Uzbekistan Team (A)

Case study in progress from the KIX-EAP learning cycle Feasibility Studies on Scaling Innovation held in collaboration with Nazarbayev University

Last updated on: March 2022

Elena Volkova, Course Leader for the PGC TL, Westminster International University in Tashkent
Gulnaz Bektemirova, Director for Students Support, Westminster International University in Tashkent
Malika Shavkieva, Lead Specialist at National Teachers` Association of the Republic of Uzbekistan
Svetlana Fayzullina, Senior Specialist in International Cooperation and Research, Innovation, Technology and Strategy Centre under the Ministry of Public Education of the Republic of Uzbekistan
Aleksey Semyonov, Deputy Rector Academics, TEAM University

About case studies in progress

This case study in progress was drafted by a national team that participated in the KIX EAP Learning Cycle: Equitable Access to Education with Geospatial Data. Case studies in progress are ongoing and incomplete studies. As such, the KIX EAP Hub/ NORRAG does not guarantee the quality of the work nor the accuracy of the data.

The KIX EAP Learning Cycles are supported by the Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX), a joint endeavour with the International Development Research (IDRC), Canada. The findings, interpretations, and conclusions expressed in the Learning Cycle outputs do not necessarily reflect the views of the KIX EAP Hub, NORRAG, GPE, IDRC, its Board of Governors, or the governments they represent.

About the KIX-EAP Hub

The Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX) is a joint endeavour with the International Development Research Centre (IDRC) to connect expertise, innovation, and knowledge to help GPE partner countries build stronger education systems and accelerate progress toward SDG 4. There are globally four KIX hubs or Regional Learning Partners, overseen by IDRC. The hub functions as a regional forum within KIX. NORRAG (Network for International Policies and Cooperation in Education and Training) is the Regional Learning Partner for the KIX Europe Asia Pacific (EAP) hub.
The KIX EAP hub facilitates cross-country knowledge and innovation exchange and mobilisation, learning, synthesis, and collaboration among national education stakeholders in 21 GPE partner countries in the EAP region.. The hub also offers opportunities for peer learning and exchange by means of professional development and inter-country visits.

About the learning cycle on 'Feasibility studies on scaling innovation'
This case study is a result of the KIX EAP Learning Cycle "Feasibility Studies on Scaling Innovation". Organised by NORRAG and the Nazarbayev University Graduate School of Education (NUGSE), this skills- and outcomes-oriented course ran from September 2020 to January 2021. Across 11 weeks, this professional course enabled national experts to publish evidence-based studies by examining the conditions whereby it is feasible to scale up an existing innovation or a pilot project in their country. Nine teams of educational sector experts from Georgia, Kyrgyzstan, Moldova, Tajikistan and Uzbekistan took part in this Learning Cycle.

Contents

Acronyms and Abbreviations

ADB	Asian Development Bank
CIESD	Central Institute for Education Staff Development
COM	Cabinet of Ministers
DE	Distance Education
DEDC	Distance Education Development Centre
ELT	English Language Teaching
HE	Higher Education
IBL	Inquiry-Based Learning
ICT	Information and Communications Technology
INSET	In-service Training
LMS	Learning Management System
LRC	Learning Resource Centers
MHE	Ministry of Higher Education
MHSSE	Ministry of Higher and Secondary Specialised Education
MoPE	Ministry of Public Education
NPPT	National Program for Personnel Training
PRESET	Pre-service Training
RCU	Regional Coordination Units
VLE	Virtual Learning Environment

1. Introduction

During the early 2000s Uzbekistan's education sector experienced many challenges. As the student enrollment rate for basic education increased and the prospective continued growth of student intake, staffing pressures increased. In particular, the qualification of teachers became a concern, as close to one-third of all teachers held only a secondary pedagogical education qualification. The need for a structured approach to staff In-service Training (INSET) and professional development grew in importance, especially in rural areas where the percentage of teaching staff with only secondary pedagogical qualifications was higher than in the capital or urban areas. This created a need for INSET and professional development activities to reach out to remote and rural areas.

From 2002 to 2010, the Asian Development Bank (ADB) co-funded the "Uzbekistan: Education Sector Development Project"[1] to address the quality of basic education and improve sector management practices through policy, legal and institutional reforms. Moreover, the project aimed to address problems relating to the quality of education in primary and secondary levels in public sector and specifically the issue with staff qualifications and professional development of teaching staff. Priority was given to poor and remote rural areas where there was a need for modernization of management in the education sector.

This study aims to evaluate the innovations proposed by the Uzbekistan: Education Sector Development Project. Particularly it examines the feasibility for scaling the element of building a network for Distance Education Development and integrating distance INSET for teachers across Uzbekistan. Within the study, an online survey was administered to collect quantitative and qualitative data from participants of the distance training program.

Overall, our study showed some significant results, such as support for a blended mode of learning and the introduction of innovative technologies to support learning activities, and increased awareness of alternative modes of education among the population of beneficiaries. Thus, based on the feasibility study and the results of the conducted research, two recommendations for scaling and continuation were drawn from the initial pool of the project outcomes:

1. Scale-up and enhance the Virtual Learning Environment (VLE) – Moodle for delivery of professional development courses and,
2. Introduce a web-based skills development program to equip learners with the skill sets necessary for professional development online and in blended modes.

