybayeva

## **The research partnership**

This research arises out of a partnership between the University of Cambridge Faculty of Education, University of Pennsylvania Graduate School of Education and the Graduate School of Education at Nazarbayev University. The partnership is aimed at supporting the establishment of the Graduate School and ensuring that both its taught programmes and research meet international standards. University of Pennsylvania's focus is on teaching and research in higher education and University of Cambridge's focus is on school level education. Although we have run research workshops, our main focus is on developing research experience and capacity by working collaboratively through every stage of the research process from project design through to publication and dissemination.

In 2015 we have been very happy to include in the research team colleagues in the Research Institute who normally carry mainly administrative duties and doctoral students as well as established staff of the Graduate School of Education.

## **The context, purposes and focus of the research**

The context for the research is that of a major programme of educational reform in Kazakhstan aimed at schools. This programme includes:

- the extension of the period of schooling to 12 years;
- the development of a new curriculum and reform of the structure of assessment;
- the implementation of a tri-lingual policy in schools;
- the development of a new raft of selective schools for talented and gifted children, the Nazarbayev Intellectual Schools with innovative curricula and assessment;
- the ‘translation’ of experience from these schools to mainstream schools;
- a major programme of in-service education of teachers under ‘Centres of Excellence’;
- the beginnings of attempts at the reform of teacher education;
- improvements in the selection of students for higher education and in their successful transition between school and higher education.

In 2015 we continued to investigate student assessment, with a special focus on its role in determining who enters higher education and who receives scholarships for this purpose. We were aware, however, of alarmingly high drop-out rates among students (especially students from rural areas) in their early experience in higher education, and we sought to understand what was happening and how universities might address the problem. Finally, we looked at the nature of pre-service teacher education and its fit with the changing curriculum and changing approaches to the professional preparation and development of teachers. These are the three themes on which we report in Part Two of this report.

## **The conduct of the research**

In 2015, more than in any previous year, we functioned as three fairly separate teams with their own focus and tasks: on assessment, on teacher preparation and on social aspects of transition from school to university. For this reason we shall explain the conduct of the research and the methods used separately for each area of research.

However, all three teams were concerned in different ways with the interface between higher education (including teacher education institutions) and schools. Though we concentrated in our field research on collecting data related to our own topics, there was of course considerable overlap. We shared data where appropriate and when it came to the writing

workshop in particular reviewed collaboratively each other's ideas and progress in the production of papers.

In advance of the field research each small thematic team identified key research questions around which they hoped to gather data. Our field research was mainly concentrated on one set of field visits in April 2015, though the 'social aspects' team had a second field visit and other colleagues took advantage of visits to Kazakhstan for other purposes to supplement their data. We also drew on data collected in previous years of the research collaboration, much of which was relevant to this year's themes.

We visited different cities and rural locations in Kazakhstan during the course of this year's research in five locations in different parts of Kazakhstan.

- The assessment team visited two cities and a total of five universities;
- The transition team visited three regional cities, one town and seven villages and a total of twelve schools and five universities;
- The pre-service teacher education team visited three higher educational pedagogical institutions and two pedagogical colleges in two locations.

Most of this was conducted through the medium of interviews with staff and students of universities and pedagogic institutes and in schools but also included focus group interviews and surveys. In total we conducted around 190 interviews/focus groups.

