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CENTRAL ASIA SYMPOSIUM ON ICT IN EDUCATION 2014: Embracing Technologies, Empowering Teachers

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Central Asia Symposium on ICT in Education 2014

Embracing Technologies, Empowering Teachers

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Table of Contents

Introduction.....	1
Regional Context.....	2
General characteristics.....	3
Challenges in education.....	5
ICT use in education.....	6
Current Issues and Challenges in Integrating ICT into Education in CA.....	8
Low teacher professional capacity and low salaries.....	9
Inadequate ICT infrastructure and connectivity.....	10
Insufficient education management and information systems.....	11
Lack of mainstreaming of ICT-enhanced new pedagogy.....	12
Promising Initiatives	12
Developing national ICT competency standards for teachers.....	13
Harnessing the potential of ICT to ease teachers' workloads.....	14
Evidence-based guidance in mainstreaming ICT-enhanced pedagogy.....	15
Smart partnerships to improve school infrastructure and connectivity.....	15
Ideas and Proposals for Collaboration	16
Professional development for teachers.....	17
Introduction of and support for EMIS.....	18
Digital resources for teaching and learning.....	18
Policy framework for OER.....	18
Evaluation of the Symposium	19
Conclusions and Next Steps	19
ANNEX A: List of participants	21
ANNEX B. Detailed summary of the Roundtable Discussion, by country and organization.....	26
ANNEX C: Post-symposium evaluation and feedback from participants	28

List of Tables

Table 1. General characteristics of the Central Asia countries.....	3
Table 2. Education indicators for the Central Asian countries	5
Table 3. The Status of ICT in Education Policy Development in Central Asia	6
Table 4. ICT infrastructure status in the CA countries.....	7
Table 5. Areas for immediate future collaboration.....	17

List of Figures

Figure 1 Value-added by sector (% of total value added) – 1990 and 2009.....	8
Figure 2 Mobile and Internet access in Central Asian countries.....	11

Introduction

Without a doubt, information and communication technology (ICT) has become an integral part of our lives in our digitally-connected and rapidly-changing twenty-first century society. The role and capacity of teachers to adequately equip young learners with relevant knowledge and skills has today become more critical than ever before. Teachers face enormous pressure to be key agents in “changing the culture of learning”, as emphasized in the Central Asia Symposium on ICT in Education (CASIE) in 2013.¹ In particular, teachers are expected to integrate ICT into their teaching practices in a manner that goes beyond merely using technology to reinforce conventional teaching and learning approaches.

Some fundamental, but often neglected, questions have emerged: Have we created an environment in which teachers can empower themselves to cope with the unprecedented challenges they face and to play the critical role in transforming the culture of learning? Have we truly considered the various aspects of technology to be used when designing and extending support to teachers?

Governments in the Central Asian countries are making efforts to create favourable environments using various tools, from policy and professional development to innovative technologies and evidence-based guidance on classroom practices, to empower teachers to perform to the best of their abilities.

The UNESCO Asia-Pacific Regional Bureau for Education (UNESCO Bangkok) has organized the annual Central Asia Symposium on ICT in Education since 2011 to provide a sub-regional platform for the Member States to collectively deliberate on possible solutions to issues relating to ICT in Education, with particular focus on integrating technologies into the education system. In 2014, UNESCO Bangkok collaborated with UNESCO Tashkent, the Korea Education and Research Information Service (KERIS), the UNESCO Institute for Information Technologies in Education (IITE) and the Government of the Republic of Uzbekistan to hold CASIE 2014 in Tashkent, Uzbekistan, from 27 to 29 May.

The objectives of CASIE 2014 were:

- 1) To provide a platform for national education policy makers, practitioners and development partners to share issues and challenges that Central Asian countries are facing in integrating ICT into their education systems, with particular emphasis on the use of ICT for teacher empowerment with technology and for technology.
- 2) To promote collaboration and partnership among the Central Asian countries in the identification of solutions to similar issues and challenges in relation to the effective and efficient use of ICT in Education.

Of the six countries invited, five countries were able to send delegates to the 2014 symposium. The symposium brought together 65 participants, comprising Ministry of Education officials (12 country delegates), various education stakeholders (30+), international experts and speakers (15),

¹ The full outcome document for CASIE 2013 can be found at: http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2013/Central_Asia_Symposium_on_IC_T_in_Education_2013_-_Outcome_Document_English_-_Final.pdf



and representatives of UNESCO offices (8), to share and learn about relevant and recent ICT in Education initiatives and programmes in the region and other parts of the world (see Annex A for the list of participants).

Under the theme “Embracing Technologies, Empowering Teachers”, CASIE 2014 participants took stock of policy options and promising practices that promote teacher empowerment with technology and for technology. The symposium examined various factors required to bring about this type of environment, including 1) setting comprehensive policy guidelines for teacher empowerment, 2) implementing teacher development programmes that work, 3) harnessing technologies that can support teachers to free up their time from their administrative workloads, and 4) systematic monitoring and evaluation of ICT-related projects that can give teachers evidence-based guidance.

Ministry of Education officials from the participating countries engaged in a multi-directional dialogue to enable and support efforts to build national capacity in the use of ICT in Education at all levels. Plenary sessions, case study presentations, workshops, and a study visit featured international experts and programme implementers who shared research findings, insights, opportunities, challenges and good practices in empowering teachers through ICT policies and programmes. The Roundtable Discussion served as an opportunity for the delegates to voice out pressing issues and challenges in this area as well as to establish partnerships in relation to the effective and efficient use of ICT in Education.

This document is a synthesis of the discussions and deliberations during the symposium.

Regional Context

The Asia-Pacific region is known for its diversity. Within this region, where 60 percent of the world’s population resides, the sub-regions face challenges as varied as the region’s diverse nature in terms of achieving good quality education for all. At the top of the list of education needs in Central Asia (CA) is the necessity of adequate educational infrastructure to ease geographical challenges, i.e. populations scattered over vast territories. In addition, the countries in this sub-region seek to ensure high quality of teaching and learning so that their younger generations can keep up with and adapt to the ever changing world.²

This section provides a general overview of the CA countries, including their general characteristics³, issues faced in education and the status of ICT in Education in these countries.

² International Crisis Group. 2011. Central Asia: Decay and Decline. *Asia Report*, No 203. <http://www.crisisgroup.org/en/publication-type/media-releases/2011/asia/central-asia-decay-and-decline.aspx> (Accessed 21 March 2014)

³ The section was prepared using data from the databases of the International Telecommunications Union, the UNESCO Institute of Statistics and the World Bank, as well as the following publications by the Asian Development Bank: “ICT in Education in Central and West Asia” and “Asian Development Outlook 2014”.

General characteristics

The Central Asia sub-region is known for its vast territories and relatively small populations. As Table 1 shows, population density in Kazakhstan, Kyrgyzstan, Mongolia and Turkmenistan is less than half the world average, while population density in Tajikistan and Uzbekistan is slightly higher than the world average. The proportion of the population living in rural areas is higher than the world average in all CA countries except Mongolia.

The CA sub-region includes a combination of upper-middle and low-income countries that share similarities in their histories and have a common vision for the future while striving for distinct local identities. Since achieving independence in the 1990s these countries have implemented processes of democratic and market economy reforms. The CA countries have all seen progress towards their goals, though the pace of that progress varies between the countries.

Table 1. General characteristics of the Central Asia countries

Country	Population size (millions) (2013)	Area of Country (1,000km ²)	Population density (people per km ²) (2012)	Rural population (%) (2012)	Life Expectancy (years) (2012)	GDP per capita, PPP (current USD, 2012)
Kazakhstan	16	2,699.70	6	46	69.6	12,120
Kyrgyzstan	5.3	191.8	29	65	70.0	1,178
Mongolia	2.7	1,553.60	2	31	67.3	3,691
Tajikistan	7.6	140	57	73	67.3	953
Turkmenistan	5	469.9	11	51	65.3	6,798
Uzbekistan	30.2	447.4*	70	64	68.1	1,719
World	-	-	54	47	70.8	-

Source: The World Bank. 2014. World Development Indicators 2014.

* <http://gov.uz/en/helpinfo/geography>

Kazakhstan, whose geographic area is the ninth largest in the world, is an upper-middle-income country with per capita GDP of nearly 13,000 United States dollars (USD) in 2013 (as compared to USD 1,515 in 1992). The country is rich in oil, and increased oil output and recovered crop production led to an increase in economic growth from 5 percent in 2012 to 6 percent in 2013. Economic prospects for the coming years and Kazakhstan's ambitions to join the top 30 most developed countries by 2050 might be realized if the country succeeds in diversifying its endowments and enhancing social institutions and highly-skilled human capital. Education is a high priority for Kazakhstan. In 2010, Kazakhstan ranked seventh on UNESCO's "Education for All Development Index" by achieving near-universal levels of primary education, adult literacy and gender parity. These results reflect the nation-scale efforts of expanding pre-school access and free compulsory secondary education. In the next 10 years Kazakhstan will embark on further major reforms across all education levels.