Finally, this study examines the feasibility of scaling some components of the Uzbekistan: Education Sector Development Project at Avloniy Central Institute for Education staff development.

---

[1] Asian Development Bank. (2010). *ADB Completion Report Uzbekistan: Education Sector Development Project*. https://www.adb.org/sites/default/files/project-document/62127/34160-02-uzb-pcr.pdf

2. Background and context of "Uzbekistan: education sector development project"

The education sector in Uzbekistan experienced various challenges in the early 2000s. The number of students enrolling grew at pre-school, general education school and high school levels (See Table 1 and Table 2). The number of teachers in general education grew accordingly, from 454,400 in 2001 to 476,900 in 2004. However, over the same period the level of educational qualification of teachers decreased from 70.5% with Higher Education (HE) qualifications in 2001 to 68.6% in 2004 (see table 8). With the projected continued growth of the student intake, staffing pressures have increased. In particular, the level of qualification of teachers became a concern, as close to one-third of all teachers held only secondary pedagogical education qualification. Thus, increased focus was placed on vocational in-service training of teaching staff across Uzbekistan with 170,407 staff trained in 2004 (including 66,899 in training institutes, 16,972 in training centers of Higher Education Institutions (HEI), and 73,251 in other forms of training courses) (see table 9).

The need for a structured approach to staff INSET and professional development grew in importance. The issue was particularly acute in rural areas and in the regions, where the percentage of staff with secondary pedagogical qualifications was higher than in the capital (See Table 3 below). This created a need for INSET and professional development activities to reach the regions and distant rural areas.

From 2002 to 2010 the Asian Development Bank co-funded the Uzbekistan: Education Sector Development Project2, which aimed to address the quality of basic education and sector management practices through legal, and institutional reforms in order to meet the challenges faced by public primary and secondary education, and specifically the issue of staff qualifications and professional development. Priority was given to poor and remote rural areas and the need to modernize sector management.

The project (see Annex 1 for project details) included three primary outcomes and the Validation Report3 stated that outputs for components 1 and 3, on policy reforms and on decentralization of school management, were achieved. On the closure of the project in 2010, the second component on Improving and Extending Teacher Education was reported as partially achieved.

Several innovations were proposed under the second component of the Education Sector Development Project, on Improving and Extending Teacher Education. These included four subcomponents:
1. distance education capacity development through a network established in selected distance education units;
2. upgrading of teaching in primary schools by development multigrade teaching modules, a cascade training program, and a trial distance education course;
3. dissemination of new teaching methods in the fields of mathematics, information and communication technology (ICT), languages, natural sciences, and social sciences;
4. upgrading of teaching in junior secondary schools for subjects with the most significant shortage of experienced teachers. This element of the project had also planned to achieve higher outreach of training activities for primary and secondary school teachers.

---

[2] Ibid.
[3] Asian Development Bank. (2011). *Uzbekistan: Education Sector Development Program Validation Report*. https://www.adb.org/sites/default/files/evaluation-document/35552/files/in54-11.pdf

Table 1: Basic Indicators of Education (as of year-end)

	2001	2002	2003	2004
Number of, thou.:				
current population	25,210.8	25,523.0	25,802.5	26,116.4
permanent population	25,115.8	25,427.9	25,707.4	26,021.3
Average annual number of current population, thou.	25,059.5	25,366.9	25,567.7	25,959.5
Pre-school institutions	6,865	6,899	6,746	6,603
enrolled children, thou.	642.5	631.1	591.7	575.1
Percentage of the number of children at respective age	19.4	19.9	19.2	18.4
Availability of places for children in pre-school institutions, number of children per 100 hundred places	75	74	72	71
Regular general education schools	9,730	9,750	9,791	9,794
enrollment, thou.	6,057.7	6,309.1	6,241.2	6,130.5
Evening(shift-based) general education schools	58	49	43	41
enrollment, thou.	18.7	20.0	21.9	20.9
Academic high schools	47	51	54	65
Number of students enrolled, thou.	17.5	20.5	26.2	30.5
Number of students admitted to academic high schools, thou.	10.6	9.3	10.3	13.4
Number of graduates of academic high schools, thou.	1.3	4.4	2.6	7.0
Vocational colleges	303	414	533	827
enrollment, thou.	216.8[1]	366.9[1]	531.6	757.6
Admissions to vocational colleges, thou.	164.0	184.1	201.3	310.1
Number of graduates from vocational colleges, thou.	3.8	24.4	27.7	194.7
Secondary special educational institutions	181	141	95	-
student enrollment, thou.	211.9[2]	158.5[2]	126.2	-
per 10 ,000 persons	84	62	49	-
Number of students admitted to the secondary special educational institutions, thou.	47.8	43.1	44.6	-
Number of graduatesиз secondary special educational institutions, thou.	87.7	94.6	75.8	-
per 10,000 persons	35	37	30	-
Higher academic institutions	61	62	62	63
student enrollment, thou.	207.2	232.3	254.4	263.6
per 10 ,000 persons	82	91	99	101
Students admitted in higher educational institutions, thou.	50.6	54.6	61.0	59.3
Number of specialists- graduates of higher academic institutions, thou.	36.0	39.8	45.5	52.8
per 10,000 persons	14	16	18	20