- The assessment strand research team conducted 41 HE interviews/focus groups in 2015. Of these 23 were transcribed. These data were extended by drawing on nine transcripts of especially relevant 2014 HE data as supplement thereby making a final dataset of 32 interviews/focus groups to support insight and understanding of the perspective of staff and students in HEIs. The research design was a mixed methods approach and to compliment the qualitative data, two surveys were distributed to HE undergraduates and HEI staff to provide breadth as well as depth of data. Thus qualitative and quantitative data were seen to complement each other.
- The assessment strand team generated two fully operational online surveys in 2015: one directed towards HEI staff and one to HE students. Despite 94 direct email requests to HEI staff producing 20 full responses and a very promising response rate of 21%, gatekeepers at some HEIs appeared not to pass on the survey's details. Therefore sufficient HEI staff data across all institutions visited were not available. The student survey was even more disappointing in terms of recruitment and only 14 responses were received from a direct request to 371 students. Again, this gave insufficient data for analysis and prompted further concerns over some institutions' gatekeepers' distributions of the survey's weblink plus whether an online survey was the most suitable format. The low return rates compromised the original research design for 2015 so recourse was taken to postpone delivery of the surveys to later in

either 2015 or early 2016 when results could be fruitfully combined with the qualitative HE data collected in 2015;

- The transition team conducted 54 focus groups with 212 schools students and 89 university students, as well as 24 interviews with university staff.
- The transition team generated 2 survey instruments for schools and HE; the hard-copies of the school surveys were distributed to 246 school leavers in 8 schools. The response rate was 100%. The University survey was developed as an online tool and it will be distributed again in 2016.
- The pre-service education team conducted 40 interviews and 2 focus groups with teacher-educators and 7 focus groups with teacher-students. In addition, 23 interviews and focus groups with teacher-educators and teacher-students were conducted with a specific focus on tri-lingual education. The total number of interviews and focus groups conducted in April 2015 is 72. Furthermore, the empirical data collected over the last three years from extended semi-structured interviews with key stakeholders were included in the analysis. In addition, the pre-service team has done an extensive analysis of documentary evidence of different kinds: course manuals; programme descriptions; textbooks used in teacher education; and Centre of Excellence course books.
- The pre-service education team developed four survey instruments which were imported into Qualtrics software and were completely operational online. The surveys were directed at: (i) HE staff (teacher-educators); (ii) final year student-teachers; (iii) mentors in schools and local educational authority responsible for student-teachers practicum (placement); and for support of early career teachers; and (iv) early career teachers (from 1 to 5 years in post). The recruitment of participants to respond to online surveys was a big challenge. With support and assistance from Centre of Excellence trainers it was possible to receive 248 responses from teacher-educators from 18 HEI across Kazakhstan. The response to the students' survey was not sufficient for analysis and we encountered administrative problems with the distribution of the other surveys. We hope however to gather the data from these surveys later in 2015 or in 2016.

With this substantial data set to hand (most of it coded using NVivo and SPSS software) we could then interrogate the material and write about the issues that interested us.

## Synopses

The following section contains synopses of the research papers.

### **A test of learning, certification or accountability? Perceptions of standardized testing in Kazakhstan**

Liz Winter, Ros McLellan (University of Cambridge Faculty of Education), Daniel Torrano, Daurenbek Kuleimenov, Arailym Soltanbekova, & Madina Tynybayeva (Nazarbayev University Graduate School of Education).

This paper sets out to examine the application of a Western construct of the three primary purposes of national summative assessment to post-Soviet context undergoing educational reform. These purposes are defined as assessment for: learning; certification and school accountability (Black, 1998). Research among school teachers and students in Kazakhstan resulted in qualitative data comprising 51 interviews and focus groups obtained from various types of schools. The dataset was designed to satisfy research questions on how the three purposes were met by the current national school-leaving assessment tool, the Unified National Test (UNT). A fourth area of discussion was how continuity of assessment was managed between the school system and a newly Bologna Process-compliant higher education sector (EHEA, 2012). Results indicated that the UNT was unable to satisfy all three purposes effectively, or to prepare students adequately in a learning-outcomes approach to assessment. Although the UNT was a step forwards in providing comparison data at a national level and improving equitable access for students to universities, it was overly reductionist in how it represented the curriculum and thus was unable to act as a meaningful form of certification, or for accountability purposes. Fundamentally, the UNT failed in terms of being able to fully represent a student's learning at school since many subjects were not included and no account was taken of which of the two curriculum strands students had followed. The UNT particularly failed to provide the capability for students to demonstrate skills beyond memorisation, or to reliably identify students who either had specific abilities in subject specialisations or who had the most potential to benefit from the more advanced cognitive and communication demands found in higher education. Recommendations are provided at the end of the paper to suggest ways forward, as well as a critique of the application of a Western construct of educational assessment in an untried context.