The Kyrgyz Republic is a mountainous country with a multi-ethnic population. With per capita GDP of USD 1,178 in 2012, the Kyrgyz Republic remains a low-middle-income country. In 2013, the rate of economic growth jumped to 10.5 percent due to a rebound in gold production. Apart from gold, the country's most significant natural resource is water, specifically rivers, which make the country a large hydroelectricity provider to the Central Asian grid. All sectors except agriculture have shown robust growth as the private sector has expanded. Mining constitutes 50 percent of export earnings, about 26 percent of tax revenues and about 10 percent of GDP. Improving education, healthcare and social protection is a top priority for the Kyrgyz Republic. The government is currently implementing medium-term reforms in these sectors. A major challenge for education delivery is the high proportion of the population living in mountainous and rural areas (65 percent) and the high dispersion of population in these areas, as well as lack of teachers and textbooks.

Over the past 20 years **Mongolia** has transformed from a communist country into a multiparty democracy with a dynamic lower-middle-income economy. The exploitation of Mongolia's mineral resources is one of the boosters of the economic growth rate (12.5 percent in 2013, compared to 6.4 percent in 2010). In 2013, industrial production increased by 20.1 percent, construction expanded by 66 percent and mining output increased by 20.7 percent. Favourable weather allowed agriculture to expand by 13.5 percent. Economic growth has translated into some benefits for the 2.7 million population of Mongolia and an increase of per capita GDP to USD 3,691 in 2012. Poverty decreased from 38.7 percent in 2010 to 27.4 percent in 2012. Substantial progress has also been made with regard to several Millennium Development Goals (MDGs), though significant disparities prevail.

A low-income economy with per capita GDP of USD 953 in 2012, **Tajikistan** has performed well since its civil war ended in 1997. Strong economic growth, averaging nearly 8 percent per annum between 2000 and 2008 was due to high world prices for country's main export items of cotton and aluminium. In 2013, economic growth was robust at 7.4 percent. The agricultural sector is responsible for 64 percent of total employment and 21 percent of GDP. As much as 74 percent of the country's 8 million population lives in mountainous and rural areas. Tajikistan's population is young and rapidly growing – 40 percent of the population is under the age of 17 – which makes improved public services in education, health and social protection imperative elements of the government's strategy.

Turkmenistan has one of the world's largest reserves of natural gas, estimated at 20 trillion cubic meters, along with oil reserves of 12 billion barrels. Sustained high growth rates in the past five years helped double the country's GDP to USD 41,850,877,193 in 2012. The favourable growth outlook suggests that Turkmenistan may double this over the next five years. These achievements are closely correlated with the performance of the hydrocarbon sector, which accounts for nearly 90 percent of the country's commodity exports. High growth performance sustained over an extended period of time has led to a steady increase in income levels and moved the country to an upper-middle-income status (GDP per capita reached USD 6,796 in 2012). The government maintains a large portfolio of social transfers and budget subsidies.

Uzbekistan's population accounts for nearly half that of Central Asia. Resilient economic growth is supported by strong exports of natural gas, gold and cotton, as well as large-scale investment in industry, infrastructure, basic education and health. Uzbekistan's growth has remained robust (8 percent in 2013) since the mid-2000s due to favourable trade terms for its key export items



(copper, gold, natural gas and cotton). In industry, the ongoing modernization programme, backed by substantial public investment and recovering external demand, boosted the production of machinery, textiles, construction materials and foodstuffs. Services such as retail trade, telecommunications, finance and catering posted healthy growth. The continuing housing boom raised construction growth to 16.6 percent in 2013. Agriculture grew by 6.8 percent in 2013, supported by favourable weather and record harvests. Economic growth has been accompanied by wage and pension increases, high public investment spending and large remittances. In education, the country's policy goals and priorities are to improve the quality and outcomes of education as well as to increase access to education, health and other social services.

Challenges in education

With education systems inherited from the Soviet Union, the five Commonwealth of Independent States (CIS) countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) and Mongolia share similar traits in education, though with some local variations. Historically, access to basic education was fairly high within the sub-region, adult literacy was universal, participation and completion rates for students of both genders were high at all levels of education, all students had textbooks and school dropout rates and rates of grade repetition were low. Table 2 presents some of the education indicators for the CA countries.

Table 2. Education indicators for the Central Asian countries

Country	Public expenditure on education (% of GDP, 2012)	Net enrolment ratio (% of relevant group, 2011)		Out of school children (% , 2011)	Adult literacy	Primary pupil-teacher ratio (2012)	Secondary pupil-teacher ratio
		Primary	Secondary				
Kazakhstan	3.06	86.0	87.3	1.1	99.7	16.2	8.6
Kyrgyzstan	6.79	90.5	80.4	1.6	99.2	23.9	15.2
Mongolia	5.48	97.3	79.1	2.4	98.3	28.8	14.5
Tajikistan	3.94	98.4	83.2	1.1	99.7	23.0	15.4
Turkmenistan	NA	NA	NA	NA	99.6	NA	..
Uzbekistan	10*	88.5	NA	8.5	99.5	15.6	13.3
World	NA	92.1	66.2	5.1	84.3		

Source: UNESCO UIS Data Centre, Data retrieved in June 2014

*Education Sector Plan of Uzbekistan for 2013-2017

<https://www.globalpartnership.org/content/uzbekistan-education-sector-plan-2013-2017>

In the early 1990s, during their first decade of independence, the CA countries began a transition from command economies to market economies. Since the transition began, the education systems in many CA countries have had serious fiscal constraints, which have had multiple negative impacts. In the mid-1990s, the governments undertook a number of reforms aimed at decentralizing education management, diversifying its funding, developing innovative institutions, establishing curriculum standards, providing in-service teacher training, increasing teacher's



salaries and social sector spending, as well as addressing issues of equity and inclusion. In the past decade the economic situation has improved and the first results of the reforms have been seen. Ongoing reforms concentrate mainly on the following issues: equal and universal access to education, increasing school attendance, ensuring gender equality and integration of minorities, improving qualifications of teachers, investment in facilities and textbooks and tackling corruption.

The Central Asian countries continue to face a number of issues relating to education access and quality. In Tajikistan, for example, districts struggle to find qualified teachers, have a limited number of textbooks and worn-out furniture. In Kyrgyzstan, only 72 percent of the primary teachers are trained (UIS, 2014) and not every pupil is supplied the necessary textbooks. Challenges in Turkmenistan include the prevalence of traditional teaching methods with limited student engagement, which affects students' attainment and retention of knowledge. Kazakhstan faces problems with the retention of teachers (as a result of low salaries) and limited engagement of students in classes.

ICT use in education

Recognizing the importance of ICT-skills for twenty-first century jobs, the six Central Asia countries have adopted national strategies aimed at the integration of ICT into education. The countries have approved policy decrees setting out national targets and objectives for ICT in formal education. Within the context of these, policies, strategies and investment programmes with five-year and ten-year plans have been developed. Among the main mechanisms for their implementation are national educational standards and standards for e-learning and distance education approved in Kazakhstan, Kyrgyzstan, Uzbekistan and Mongolia, as shown in Table 3.

Table 3. The Status of ICT in Education Policy Development in Central Asia

Standalone sector-wide ICT in Education plan	Mentions of ICT in national education or ICT master plan (no standalone plan)	No plan or no material available
Mongolia	Kyrgyzstan Tajikistan Uzbekistan	Kazakhstan Turkmenistan

Often the emphasis of national strategies relating to ICT in Education is on ICT infrastructure, with the primary goal to provide computers to schools, but without the support measures needed to make ICT use effective in schools.

There have been exceptional examples of provision of hardware and Internet connectivity in Kazakhstan, but financial constraints in other CA countries have prevented them from large-scale public investments in the supply of computers and connectivity to schools.

According to ITU data (Table 4), in 2012 the share of individual users of the Internet was over 53 percent in Kazakhstan, 36 percent in Uzbekistan, almost 22 percent in Kyrgyzstan, 16.4 percent in

Mongolia, 14.5 percent in Tajikistan and 7.2 percent in Turkmenistan. Household Internet user rates in 2010 were 49.4 percent in Kazakhstan, 14 percent in Mongolia and 4 percent and below in Turkmenistan and Kyrgyzstan. In Kyrgyzstan and Tajikistan (and to a certain extent in Mongolia) the low level of school Internet connectivity is due to difficult mountainous terrain or dispersion of population in remote areas.