Hereinafter:

1) Including the students of secondary special and technical educational institutions, enrolled in vocational college programmes

2) Excluding enrollments in vocational college programmes

The project developed distance education capacity through a network of Distance Education Development Centres (DEDC) located at the Central Institute for Education Staff Development (CIESD) in Tashkent; 14 regional coordination units (RCUs), one in each region; and 70 pilot Learning Resource Centres (LRCs) in five selected districts of each region. Among other things, the project helped renovate all distance education centres, provided all the necessary equipment materials and expanded capacities for teacher trainings.

Although capacity building for training was given attention, the closure of the project brought an end to the development of distance professional development. Meanwhile, the problem of professional qualification of secondary school teachers persists. As evident from the World Bank's most recent Uzbekistan Education

Sector Analysis[4], the issue of staff qualification enhancement persists. The report[5] states that in 2018 in secondary specialized and vocational education, "one out of every three teachers does not hold a higher education degree, indicating that quality is a concern in this subsector" (World Bank, 2018). Uzbekistan's teaching workforce is young – over 50 percent are under 45, while the average number of years of teaching experience is 12, and overall average work experience is 15 years (Ibid).

Table 2: Enrolment by educational level (at the beginning of academic year; thousand persons)

	2001/ 2002	2002/ 2003	2003/2004	2004/2005
Total enrollment	**7,157.9**	**7,471.2**	**7,531.8**	**7,517.8**
Enrolment in:				
- general education schools	6,076.4	6,329.1	6,263.1	6,151.4
- academic high schools	17.5	20.5	26.2	30.4
- vocational colleges	216.8	366.9	531.6	757.6
- technical educational institutions[x)]	105.0	63.7	4.4	6.1
- secondary special educational institutions	211.9	158.5	126.2	-
- at higher educational institutions	207.2	232.3	254.4	263.6
- postgraduate education	3.4	2.9	2.6	2.2
- doctorate degree program	0.3	0.3	0.2	0.2
- in-job training[x)]	319.4	297.0	323.1	306.3

[x)]*Those who have been trained at companies and organizations, and enrolled in other forms of education (Included in the data as per end of reporting year)*

Table 3: Teachers in general education schools by region (at the beginning of academic year; thousand persons)

	2001/2002	2002/2003	2003/2004	2004/2005
Uzbekistan	454.4	466.3	472.8	476.9
Karakalpakstan	37.7	37.2	37.1	36.6
Andijan	36.6	37.3	38.7	40.4
Bukhara	27.9	35.3	28.2	28.8
Djizak	19.2	19.2	19.2	20.1
Kashkadarya	50.7	52.1	55.0	54.0
Navoi	16.4	16.7	17.2	17.4
Namangan	32.2	32.4	31.7	33.3
Samarkand	57.7	57.5	62.3	61.0
Surkhandarya	34.8	36.2	37.8	38.6
Sirdarya	11.6	12.1	11.2	11.3
Tashkent	34.8	31.8	34.2	33.9
Fergana	46.8	48.1	50.1	50.8
Khorezm	27.0	29.8	30.3	31.0
Tashkent City	21.0	20.6	19.8	19.7

[4] World Bank. (2018). *Uzbekistan Education Sector Analysis Final Report*. https://documents1.worldbank.org/curated/en/379211551844192053/pdf/Uzbekistan-Education-Sector-Analysis.pdf
[5] Ibid

3. Innovation examined for the scaling up feasibility study

This study aims to evaluate and validate the success of the innovations proposed by the Project, particularly in relation to the element on building a network for Distance Education Development and integrating distance INSET for teachers across Uzbekistan. The purpose of the evaluation is to assess the feasibility of scaling up the features of the innovations.

The "Uzbekistan: Education Sector Development Project" aimed to introduce many novel practices in areas of teacher education, teaching and learning. These include the selection of on-the-ground groups of trainers and their overseas training, a new approach to material design and methodology, and a new approach to administering the process. For this study, we examine the following two innovative approaches:

- Online mode of delivery, and
- The use of Moodle as a Learning Management System (LMS)

The online mode of delivery has the potential for being convenient and flexible, while the Moodle could be easy to easy to use and efficient.

The research team developed a Theory of Change (ToC) and a logical model to examine evidence for the evaluation and feasibility of scaling up.
Theory of Change Statement

If distance education for teachers is introduced in Uzbekistan, it will lead to improved teaching capability and better student learning because more teachers will have opportunities to take a professional development course that is up-to-date and reflective of contemporary approaches in teaching and learning.