### **Pre-service teacher education and its appropriateness to the requirements of the new curriculum and the education reform agenda in Kazakhstan**

David Bridges, Natallia Yakavets (University of Cambridge Faculty of Education), Kairat Kurakbayev & Duishonkul Shamatov (Nazarbayev University Graduate School of Education). Assel Kambatyrova and Leila Iyldyz were part of the team in the field visits and participated in the writing workshop but are producing their independent report focussed on the response of teacher education institutions to the requirements of tri-lingual education.



Within the general research theme “Secondary education curriculum in the context of contemporary reform in Kazakhstan” this paper explores the current state of pre-service teacher education in Kazakhstan pedagogical institutions with a particular focus on the professional knowledge requirements that underpin current practice in initial teacher education in Kazakhstan. We examine how pedagogical institutions prepare future teachers to teach in secondary schools and whether they are prepared to work according to the current reform initiatives. The study examines what knowledge, skills and understanding future teachers receive during pre-service teacher education, how they develop their pedagogical and content knowledge and how the knowledge gained through pre-service teacher education prepares them to work in secondary schools in Kazakhstan. The paper draws on empirical data collected over the last four years derived mainly from extended semi-structured interviews with policy-makers, teacher educators and focus groups with student teachers. The study used an online survey of 248 teacher-educators from 18 higher educational institutions across the country. The paper examines two contrasting portrayals of the ‘constructs and construction’ of teachers’ professional knowledge and explores the question what happens when two contrasting practices encounter each other in the wider educational and professional culture of Kazakhstan. Tentative suggestions for policy-makers and practitioners are discussed.

### **The social aspects of transition from school to Higher Education: The focus on rural multi-ethnic communities in Kazakhstan**

Olena Fimyar (University of Cambridge Faculty of Education), Carole Faucher, Aimzhan Iztayeva, Alfira Makhmutova, Aray Saniyazova (Nazarbayev University Graduate School of Education) and Olga Mun (Central European University, Hungary and University of Cambridge Faculty of Education).

This paper is a part of a larger study looking at the social aspects of transition from school to higher education in Kazakhstan. Understanding the factors influencing student retention and drop-out remains high on the government’s agenda. The link between rural/urban inequalities and difficulties in transitioning to higher education are highlighted in national and international reports, including the Reviews for National Policies in Education: Higher Education in Kazakhstan (OECD and World Bank, 2007), Analysis of Common National Testing Results (MES, 2012a) and the Roadmap Diagnostic Report on the Strategic Directions for Education Reforms in Kazakhstan for 2015–2020 (Ayubayeva et al., 2013). According to the National Report on the Status and Development of Education, drop-out rates across the country, while decreasing steadily between 2007 and 2010, rose by 1 per cent to 11.9 per cent in 2010/11, with 13.6 per cent of students withdrawing from privately-funded higher educational institutions and 10.2 per cent withdrawing from state-funded higher educational institutions (MES, 2012b, p. 68). The key question that the study aims to address is: what factors affect student retention in science, technology, engineering, and mathematics (STEM) subjects in higher education in Kazakhstan? The study uses Bourdieu’s theoretical framework detailed in Reay (2004), and the special issues of the Cambridge Journal of Education (Gale and Lingard, 2015) to provide a sociological explanation of the official drop-out rates in Kazakhstani higher education. By synthesising the findings from five

Kazakhstani universities visited in the course of the study, the study seeks to assist governmental strategies aimed at reversing drop-out rates and easing rural/urban inequalities, both in Kazakhstan and internationally.