Table 4. ICT infrastructure status in the CA countries

Country	Mobile-cellular subscriptions (2012)*	Active mobile-broadband subscriptions per 100 inhabitants (2012)*	Fixed-broadband subscriptions per 100 inhabitants (2012)*	Percentage of Individuals using the Internet (2012)*	Percentage of households with Internet access ^{4*}	Computer-pupil ratio**	Proportion of schools with Internet access (%)**
Kazakhstan	185.82	42	9.78	53.32	49.4	18	97
Kyrgyzstan	124.18	NA	0.88	21.72	3.6	57	6
Mongolia	120.69	26.9	3.75	16.40	14.0	18	93
Tajikistan	81.51	NA	0.07	14.51	NA	NA	NA
Turkmenistan	76.42	NA	0.03	7.20	4.0	NA	NA
Uzbekistan	71.03	20.7	0.75	36.52	NA	NA	NA
Asia Pacific	80.9	15.3	7.7	28.1	28.0	NA	NA
World	88.1	21.7	9.8	35.5	37.1	NA	NA

Sources: * ITU MIS Report, 2013; ** UNESCO UIS ICT in Education in Asia (2014)

Kazakhstan reached the highest mobile penetration level in the region in 2012, which almost doubled since 2008 to reach 185.8 per 100 inhabitants. Similar rates are observed for Kyrgyzstan and Mongolia (124 percent and 120 percent, respectively). In Tajikistan and Uzbekistan the increase has been slower and the percentages of subscriptions in 2012 were 81 percent and 71 percent, respectively. It is worth noting that the number of mobile subscriptions in Turkmenistan has tripled since 2008 and the percentage was 76 percent in 2012.

In each of the six countries there are successful examples of the introduction and use of school management systems, learning management systems, testing systems and electronic methodological systems.

Due attention is being paid in Central Asian countries to the need for primary, secondary and higher education to provide more opportunities for students and teachers to apply ICT throughout the curriculum. Kazakhstan and Uzbekistan have e-textbooks for the full cycle of secondary

⁴ The year of data for Kazakhstan: 2011; Kyrgyzstan: 2010; Mongolia: 2012; Turkmenistan: 2008



education and digital content, but the other countries cannot currently afford the production of digital content. It is noteworthy that both Kazakhstan and Uzbekistan are multilingual countries with several official languages of instruction and digital materials have been developed in more than one language. Special measures need to be taken, however, to assure appropriate quality of digital resources and to ensure their efficient use.

It must be noted that the educational benefits and expected outcomes of ICT in education have not been clearly stated at the level of curricula and syllabi. The Central Asian countries also have to invest more effort in the assessment of the impact of ICT on education and introduction of ICT in the assessment process. Pre-service and in-service teacher training in ICT use across the whole range of curriculum subjects is one of the most important steps for ensuring efficient use of hardware and software in education.

Current Issues and Challenges in Integrating ICT into Education in CA

The changes that the world has seen over the past two decades are unprecedented. New technologies are developed every single day and they drive the way we live, communicate and work. At the same time, fertility rates are dropping while unemployment rates are increasing. In addition, the industrial landscape has shifted and many manual or routine skills have become irrelevant, while demand for services has increased. Figure 1 illustrates the growth of the service sector by sub-region. In the North and Central Asia sub-region, the values added by the agriculture and industrial sectors decreased between 1990 and 2009 whereas that of the service sector doubled; the largest increase in the sub-regions of the Asia-Pacific region.

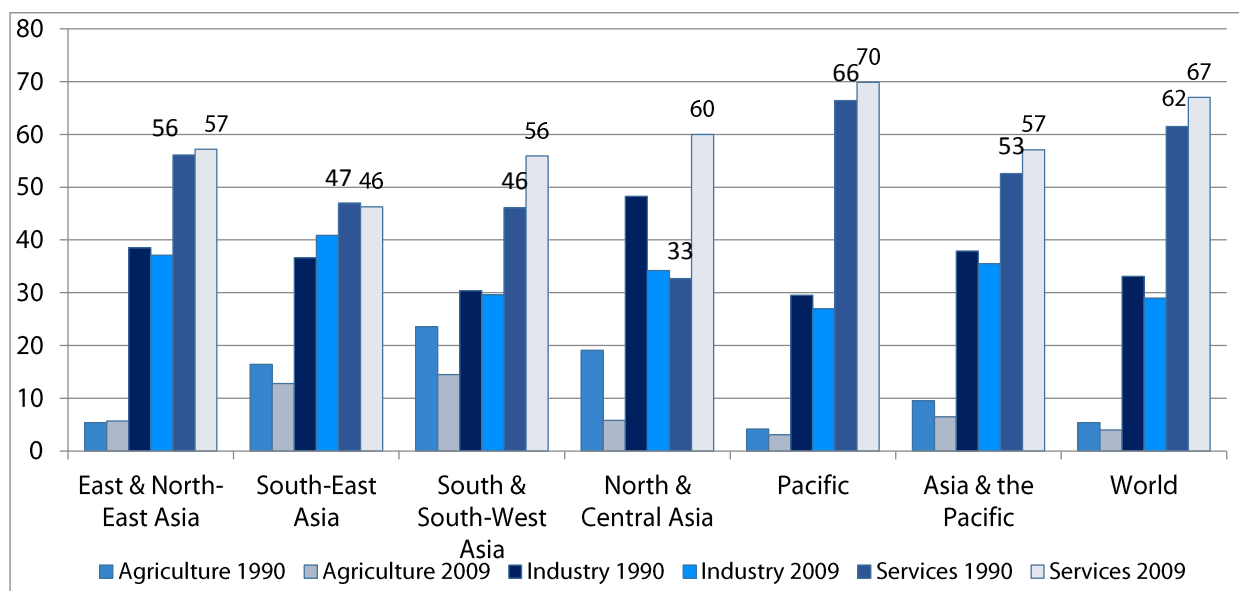


Figure 1 Value-added by sector (% of total value added) – 1990 and 2009

Source: United Nations (2011), Statistical Yearbook for Asia and the Pacific

In view of these changes, some thought-provoking comments were made by the Director of the UNESCO Asia-Pacific Bureau of Education, Gwang-Jo Kim, during his keynote presentation at CASIE 2014. In particular, he asked, “Is the education system of the region reflecting these changes? Are the students getting prepared for such shifts in the world of work? Are our teachers ready to teach new skills that may be required in this changing world? What would be the role of ICT in empowering teachers to enable them to provide quality teaching and learning?”

This section identifies some of the pressing needs and overall challenges that the education systems of the Central Asian countries are facing. Emphasis is placed on specific challenges in integrating ICT into teaching and learning to achieve the national education goals. The sources of the data for this section include the CASIE 2014 presentations and information shared during the symposium as well as the findings of the pre-forum survey.⁵

Analysis of the pre-forum survey findings and discussions during the symposium revealed that the common aim across the participating countries of using ICT in education is to improve access to and quality of education. With this aim in mind, the delegates identified the current challenges in integrating ICT into teaching and learning as follows: 1) low teacher capacity and low teacher salaries; 2) inadequate ICT infrastructure and connectivity; 3) insufficient education management and information systems; and 4) lack of mainstreaming of ICT-enhanced new pedagogy.

Low teacher professional capacity and low salaries

There is no doubt that teachers play a key role in integrating ICT into education. When the educational vision of a country is, for example, to build a knowledge society, training teachers to be able to “use” basic ICT tools is not enough. Teachers should be competent in using ICT to “enhance” and even “transform” pedagogical activities that will contribute to students’ development of the new skill-sets that are required in our changing world.

The continuous provision of teachers’ professional development is therefore critical and so is a systematic monitoring mechanism for such professional development. Both interventions require **systematic policy guidance** in what competencies teachers need to be trained in, to what extent the competencies are reflected in and guide the pre- and in-service teacher training and teachers’ qualifications, and the extent to which the training is recognized, reinforced and monitored.

The results of the pre-forum survey indicate that Mongolia and Uzbekistan have developed national competency standards for teachers. While Mongolia has standalone ICT competency standards for teachers, Uzbekistan integrated ICT components into its national teacher competencies. Furthermore, the two countries reported that they have made the ICT competency standards compulsory for their teacher qualifications, meaning a pre-service teacher (student teacher) is required to take ICT courses during his or her training. All the in-service teachers in Mongolia are required to take ICT courses. The other countries, however, have yet to develop national competency standards for teachers to systematically guide teacher development.

⁵ The participating country delegates were invited to respond to the online survey between 14 and 23 May 2014. The survey was in English and Russian. Four countries responded to the survey: Kazakhstan, Kyrgyzstan, Uzbekistan and Mongolia.



Kyrgyzstan mentioned in its response to the survey that the country is facing challenges in incorporating its National Framework of New Generation Standards into educational organizations.

It became evident from the symposium discussions that being equipped with national competency standards and guiding policies is one thing and implementing them is another. All the five participating countries perceived online professional learning as a way forward in addressing this issue especially in rural areas. For example, Mongolia reported that it has faced challenges in reaching scattered teachers across its vast territory and tries to implement teachers' ICT trainings via online training. Uzbekistan expressed its need for long-distance teacher training due to the family responsibility issues of female teachers, which comprise 73 percent of the nation's teacher force.