Table 4: Logical model for the Online INSET

Input	Activities	Outputs	Intermediate Outcomes	Long-term Outcomes
ADB funding Uzbekistan Government funding Central Institute for Education Staff Development District Educational Departments	Train core group of national professionals in distance education program development Develop three trial distance education programs in (i) primary school teaching, (ii) new teaching methodologies, and	Training staff trained Distance education development center, 14 regional coordinating units and 70 learning resource centers (LRCs) equipped and functioning Ready blended/ distance	Enhanced national capacity to develop distance education for teachers Qualified staff at Distance education development center, coordinating units and 70 LRCs for further support of teachers Increased opportunity for in-service teacher training through	Improved teachers' teaching Improved student learning Better access to professional development opportunities (new teaching methods) across country, including remote areas

British Council Coordinator Teaching staff of public schools	(iii) selected secondary school subjects Establish Distance Education Centers comprising one distance education development center, 14 regional coordinating units; and 70 learning resource centers (LRCs) Three vans, equipped as LRCs, provided; allowing extension of distance education into remote areas Supply DECs with equipment and materials; Develop Modules to train teaching staff Expose to ICT skills development course approximately 75,000 staff Expose to new methods of teaching at least 75,000 through distance education means	professional development Modules (curriculum) Teachers equipped with adequate ICT skills to undertake distance education Teachers exposed to new teaching methodology through distance learning Fully functioning course (all professional development modules) on LMS Performance KPI and improved knowledge and skills of teachers	distance training system Enhanced capacity to deliver on modern teaching methods in in-service teacher training	

Assumptions

Project-suggested assumptions and risks[6]:
- Identification of qualified personnel
- Release of staff to undergo training
- Joint MoPE–MHSSE collaboration to develop modules
- MoPE commitment to establish distance education system and include certification programs
- Government funding to rehabilitate staff, and maintain distance education units and centers; Confirmation of technical feasibility (infrastructure and communications)
- Collaboration between pre and in-service institutions; Government funding for civil works; Sufficient incentives for module writers, trainers, and teachers; Coordination and scheduling of multiple programs

Additional assumptions requiring consideration:
- Central Institute for Education Staff Development - regional hubs have funding for extra places

---

[6] Asian Development Bank. (2010). *ADB Completion Report Uzbekistan: Education Sector Development Project*. https://www.adb.org/sites/default/files/project-document/62127/34160-02-uzb-pcr.pdf

- Regional hubs have necessary infrastructure to support equipment
- School based learning centers have physical capacity to dedicate a room for computers
- School-based learning centers are capable of covering the costs for maintenance of computers, internet and software
- School-based learning centers will be used for training purposes for at least 3 hours every day
- Schools have capacity for data collection
- Schools have necessary communication mechanisms to process questionnaires to identify needs
- Schools are able to allow teachers to undergo training in addition to their day-to-day responsibilities
- Teachers have access to the necessary technology to study in blended mode
- Teachers have the necessary skills and understanding for blended learning activities
- INSET blended courses for teachers will save time and help to avoid family issues when leaving their hometowns to go to regional teacher training
- Teachers have time to undergo additional trainings
- Teachers will have opportunities to enhance their computer literacy
- Technological skills will enable teachers to access teaching resources, accordingly, they will be in line with students' expectations
- Schools are capable of paying the contracts
- Teachers will have access to more affordable broadband
- Special school tariffs may be issued by internet provider companies
- Curriculum will be needs based
- Curriculum will address all the needs identified
- Curriculum will address the needs for the education of the future
- All training staff will be able to undergo training
- Distance education development center institute has capacity to ensure sustainability of training arrangements
- Learners have access to technology for remote learning
- Teachers will be able to implement acquired practices on distance in-service training courses straight away
- Distance education development centers have the capacity to monitor courses and evaluate the implementation of the project on the constant basis

The following sub-section provides an outline of the research design and methods utilized in conducting this study.

4. Study methodology

The research for this study was conducted through the analysis of secondary data on the evaluation of the program and with the collection of primary data through surveys and interviews.

A two-step mixed method approach was employed to collect primary data. First set of participants were asked to fill out an online survey questionnaire. Then an indepth data collection took place through interviews, focus groups and LMS platform review by the researchers.

The sample of primary data collections was as follows:
- 1700 (93 respondents) Program participants (Senior Subject area teachers from the local hubs of the Ministry of Public Education also known as 'Methodologists' who have undergone the distance learning course);
- a representative of the program administrators;
- a focus group of 10 current course participants;
- the existing LMS used for the course delivery – Moodle.

For the online survey, potential participants were invited through Telegram channels used by teachers. These Telegram channels included all senior subject area teachers under the local educational departments across the country who had at some point been registered on the program. The target population included over 1,700 people. An invitation to participate in the survey was posted on the selected Telegram channels with a link to the questionnaire. Thus, the sample technique can be referred to as a "convenience sample". Participation was voluntary and thus a self-selection technique was employed within the sample frame.

The questionnaire comprised a set of questions related to participants' background data, a number of Likert scale questions to evaluate the participants' experience on the distance course and a set of open questions inviting participants to provide recommendations on improvements to the program. Due to the COVID-19 pandemic, cost-effectiveness and outreach to participants from across Uzbekistan, only online forms were administered. 93 responses were collected. By administering the questionnaire online, the research team understood the likelihood of sampling a more "technologically-aware" set of respondents, and acknowledge that this is a limitation of the evaluation study. In addition, the sample cannot be considered representative. However, considering time and resource constraints, alternative survey administration options did not appear feasible. Analysis largely focusing on descriptive statistics, although the dependency between the parameters was also explored. Pairwise correlation tests were run with the level of significance set to $p<0.05$.