Efforts in utilizing online professional development tools appear to be stalled by the lack of connectivity (and in many cases lack of electricity) in rural areas in Central Asia and the lack of teachers to engage in professional development, due to the low salaries of teachers. According to a UNICEF study,⁶ the monthly salary of teachers is USD26 in Tajikistan and USD86 in Kyrgyzstan. The salary of a teacher in Tajikistan is 30 percent lower than the national average salary. The study recommended a fundamental reform of teacher salaries in the region so as to not only to secure the "right" graduates for teacher forces but also to enable teachers to concentrate on their teaching and pedagogical activities, rather than spending their energy seeking second jobs or collecting fees from parents.

Inadequate ICT infrastructure and connectivity

Throughout the symposium, the current lack of ICT infrastructure and connectivity in schools was pointed out as one of the key barriers to integrating ICT into education. Indeed, the ITU data (shown in Figure 2) confirms that the percentage of individuals using the Internet in most of the CA countries is lower than the world average, and there are few households with Internet access in all the countries except Kazakhstan (3.6 percent in Kyrgyzstan, 14 percent in Mongolia and 4 percent in Turkmenistan – the world average is 37.1 percent).

The symposium delegates agreed that the lack of ICT infrastructure and connectivity in schools calls for greater attention, especially in countries like Uzbekistan where 80 percent of schools are in rural areas. It was agreed that access by schools to ICT can contribute to expanding access to good quality education and teaching resources.

This issue of ICT infrastructure was also emphasized in the previous CASIE in 2013. As noted in the symposium's outcome document, "although ... transforming education systems towards a lifelong learning society takes more than equipping the country with computers and networks, it is undeniable that a certain level of ICT infrastructure is needed to jumpstart reforms in the education systems to prepare for the digitally connected world".

In response to this challenge, the Government of Mongolia has been implementing a project to connect all schools in the country to the Internet within two years and to create a portal for

⁶ UNICEF. 2011. *Teachers: A Regional Study on Recruitment, Development and Salaries of Teachers in the CEECIS Region*. UNICEF Regional Office for Central and Eastern Europe and the Commonwealth of Independent States (CEECIS), Geneva.



educational resources. Similarly, Kyrgyzstan launched the “Interactive School” programme in 2012 (for 191million Kyrgyzstan soms), which aims to establish an electronic education environment via Internet access, e-books and other e-devices. Likewise, Uzbekistan is currently developing a plan for the digitization of printed educational materials over the next five years.

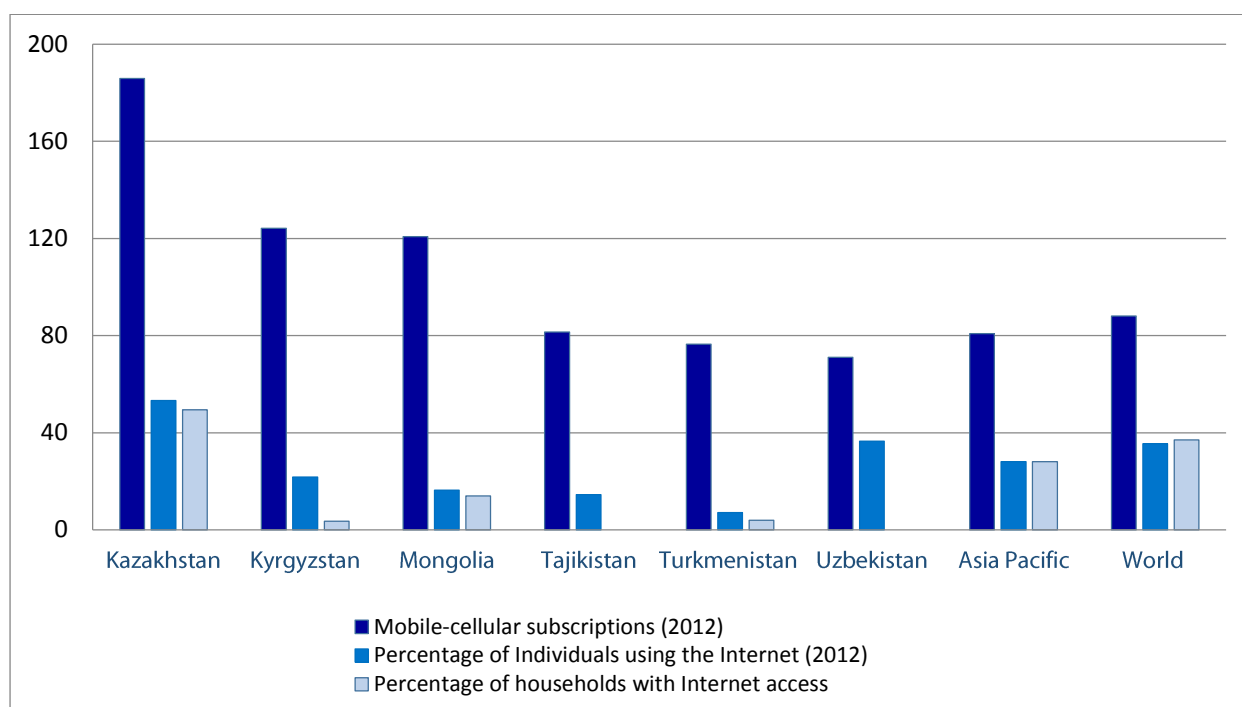


Figure 2 Mobile and Internet access in Central Asian countries

While schools and households have low levels of access to ICT and connectivity, there is a high penetration of mobile-cellular subscriptions in all of the CA countries, as shown in Figure 2. This can be seen as a hopeful sign, as the CA countries can take advantage of the existing infrastructure, namely the mobile network, to strengthen access to good quality teacher training and teaching resources. Examples that CA countries can refer to include Text2Teach⁷ in the Philippines and UNESCO’s Reading in the Mobile Era.⁸

Insufficient education management and information systems

Data speaks. Collecting accurate data is the starting point for making an informed decision, not only at the policy level but also at the school level and the classroom level. When it comes to data for educational management and policy development, however, the Central Asia is not the best region that offers desired data. Often, data that are sought are either not available or are remote from the actual reality. It was agreed at the symposium that among the many reasons for the

⁷ *Text2Teach* is a project to provide teachers in underserved schools and communities with good quality teaching and learning resources through mobile phones. For more information, see: <http://www.text2teach.org.ph/>

⁸ *Reading in the Mobile Era* is a research project by UNESCO that illuminates how people read through mobiles to inform mobile learning policy and practices. For more information, see: <http://www.unesco.org/new/en/unesco/themes/icts/m4ed/mobile-reading/reading-in-the-mobile-era/>



insufficient data across the region was a lack of comprehensive education management and information systems (EMIS) in some countries. EMIS are needed to collect data in an integrated and transparent manner. The CA countries are at different stages in developing EMIS, ranging from those countries with EMIS that have been rolled out (Kazakhstan's School Management System and Mongolia's E-School 2.0) to in-house EMIS (Uzbekistan) to those at the initial conceptualization stage (Tajikistan).

The connectivity issue was also identified as a cause for the limited use of an EMIS in the region. For example, Kyrgyzstan reported that an EMIS has been developed at the national level but data from the district level are not easily transmitted to the centre due to uneven connectivity at the school level (only 6 percent of the schools are connected to the Internet⁹ (UIS, 2014)).

The challenges in building a more comprehensive, flexible and integrated EMIS in Kazakhstan and Uzbekistan were identified as being related to the fact that these countries have several data entry points for the various levels of administration. This results in teachers entering the same data set repeatedly into different systems and hence increases the teacher workload, rather than lessens it. The countries expressed their need for technical support in building a unified EMIS that facilitates data collection and sharing from all levels of schooling as well as from across the country.

Lack of mainstreaming of ICT-enhanced new pedagogy

The participating countries found it challenging to go beyond “basic ICT skill education” and to mainstream ICT-enhanced innovative and new pedagogy in their educational settings, such as ICT-supported collaborative learning, student-centred activities that promote higher order thinking, and so on.

The participants attributed the challenges to 1) rigidity of the current curriculum, and 2) irrelevance of current teacher training programmes. Indeed, the curriculum is a major determinant for how education practices unfold to translate the national education goals and policies into school practices. If the national curriculum emphasizes exam-focused rote learning, there is no room for school leaders and teachers to implement innovative teaching and learning methods.

It was commonly expressed that in addition to training teachers to be able to foster an innovative teaching and learning environment with ICT, instead of being merely digitally literate, it is necessary to also revisit national policies on curriculum and assessment. This is why each country should integrate its ICT in Education policy into the education sector plan. This would foster a supportive and empowering environment for innovative teaching and learning practices.

Promising Initiatives

The symposium engaged regional and global experts and organizations to contribute to the deliberations on the options regarding how to address the identified challenges. The participants shared their expertise and innovative ideas, and discussed examples of promising initiatives for

⁹ UNESCO UIS. (2014). ICT in Education in Asia

integrating ICT into education. They also sought possible ways to adapt these initiatives to the CA countries. This section describes the promising initiatives and projects that were seen as beneficial and relevant to addressing some of the identified issues in the sub-region.

Developing national ICT competency standards for teachers

The importance of policy guidance and the centrality of teacher policy were reiterated when the countries expressed their needs relating to continuous professional development for teachers. It was agreed that the quality of the teachers and their development throughout their teaching careers should be systematically guided and monitored by the government. In this regard, it was concluded that developing national competency standards for teachers is an option to consider.

The Korea Education and Research Information Service (KERIS) "[Teachers' Competency Framework for SMART Education](#)"¹⁰ is one of the examples that were discussed. KERIS provides step-by-step guidance on how national competency standards can be developed and operationalized. The teacher capacity development programme (built on the standards) seeks to strengthen teachers' competencies as part of the education "ecosystem" to deliver SMART Education. The programme consists of 28 training modules for teachers, as well as corresponding assessment and support mechanisms.

Singapore's "[Teacher Education Model for the 21st Century \(TE21\)](#)"¹¹ was also introduced as an example. As in the KERIS example, TE21 showed that the policies, preparation and practice are closely interconnected to achieve the desired education goals. The TE21 programme encompasses six characteristics: balanced emphasis on value, skills and knowledge; core teacher competencies for graduate teachers; nexus between theory and practice; pedagogical repertoire; assessment for the twenty-first century; and a clear career path for teachers. The TE21 programme was designed to respond to today's exploratory, participatory, imagery and connected to the world (EPIC) learners, according to Goh Chor Boon, the Associate Dean of National Institute of Education of Singapore.

To support countries who plan to reform their teacher professional development programmes into competency-based programmes, UNESCO Bangkok recently launched a project titled "Supporting competency-based teacher training reforms to facilitate ICT-pedagogy integration". This four-year project (2013-2017), supported by a Korea Funds-in-Trust, involves the development of a guidebook that governments and teacher-education institutions (TEIs) can refer to when developing and operationalizing national ICT competency standards for teachers. Based on the analysis of five promising cases in Asia and beyond, the guidebook will assist users not only in how to develop the standards themselves but in how to incorporate them into the teacher education curriculum as well as into the corresponding assessment and monitoring system. The initial draft is expected to be completed in September 2014.

¹⁰ Teacher's Competency Framework for SMART Education.
http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2014/ppt/Teachers_Competyency_Framework_for_SMART_Education_YKJu.pdf

¹¹ Teacher Education Model for the 21st Century.
http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2014/ppt/TE21_Goh_SG.pdf



Harnessing the potential of ICT to ease teachers' workloads

ICT, when used properly, can ease teachers' workloads. Reusable teaching and learning materials, automated student information management systems and collaborative learning spaces are a few examples of work-saving mechanisms. Unfortunately, most teachers in the CA countries perceive ICT as an additional burden and as another skill to be competent at, rather than a useful tool to benefit from. Symposium participants agreed that it is important to create a supportive environment to empower teachers to explore how ICT can be used to reduce their heavy administrative workloads.

SEAMEO INNOTECH's [Mobile Toolkit for Teachers \(MT4T\)](#)¹² is a resource kit for teachers, which enables them to use mobile technologies for twenty-first century learning. The toolkit, which is expected to be launched in September 2014, will guide teachers in using mobile devices for teaching and learning of higher order thinking skills and values as well as for personal and professional development. The first target beneficiary countries would be the SEAMEO member countries; however, the MT4T is open and free to anyone in any countries and SEAMEO INNOTECH invited the CA countries to take a look at the resources and possible partnerships for localization.¹³

Two examples of EMIS were shared at the symposium: Korea's National Education Information System (NEIS) and UNESCO's OpenEMIS (developed in partnership with the Common Systems Foundation). The [NEIS](#)¹⁴ is a web-based integrated administration system for Korea's educational institutes that connects 17 metropolitan and provincial offices of education, 177 local offices of education and 11,200 schools (including elementary, middle, high and special schools). The NEIS was developed by KERIS with the aim of improving efficiency, transparency, convenience and information-sharing among education stakeholders in Korea. The NEIS was initiated in 1996 and the expertise and lessons that KERIS has learned since then are expected to benefit other countries significantly.

[The OpenEMIS](#),¹⁵ an open source EMIS, was also showcased as an option for the participating countries. Conceived by UNESCO, the OpenEMIS is a royalty-free system designed to help countries to collect, analyze and report data on schools, students, teachers and staff. It aims to support data-driven education planning and policy development and implementation. This ready-made high-quality EMIS can be customized to meet the specific needs of each country. The Common Systems Foundation is currently playing a role in deploying the system with necessary training and consultation services.

¹² Mobile Toolkit for Teachers.
http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2014/ppt/SEAMEO_INNOTECH_Mobile_Technology_projects_DLacuesta.pdf

¹³ SEAMEO INNOTECH. iKnow. <http://www.seameo-innotech.org/iknow/>

¹⁴ National Education Information System.
http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2014/ppt/NEIS_DLee_KERIS.pdf

¹⁵ OpenEMIS.
http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2014/ppt/OpenEMIS_Presentation_en_CASIE_KOswalt.pdf

Evidence-based guidance in mainstreaming ICT-enhanced pedagogy

The symposium participants agreed that exclusive rote learning of information will not help students to be prepared for a changing world. It was agreed that knowledge alone no longer makes a competent employee and that students need to learn relevant skill-sets and the necessary values for a productive workforce. Rather than traditional teacher-centred instruction, it is necessary to ensure ICT-integrated innovative student-centred pedagogy. The participants also agreed that simply equipping classrooms with computers will not guarantee achieving the education goals. It was agreed that teachers need to be trained in how to use ICT to enhance learning and that they must be guided by evidence as to what works and what does not when it comes to innovative pedagogy using ICT.

In this regard, three research cases were introduced by Cher Ping Lim, the Director for Learning, Teaching and Innovation at the Hong Kong Institute of Education.¹⁶ These cases, from Hong Kong, Singapore and Australia, are examples of pre-service teacher training in which trainee teachers are encouraged and supported to manage and monitor their own learning and practices. Through the development and implementation of e-portfolios, pre-service teachers are engaged in documenting, reflecting on and showcasing their learning progress and the impact of their teaching practices. This process underscores the value of reflection (self and in conversation) and research to transform practices in the classroom.

UNESCO IITE, one of the main partners for the CASIE from its inception, drew the delegates' attention to their current project on [Open Educational Resources \(OER\) in non-English-speaking countries](#).¹⁷ From a survey on the national OER policy in 18 non-English speaking countries, to capacity-building online courses, and the regional OER portals (e.g. OER Gateway for CIS), UNESCO IITE's initiatives and publications were among the worthy takeaways from the symposium. It was noted at the symposium that there are issues yet to be further discussed to realize full implementation of OER in the sub-region, such as intellectual property rights (IPR), OER to promote innovative pedagogical approaches and recognition of open licenses.

Smart partnerships to improve school infrastructure and connectivity

The importance of sustainable and solid partnerships is has been an ongoing theme at the CASIE forums. The outcome document from CASIE 2013 noted that "Government leadership is key to successful partnerships" and that "The successful implementation of education policies is best achieved when governments make efficient use of what all stakeholders can contribute towards achieving the common goal".

The Government of Bangladesh has engaged in a successful partnership to enhance education practices with ICT through taking the initiative and displaying commitment to the goals. The

¹⁶ Cases introduced by Cher Ping Lim.

http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2014/ppt/cplim2014_CASIE_.pdf

¹⁷ Open Educational Resources in non-English-speaking countries.

http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2014/ppt/CASIE_28_05_2014_Knyazeva.pdf



[“Teacher-led Content Development for Multimedia Classrooms”](#) programme¹⁸ was initiated by the Prime Minister’s Office in Bangladesh, in partnership with the United Nations Development Programme (UNDP). After a series of careful investigations and benchmarking, the Prime Minister’s office decided to go for “multimedia classrooms” instead of computer labs, for wider coverage of schools with the same amount of funds, recognizing that multimedia classrooms help integrate technologies into teaching and learning practices. The main strength of the project is that it has put emphasis on teacher capacity-building, ensuring that teachers know how to use the multimedia classroom and has also put emphasis on creating good quality e-content for teachers to utilize in the multimedia classrooms. This programme emphasized teachers’ active role in ICT-Pedagogy integration, given that teachers know their learners better than any others. In this project, teachers are empowered through capacity-building workshops, mentorship and the maintenance of a collaboration portal where content can be shared and awarded (which serve as teacher incentives). This case shows a paradigm shift from the computer lab focused approach towards a multimedia classroom approach. This initiative’s characteristics include low cost, high impact, teacher-centered content development and deployment. This case shows a paradigm shift from the computer lab focused approach towards a multimedia classroom approach. This initiative’s characteristics include low cost, high impact, teacher-centered content development and deployment.