Data was also collected through a semi-structured interview with a course administrator, who was selected as she has in-depth knowledge of the project being evaluated. Additionally, her exposure to the project activities both in the past and at present were considered necessary for the study.

To triangulate the outcomes of the survey and gain deeper insights into the answers received, a focus group interview was conducted with 10 current course participants. The discussion was designed to gather information on the following issues:

- To understand whether the Moodle platform was convenient and user-friendly;
- To identify whether IT skills are sufficient for taking the course;
- To find out whether the course materials on offer met professional development needs.

The team was granted access to the LMS and was able to thoroughly explore how the system was organized. The access granted had a student view, but this did not impede the overall comprehension as team members were all efficient users of different types of LMS and have had sufficient exposure to online teaching and learning.
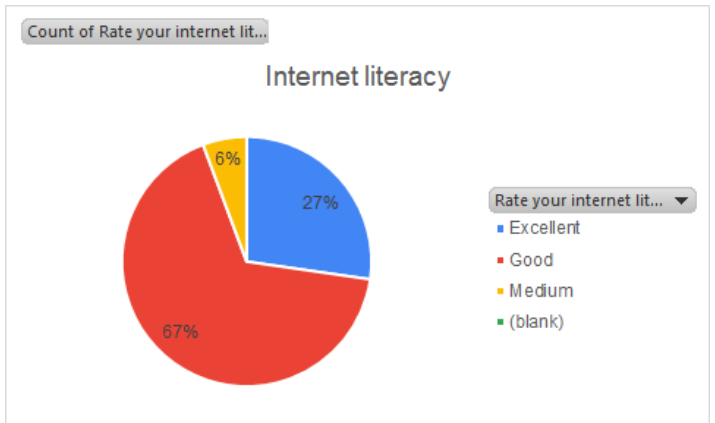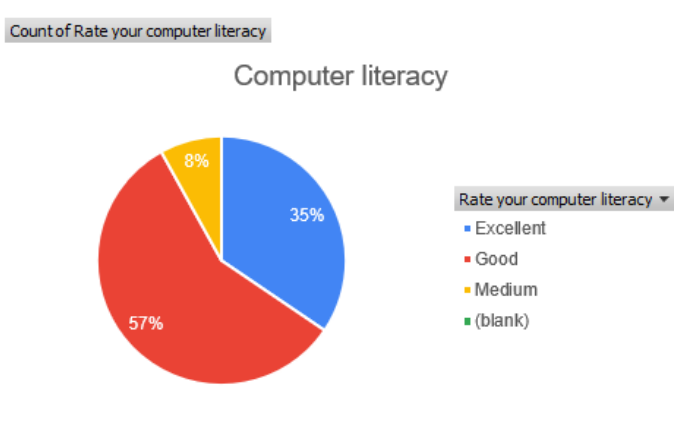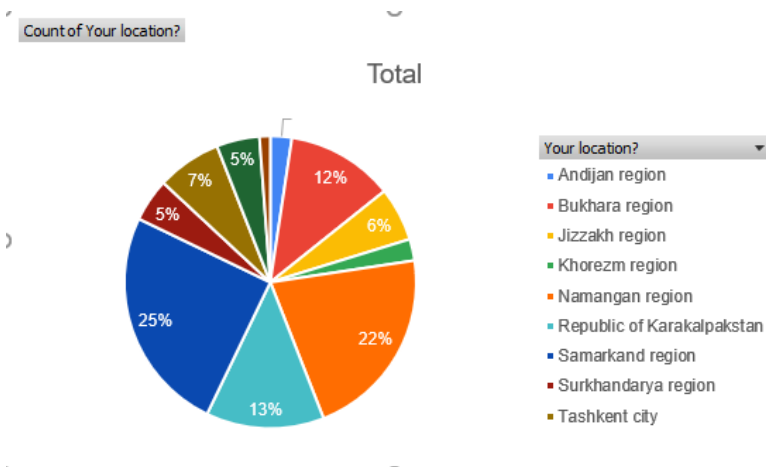
5. Findings

5.1 Survey Findings

Descriptive overview of the sample

Course completion rate

- A fraction (25%)
- Fully (100%)
- Partially (50%)
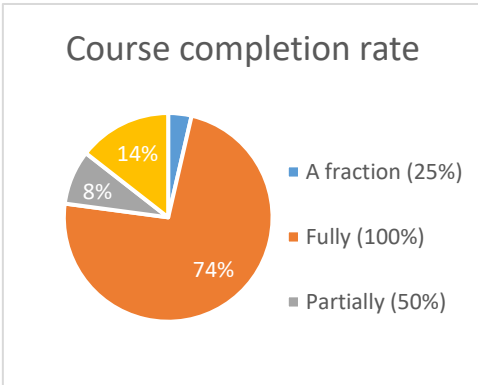
Sample description - the total sample of 93 people responded to the online questionnaire. Five responses were discarded as incomplete. Of the remaining 88, the majority (74%) had fully completed the distance professional development course for teacher trainers. Another 14% reportedly completed more than 75% of the course. The rest completed only a fraction of the course.