Uzbekistan also shared an example of government leadership for partnership that has led the way towards ICT-integrated public education. Backed up by national policies, Uzbekistan has initiated a holistic approach to implementation of ICT in Education, specifically through the establishment of a Multimedia Centre. The Multimedia Centre is a central agency that oversees infrastructure build-up and maintenance (facilities and network), e-content development and distribution, and related capacity-building for teachers. The centre was made possible through a loan and extensive technical support from KERIS. The Uzbekistan case emphasizes the importance of strong leadership and political will from top policy makers and a proper legal framework, which is a critical enabler to sustain ICT in education implementation.

Ideas and Proposals for Collaboration

A Roundtable Discussion (RD) was held at the end of the symposium to identify potential areas for collaboration across the Central Asia sub-region and beyond (especially with partner organizations who participated in the symposium). The RD began with a presentation of the results of the pre-symposium country survey. The common areas of concern that emerged from the survey were:

- Policy guidance in implementing comprehensive teacher professional development programmes
- Innovative strategies to secure resources for ICT-integrated education

¹⁸ Teacher-led Content Development for Multimedia Classrooms programme.
http://www.unescobkk.org/fileadmin/user_upload/ict/Workshops/casie2014/ppt/Teacher-led_Digital_Content_Development_a2i_Sarwar_BD_27_May2014.pdf

With these concerns in mind, the delegates were requested to join one of two breakout discussion groups (either the policy guidance group or the innovative strategy group). Each of the groups discussed the topic, elaborated on their country's needs and consulted with the participating international experts and organizations to come up with actionable items relating to their area of concern.

Facilitated by Gwang-Jo Kim, the Director of UNESCO Bangkok, the participating delegates, experts and representatives of the partner organizations determined the following areas for immediate future collaboration:

- Provision of continuous professional development (offline and online) for all teachers
- Introduction of EMIS
- Sharing of digital teaching and learning resources through a uniform standardized platform
- Development of a policy framework for open licenses and OER

Table 5 summarizes the areas for immediate future collaboration, as identified through the RD. Further details of the session are provided in Annex B.

Table 5. Areas for immediate future collaboration

Areas	Support needed	Support to be offered
Professional development for teachers	<ul style="list-style-type: none"> • Tajikistan, Kyrgyzstan (on competency-based teacher training) • Mongolia (distance PD) • Uzbekistan (PD on new pedagogy) 	<ul style="list-style-type: none"> • UNESCO Bangkok (Competency-based teacher training reform) • Intel (Teacher PD programme)
EMIS	<ul style="list-style-type: none"> • Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan 	<ul style="list-style-type: none"> • Mongolia (ESIS) • KERIS (NEIS system) • UNESCO & CFS (OpenEMIS)
Digital resources for teaching and learning	<ul style="list-style-type: none"> • Mongolia, Uzbekistan (MOOCs) • Kazakhstan (e-learning models) 	<ul style="list-style-type: none"> • Uzbekistan (Multimedia Centre) • UNESCO Almaty Office (sub-regional coordination) • SEAMEO INNOTECH (Mobile Toolkit for Teachers)
OER policy framework	<ul style="list-style-type: none"> • Mongolia 	<ul style="list-style-type: none"> • UNESCO IITE
Others		<ul style="list-style-type: none"> • Intel (policy toolkit, sub-regional webinars)

Professional development for teachers

The growing need for systematic, continuous professional development was made clear throughout the symposium. In particular, Tajikistan, Kyrgyzstan and Uzbekistan expressed their need to develop policies for competency-based teacher training beyond “informatics training”, while Mongolia emphasized its interest in innovative delivery modes that could enhance teachers’ access to professional development.



Responding to this, UNESCO Bangkok shared information about its current project to create a guidebook for a competency-based teacher training reform to facilitate effective ICT-pedagogy integration. Uzbekistan is a pilot country of the project. The guidebook is expected to be a good reference for Member States who plan to reform their teacher training in a systematic way. UNESCO IITE added that it offers practical recommendations on how to adapt/localize the UNESCO ICT Competency Framework for Teachers. Intel noted its willingness and resources to support situational analysis of teachers and diagnosis of the current status of teachers' competencies. As noted above, the first draft of the guidebook will be ready by the end of September 2014.

Introduction of and support for EMIS

Realizing the importance of tracking and monitoring educational data and making data-driven decisions, the delegates identified EMIS as one of the top areas that they need support for. To respond to this need, Mongolia expressed its willingness to share its experiences with the development of the Enhanced Student Information System (ESIS) with other Central Asian countries. The Mongolia delegates also offered to share the ESIS action plan until 2017 as well as the documents on the ESIS development.

The UNESCO-CFS's OpenEMIS also offered support for those who are interested in piloting the OpenEMIS – free demonstration applications as well as the mobile apps which are downloadable from www.openemis.org. The CFS is ready to offer a free dedicated trial environment and import country data.

Digital resources for teaching and learning

Mongolia and Uzbekistan expressed their interest in establishing regional unified Massive Open Online Courses (MOOCs) to share existing e-resources for teaching and learning, and Kazakhstan expressed interest in learning from promising e-learning models. The symposium participants agreed that the provision of a sub-regional platform makes more sense than adapting a platform from another region since the sub-region shares similar languages and/or school curricula.

Uzbekistan's Multimedia Centre, developed in partnership with KERIS, was introduced to the other countries and the initiative was identified as a model partnership for others to follow. Regarding its useful resources for teachers, SEAMEO INNOTECH expressed that it shall extend its support beyond its mandated Member States (SEAMEO countries) as needed and is open to further inquiries.

Policy framework for OER

During the RD session, Mongolia's representative expressed the country's need for a policy framework for standardizing and assuring the quality of open educational resources. In response, UNESCO IITE offered their possible support to raise awareness among ministers of education regarding OER and to create policy guidelines for implementing OER. UNESCO IITE also noted that it can offer a new inventory of OER for CIS and CA countries in Russian.

Evaluation of the Symposium

The post-symposium evaluation revealed that the participants found the symposium relevant (97 percent), interesting (95 percent), useful (96 percent), and well-organized (96 percent). In addition, CASIE 2014 was able to achieve its two main objectives, with the participants noting that the symposium was:

- Effective in encouraging the participants to share issues and challenges related to ICT in Education – (92 percent).
- Effective in promoting collaboration and partnership among Central Asian countries on ICT in Education matters – (91 percent).

It was recommended that the symposium continue to be a regular event, but the participants suggested the following improvements to CASIE:

- To involve ground-level implementers, such as teachers, to enrich the discussions with a practical perspective.
- To invite participants from in-service teacher training institutes so that these representatives can learn what is happening in other countries.
- To present the status of each country earlier during the symposium to set the tone of the discussions.

The full evaluation report is provided in Annex C.

Conclusions and Next Steps

One of the main achievements of the symposium was the partnerships and networks that were established between the CA countries and with the participating organizations. For example, delegates from Kazakhstan, Tajikistan and Kyrgyzstan were very vocal in their interest in partnering with the Ministry of Public Education of Uzbekistan on content sharing and technical assistance. Mongolia and Kyrgyzstan showed strong interest in setting up a dedicated agency for ICT in Education, replicating and adapting the KERIS model. Uzbekistan made inquiries regarding the possibility of adapting the OpenEMIS for that country's context.

The participants requested that the spirit of collaboration established at the symposium be continued and that reports on countries' progress be shared regularly. UNESCO, in responding to this, shall take the initiative to look into regular updates of each country's status in terms of ICT in Education. Along the same lines, UNESCO Bangkok and Intel will jointly organize regular webinars (e.g. quarterly) to popularize and share the materials and approaches from other countries. KERIS, the main co-organizer of the symposium emphasized its interest in continuing discussions and exchange with the countries regarding a systematic teacher professional development programme. In this regard, KERIS will work with UNESCO to find a way to continue their support for the discussed initiatives, especially for the next CASIE.



The symposium was seen by the participants as very beneficial. The symposium also helped the ICT in Education team of UNESCO Bangkok obtain sufficient information to assess the needs and strengths of the participating countries and to plan its next steps to sustain the momentum achieved among the participating Member States. UNESCO now has the responsibility of following through on both general and specific requests and recommendations.

The immediate follow-up actions for the symposium secretariat include:

- A review of the design of CASIE, in consideration of the suggestions above (involving more field-level implementers, perhaps even opening up the symposium to a wider audience, presenting a synthesis of the regional/national status, and offering more interactive sessions).
- To sustain the partnership between UNESCO Bangkok and the various stakeholders and partners in the area of ICT in Education, especially within the Central Asia sub-region.
- To monitor the follow-up activities by the participating countries and provide technical support, where needed.

It was tentatively decided that the next symposium (CASIE 2015) will be held in Kyrgyzstan. Co-organizers including UNESCO Bangkok, KERIS and UNESCO Cluster Office will meet in Gyeong-ju, Republic of Korea, in early November to discuss the CASIE 2015 plan in more detail.

ANNEX A: List of Participants

COUNTRY DELEGATES

	First Name	Last Name	Country	Position	Organization
1	Aibek	Emilbek Uulu	Kyrgyz Republic	Vice Director of Science	National Computer Gymnasium
2	Ulugbek	Karymshakov	Kyrgyz Republic	Lead Specialist - Head of Information Department of State Security and Personnel Service	Ministry of Education and Science
3	Almas	Ashabayev	Republic of Kazakhstan	Assistant Director, Department of Preschool and Secondary Education	Ministry of Education and Science
4	Bakhit	Moldabayeva	Republic of Kazakhstan	Assistant Director, Department of Technical and Vocational Education	Ministry of Education and Science
5	Arsen	Irgibayev	Republic of Kazakhstan	Head, Center for Development Elearning Information and Analytical Center	Ministry of Education and Science
6	Kiromuddin Sharofovich	Nazarov	Republic of Tajikistan	Director, Republican Centre for Information Technologies and Communications	Ministry of Education and Science
7	Rustam Tursoatovich	Abdurahmonov	Republic of Tajikistan	Chief Specialist, Republican Centre for Information Technologies and Communications	Ministry of Education and Science
8	Bakhtiyor	Safarov	Republic of Tajikistan	Software Specialist / System Administrator	Ministry of Education and Science
9	Luvsanjamts	Lkham	Mongolia	Director of Monitoring, Evaluation and Internal Audit	Ministry of Education and Science
10	Suglegmaa	Gochoo	Mongolia	Director	Institute of Teachers Professional Development
11	Zokhikhsuren	Purev	Mongolia	Head, E-learning Department	Institute of Teachers Professional Development



LOCAL DELEGATES

	First Name	Last Name	Country	Position	Organization
1	Ergashev Sharibboy	Tulanovich	Rep of Uzbekistan	Director, Center for Development of Multimediuem and Educational Programmes	Ministry of Public Education
2	Abdurashid	Khundibaev	Rep of Uzbekistan	Head of the ICT in Education Department	Ministry of Public Education
3	Hee LEE	Moon	Rep of Uzbekistan	World Friends Korea	
4	Utkir	Siddikov	Rep of Uzbekistan	Head of the International Department	Ministry of Public Education
5	Kadamboj	Saitov	Rep of Uzbekistan	Lead Expert, ICT in Education Department	Ministry of Higher and Secondary Specialized Education
6	Maksudjon	Yuldashev	Rep of Uzbekistan	Rector	Central In-Service Teacher Training Institute
7	Sanjar	Hafisov	Rep of Uzbekistan	Head of Distance Learning Department	Central In-Service Teacher Training Institute
8	Islomboj	Zokirov	Rep of Uzbekistan	Director	Republican Education Center
9	Hurshid	Sultonov	Rep of Uzbekistan	Head of the ICT Department	Ministry of Higher and Secondary Specialized Education
10	Mahamadsiddik	Amonboev	Rep of Uzbekistan	Director	Center for introduction of e-learning in higher education
11	Ozod	Haidarov	Rep of Uzbekistan	Head of the Multimedia and Web studio department	Central In-Service Teacher Training Institute
12	Ruslan	Kurbonov	Rep of Uzbekistan	Head of the Center for ICT	Institute of Finance
13	Dmitriy	Li	Rep of Uzbekistan	Head of the ICT Department	Center for Secondary Specialized and Professional Education
14	Elbek	Tursunov	Rep of Uzbekistan	Lead Expert, ICT in Education Department	Center for Secondary Specialized and Professional Education
15	Solih	Toshpulatov	Rep of Uzbekistan	Rector	Institute of Training and Retraining of Personnel for Secondary Specialized Professional Education
16	N.	Isahodjaeva	Rep of Uzbekistan		Institute of Training and Retraining of Personnel for Secondary Specialized Professional Education
17	Karimjon	Mullaboev	Rep of Uzbekistan	Head of the Personnel development and retraininv department	State Committee for Information, Communication and Telecommunication Technologies
18	Chul Soo	Lee	Rep of Uzbekistan	Advisor-deputy rector	Tashkent University of Informational Technologies
19	Ayubkhon	Radjiev	Rep of Uzbekistan	Interpreter (Korean-RUssian)	Tashkent University of Informational Technologies
20	Komil	Toshev	Rep of Uzbekistan	Dean	Tashkent University of Informational Technologies
21	Furqat	Rakhmato	Rep of Uzbekistan	Dean	Tashkent University of Informational Technologies

	First Name	Last Name	Country	Position	Organization
22	Utkir	Hamdamov	Rep of Uzbekistan	Dean	Tashkent University of Informational Technologies
23	Bakhtiyor	Akbaraliev	Rep of Uzbekistan	Dean	Tashkent University of Informational Technologies
24	Yulduz	Abdurakhmonova	Rep of Uzbekistan	Chief of department	Tashkent University of Informational Technologies
25	Durdona	Irgasheva	Rep of Uzbekistan	Chief of department	Tashkent University of Informational Technologies
26	Venera	Karimova	Rep of Uzbekistan	Chief of department	Tashkent University of Informational Technologies
27	Zarina	Kasimova	Rep of Uzbekistan	Executive Director	Center of Programmers "Be-Pro"
28	Nodirkhon	Mukhamedkhonov	Rep of Uzbekistan	Head of department	Center of Programmers "Be-Pro"
29	Nodir	Parpiev	Rep of Uzbekistan	Head of department	Unicon.uz
30	Sardor	Khalmatov	Rep of Uzbekistan	ICT Engineer	Unicon.uz
31	Tolibjon	Mirzakulov	Rep of Uzbekistan	Head of Resource Center	Ziyonet under UZINFOCOM
32	Ibrokhim	Yormatov	Rep of Uzbekistan	Lead Expter	Ziyonet under UZINFOCOM
33	Nodir	Mirzaev	Rep of Uzbekistan	Deputy director	Branch of the Uzbektelecom
34	Ismoil	Sultanov	Rep of Uzbekistan	Expert	Branch of the Uzbektelecom
35	Shukhrat	Sharipov	Rep of Uzbekistan	Chief of Innovation department	Branch of the Uzbektelecom
36	Boburbek	Atajanov	Rep of Uzbekistan	Expert of Innovation department	Branch of the Uzbektelecom
37	Alisher	Ikramov	Rep of Uzbekistan	Secretary General	National Commission of Uzbekistan for UNESCO
38	Dilnoza	Kurbanova	Rep of Uzbekistan	Senior Expert on Education Programmes	National Commission of Uzbekistan for UNESCO
39	Alisher	Khashimov	Rep of Uzbekistan	Interpreter	
40	Malika	Pulatova	Rep of Uzbekistan	interpreter	



SPEAKERS

	First Name	Last Name	Country	Position	Organization
1	Chor Boon	Goh	Singapore	Associate Dean / General Manager, NIE International	National Institute of Education
2	Afzal Hossain	Sarwar	Bangladesh	Policy Expert (Education), Access to Information (a2i) Programme	Prime Minister's Office (PMO)
3	Cher Ping	Lim	Hong Kong, PR China	Professor, Department of Curriculum & Instruction	Hong Kong Institute of Education
4	Debbie	Lacuesta	Philippines	Project Manager, Mobile Technology Toolkit for SEA Teachers	SEAMEO INNOTECH
5	Hwei Ming	Lim	Singapore	Business Development Manager, NIE International	National Institute of Education
6	Byeong Gil	Sohn	Republic of Korea	Director, Global Policy Research Center	Korea Education and Research Information Service (KERIS)
7	Dooyoung	Lee	Republic of Korea	Chief of Section	Korea Education and Research Information Service (KERIS)
8	Jongwon	Seo	Republic of Korea	Senior Researcher	Korea Education and Research Information Service (KERIS)
9	Yoonkyung	Jung	Republic of Korea	Researcher	Korea Education and Research Information Service (KERIS)
10	Kris	Oswalt	Singapore	Managing Director (OpenEMIS Team Lead)	KORD IT PTE LTD
11	Karl	Turnbull	Singapore	Information Technology Programme Advisor (Senior OpenEMIS Advisor)	KORD IT PTE LTD
12	Kamil	Sliwowski	Poland	Project Coordinator and Resource Trainer	Digital Centre and Creative Commons-Poland
13	Tatiana	Nanaieva	Ukraine	CIS Corporate Affairs Director	Intel
14	Elena	Kuzminska	Ukraine	Business Technologies Development Centre, Education Programs Director	Intel® Teach Ukraine
15	Vladimir	Ivanov	Ukraine	Business Technologies Development Centre. Director; Intel Education Programs Manager	Intel® Teach Ukraine