The sample collected is representative of all regions of Uzbekistan, with the largest samples from Samarkand region (25%), Namangan region (22%), Karakalpakstan (13%) and Bukhara (12%).

Count of Your location?

Total

Your location?
- Andijan region
- Bukhara region
- Jizzakh region
- Khorezm region
- Namangan region
- Republic of Karakalpakstan
- Samarkand region
- Surkhandarya region
- Tashkent city

Count of Rate your computer literacy

Computer literacy

Rate your computer literacy
- Excellent
- Good
- Medium
- (blank)

Count of Rate your internet lit...

Internet literacy

Rate your internet lit...
- Excellent
- Good
- Medium
- (blank)

The vast majority of respondents rated their computer and internet literacy as good (57% and 67% respectively), although the representativeness of this indicator may be questioned due to the selected method self-selection where respondents could only answer the survey online. Another 35% and 27% respectively rated their skills on the two parameters as excellent. Interestingly, none of the respondents reported poor skills in computer literacy.
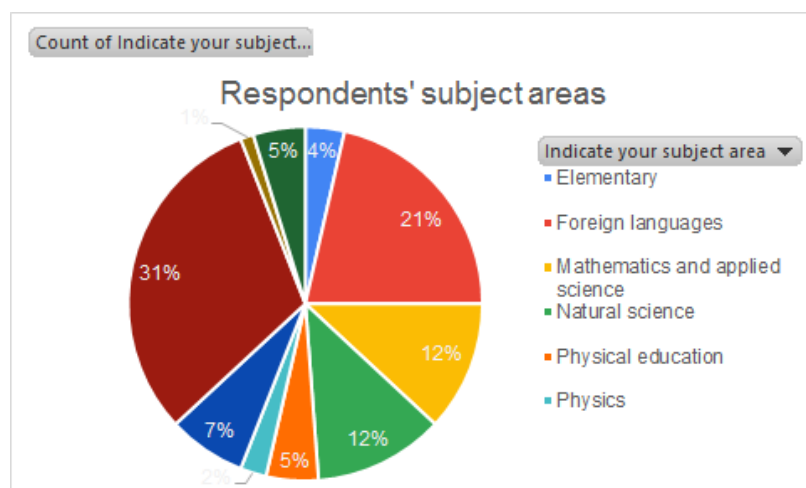
Subject areas were unevenly represented in the sample, with a third of all participants (31%) representing Social Sciences, 21% - Foreign languages, and 12% - Natural sciences and Physical Education each. The remaining subject areas were represented by fractions of under 7%.
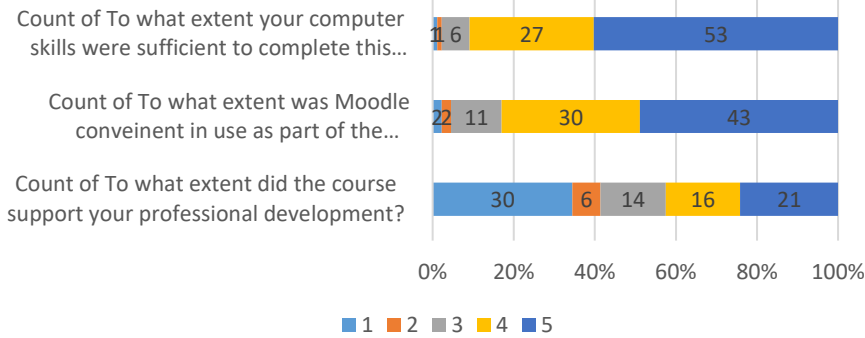
Distance course evaluation

Regarding the respondents' evaluation of their in-course experience, a 5-point Likert scale was used with 1 indicating the lowest and 5 as the highest. The respondents evaluated relatively high sufficiency of their computer skills for the completion of the distance learning course (*M=4.48, SD=0.77)* as well as the convenience of Moodle as a distance learning platform (*M=4.25, SD=0.92).* Significantly lower results, however, were received for the course effectiveness in supporting teacher trainers' professional development (*M=2.90, SD=1.6)* which was the major goal of the training. See Table 4 below.

Table 4: Descriptive statistics of course experience evaluation

	Sufficiency of computer skills	Moodle was convenient	Course supported professional development
Mean	4.47	4.25	2.905882353
Standard Error	0.082377918	0.098645476	0.174432677
Median	5	4	3
Mode	5	5	1
Standard Deviation	0.772773371	0.925376593	1.608189824
Sample Variance	0.597178683	0.856321839	2.58627451
Kurtosis	-4.414787913	2.183388173	-1.591956297
Skewness	-1.833915103	-1.413755874	-0.001725875
Range	4	4	4
Minimum	1	1	1
Maximum	5	5	5

Sum	394	374	247
Count	88	88	88

Course experience and evaluation

Count of To what extent your computer skills were sufficient to complete this…: 1 | 6 | 27 | 53

Count of To what extent was Moodle conveinent in use as part of the…: 2 | 2 | 11 | 30 | 43

Count of To what extent did the course support your professional development?: 30 | 6 | 14 | 16 | 21

0% 20% 40% 60% 80% 100%

■ 1 ■ 2 ■ 3 ■ 4 ■ 5

Meanwhile, the majority of respondents consider the modules offered as part of the course as either highly relevant (75%) or partially relevant (24%). 1% indicated that the modules are irrelevant. Over one-third of respondents reported no challenges in using the course. 5.5% to 8% of respondents indicated challenges were associated with *Assessment, Technical issues (Internet quality being the primary)* and *Political topics* covered as part of the content (*Presidential decrees, laws, etc.*).