UNESCO REPRESENTATIVES

	First Name	Last Name	Position	Organization
1	Gwang-Jo	Kim	Director	UNESCO Bangkok
2	Jonghwi	Park	Programme Specialist, APEID-ICT in Education Unit	UNESCO Bangkok
3	Maria Melizza	Tan	Programme Officer, APEID-ICT in Education Unit	UNESCO Bangkok
4	Aigul	Khalafova	Education Specialist	UNESCO Almaty
5	Svetlana	Knyazeva	Chief, Section of Digital Pedagogy and Learning Materials	UNESCO IITE
6	Krista	Pikkat	Head/OIC	UNESCO Tashkent
7	Bakhtiyor	Namazov	Education Programme Officer	UNESCO Tashkent
8	Arsen	Uzeirov		UNESCO Tashkent



ANNEX B. Detailed Summary of the Roundtable Discussion, by country and organization

Collaboration within Central Asia

- Mongolia:
 - To share their experiences on the ESIS (Enhanced Student Information System) development. The action plan until 2017 as well as the documents on the ESIS development will be shared.
 - Hope to have information about multimedia digital contents from Uzbek.
 - To adapt ICT CFT into the Mongolian context.
- Uzbekistan
 - Uzbek is ready to discuss on the educational resource portal/multimedia centres with any countries who's interested in implementing the similar settings.
 - It would be great if Uzbek can share how they get the support from the top decision makers and political will.
- Kazakhstan
 - What the delegate learned from the symposium will be shared with the MOE.
 - Information and experiences on their eLearning system/school infra will be useful to other countries. Proposed the Almaty Office to coordinate with other countries who are interested in having the documents on this initiative.

Possible support from other organizations or countries beyond CA

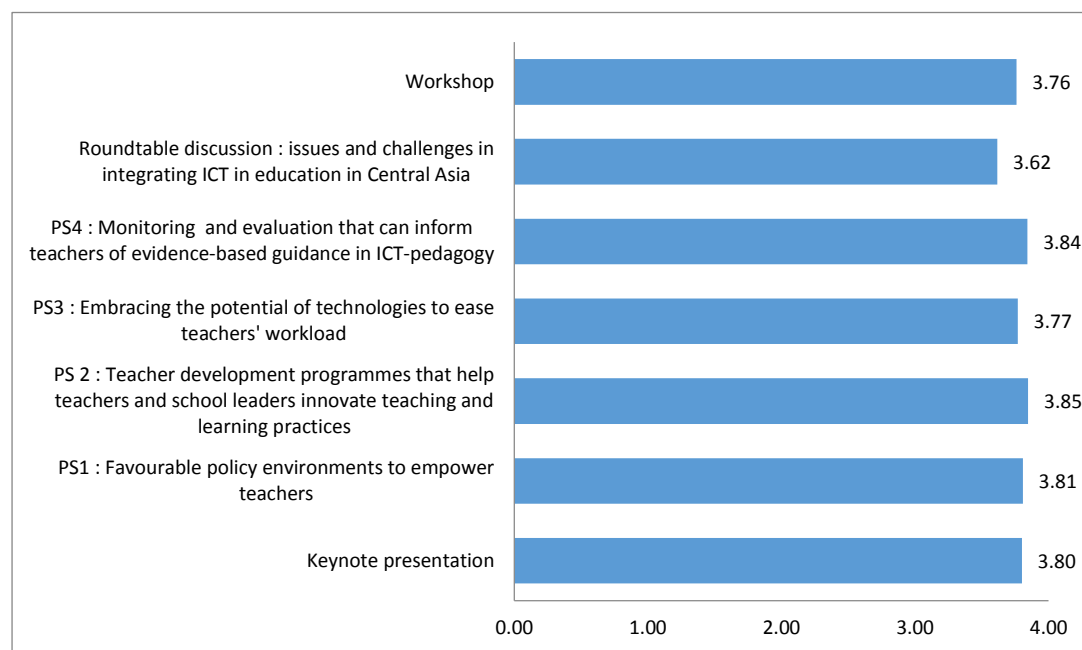
- UNESCO Bangkok
 - The Guidebook for a competency-based teacher training reform to facilitate the effective ICT-pedagogy integration is being developed. This shall be a good reference source for Member States who plan to reform their teacher training in a systematic way. The Guidebook will be ready by the end of August and Uzbekistan is included a pilot country of the project from the Central Asia (the other two are the Philippines from the South-East Asia and Nepal from the South Asia).
 - The UNESCO series of digital resources for teaching and learning which have been distributed across the region and beyond will be updated this year. The updated resources are planned to be distributed via the UNESCO Resource Distribution and Training Centres later this year. There is currently no RDTC from the Central Asia among the 24 Centres, unfortunately.
 - UNESCO Bangkok will again play a secretariat role in preparing and organizing the next Symposium (CASIE 2015).
- Intel
 - Jointly with UNESCO to conduct (quarterly) webinars starting from 2014 to popularize and share the materials and approaches from other countries. UNESCO to send a proposal to Intel on the possible themes and participants (also with Intel Asia Pacific): a potential theme can be the modern trends of ICT in Education (accessibility, connectivity, e-content, teacher professional development, etc.)
 - ICT in Education policy toolkit, together with UNESCO, to support countries to develop a holistic ICT in education policy (via coaching, expert consultations or workshops w/ country taskforce)
- OpenEMIS (CFS)
 - The SW and EMIS resources are all free to download at www.openemis.org.

- Go online and try out the demo applications as well as the mobile apps.
- Please use “contact” feature to ask questions and initiate the contact for the further implementation.
- Fill out the expression of interest from the OpenEMIS website to request a free dedicated trial environment and import country data.
- The support on the SW will be free of charge.
- KERIS
 - Cooperation and partnership would be a better term than support.
 - KERIS will further discuss with UNESCO to find a way to continue their support to this initiative, especially for the next CASIE.
 - KERIS is interested in continuing the discussion/exchange with the countries on a systematic teacher professional development programme.
- UNESCO IITE
 - Can offer a new inventory of OER for CIS and CA countries.
 - Support MOEs to raise the awareness of OER and policy guidelines for implementing the OER
 - Practical recommendations on how to adapt/localize the UNESCO ICT CFT (Intel is ready to support this workshop and situational analysis of teachers – diagnosis of the current status of teachers’ competencies)
 - All the materials are available at the IITE website.
- SEAMEO INNOTECH
 - Will extend its support beyond the SEAMEO countries, especially for the mobile toolkit for teachers (MT4T). Please contact SEAMEO INNOTECH for further information.
- Suggestions for the next symposium
 - It would be great if we can listen to ground-level implementers like teachers, not just at the macro level.
 - Also, participants from In-service teacher training institutes could benefit from learning what is happening in other countries.
 - To invite experts to the workshop from the private sectors beyond the education areas.



ANNEX C: Post-Symposium Evaluation and Feedback from Participants

Based on the feedback results with 26 responses, participants found the Symposium relevant (3.88/4), interesting (3.81/4), useful (3.85/4), and well-organized (3.85/4). The respondents indicated that they found the plenary sessions relevant, ratings across the Sessions ranged from 3.77 to 3.85 out of a possible 4 (Figure 1), showing that the participants connected with the topics discussed.



Survey results show that their knowledge (3.69/4) on the theme increased. Furthermore, it was evident from interactions during the roundtable discussion, workshops, and study visit that they found the discussions and concrete programmes presented interesting and noteworthy. CASIE 2014 was able to achieve its two main objectives, as evidenced by the ratings below:

- effective in encouraging the participants to share issues and challenges related to ICT in education – 3.69/4
- effective in promoting collaboration and partnership among Central Asian countries on ICT in education matters -3.65/4

The delegates from the 5 CA countries gave a 4.25/5 rating as to how extensive CASIE 2014 will impact education policy development within their countries, and a 4.08/5 rating as to how extensive CASIE 2014 will impact education practice (policy implementation) within their countries. They plan to report their findings to their ministry management in order to jumpstart discussions on enhancing their respective ICT in Education strategies. In line with this, they would like to recommend that their countries replicate the experiences of Uzbekistan and KERIS in setting up a focal agency on ICT in Education (Mongolia, Kyrgyz), OpenEMIS (UZ), and teacher development programmes (Mongolia). During the study visit, delegates from Kazakhstan, Tajikistan, and Kyrgyzstan were very vocal in their interest in partnering with the UZ MoPE on content sharing

and technical assistance. They requested that the spirit of collaboration be continued and that reports on countries' progress be shared regularly. Note: KZ delegate would like to act as speaker in future events.

Participants suggested the following improvements to CASIE: (1) involvement of ground-level implementers like teachers to enrich the discussions with practical perspective, (2) inviting participants from In-service teacher training institutes so that they can learn what is happening in other countries, and (3) status of countries be presented earlier during the Symposium to set the tone of the discussions.





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