Necessity of Moodle training

2%

98%

■ No
■ Yes
■ (blank)

An absolute majority indicated the need for a pre-training on the use of Moodle platform (98%). Though teachers self-assessed their computer and Internet skills as high, a pre-training session on Moodle, particularly, in terms of the platform navigation was still considered necessary. Moodle was considered as a very convenient platform however, the rigor was very low since the course was not challenging at all, and it virtually did not support teachers' professional development (modal answer was the lowest 1).
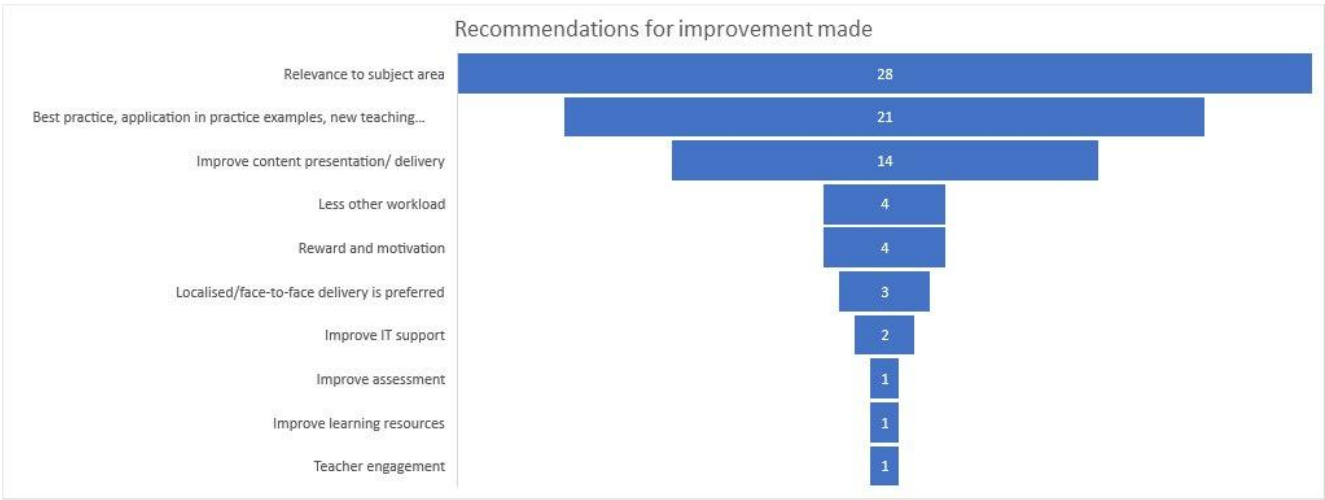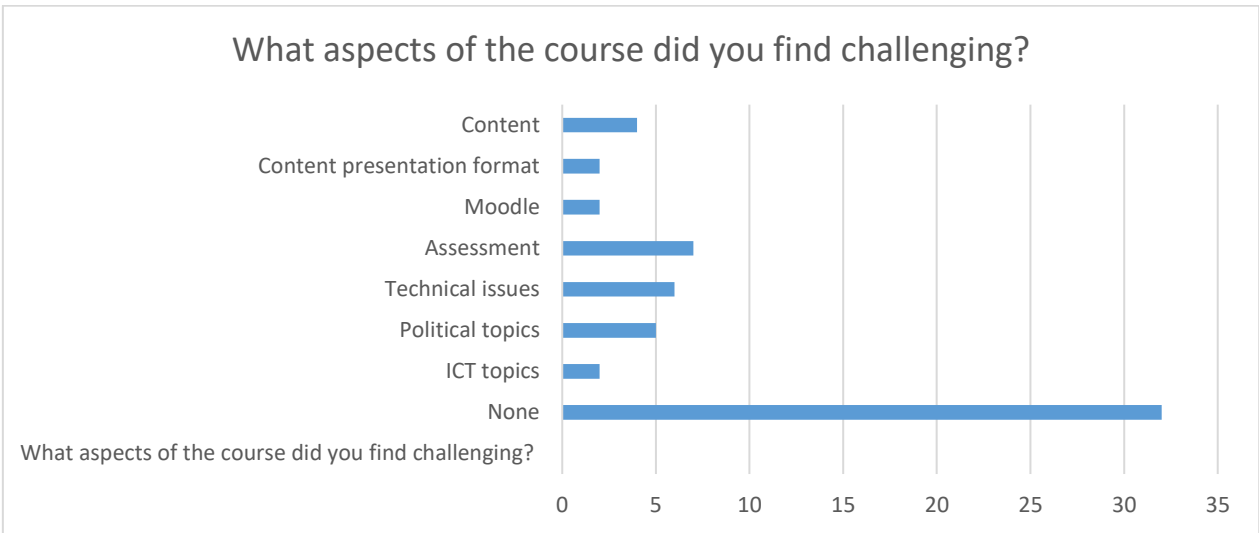
The final part of the questionnaire prompted respondents to suggest areas for improvement in the content and organization of the course. The top three suggestions made by the majority of respondents were:

Count of To what extent were the modules covered as part of distance training relevan…

Modules' relevance

1%

24%

75%

To what extent were the… ▼
■ Irrelevant
■ Partially relevant
■ Very relevant
■ (blank)

1. To enhance the content of the course in order to make it relevant to the daily practice of teacher trainers, thereby enhancing its practical use (these correlates to the relatively low evaluation of the practical use of the course to the professional development of participants);
2. To offer live presentation, master classes and pre-recorded video materials on best practice of local and international practitioners in the same field (teacher trainers);
3. To vary the format of content presentation, as currently the content is mainly restricted to a PowerPoint presentation or some reading material and a follow-up quiz.
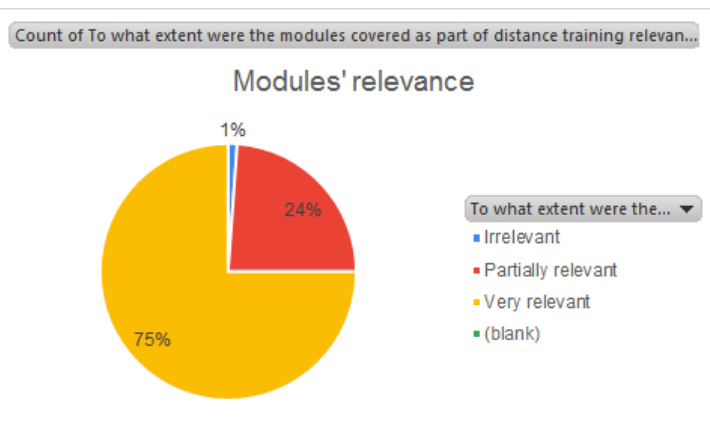
Among other suggestions made were requests to relieve trainees of daily working responsibilities for the period of training due to work overload and lack of focus on the training program, as well as to explore the possibility of rewarding course participants. It is unknown if participants were given any certificates for course completion or level of achievement.

What aspects of the course did you find challenging?

Aspect	Value
Content	4
Content presentation format	2
Moodle	2
Assessment	7
Technical issues	6
Political topics	5
ICT topics	2
None	32
What aspects of the course did you find challenging?	

Recommendations for improvement made

Recommendation	Value
Relevance to subject area	28
Best practice, application in practice examples, new teaching…	21
Improve content presentation/ delivery	14
Less other workload	4
Reward and motivation	4
Localised/face-to-face delivery is preferred	3
Improve IT support	2
Improve assessment	1
Improve learning resources	1
Teacher engagement	1

Since the course covered general pedagogy, it was not considered relevant for the subjects taught by the teachers. Thus, it is unlikely that it contributed to professional development.

5.2 Interview with the course administrator

The interview[7] took place at Westminster International University in Tashkent.

- The interviewee outlined that in the initial project, 244 tutors were prepared to cascade the training but only 20 are currently engaged in this work; The interviewee outlined various reasons for this. In the initial

---

[7] Participants were M – interviewee, Gulnaz Bektemirova - interviewer, Malika Shavkiyeva – note taker, Elena Volkova - observer. The interview lasted for 30 minutes and all responses were voice recorded. The team members established emotional relatedness and rapport and thus, M felt comfortable enough to talk about critical issues freely.

group there were many people who were selected for the training following promotion but later these people left the project due to lack of motivation. Others changed their place of work and career. Poor selection and monitoring of the group may be the main problem.

- The content of the course was initially developed by international experts but at a later stage it was revisited by local experts (10 experts per subject);
- Initially the course was offered to those with appropriate computer literacy, but gradually the course became compulsory thereby requiring participants to have a good level of computer skills as a prerequisite;
- Course attendance is strongly monitored and non-attendance results in exclusion. In case of exclusion, participants have to study and pay for the course;
- The course requires two hours per day and an assessment at the end;
- Currently the course is focused on three main modules and the duration of the course is equal to 144 hours. Each module has an allocated timeframe and is only delivered within this timeframe.
- Upon completion, participants are added to the database of Ministry of Higher Education (MHE) for further monitoring. However, a monitoring plan was not properly developed and thus this was not implemented.

5.3. Focus Group Interview

The main objective of the focus group interview[8] was to gain a deeper understanding of the learning experience of the participants in a professional development course on Moodle. Since the Moodle Learning Management System was identified as an innovation, we also aimed at analyzing how user-friendly the system was for participants. In total, 10 participants (nine women and one man) participated in the focus group interview. All were subject area specialists from both Tashkent and regional hubs.

Only a few participants experienced difficulties using Zoom, which implies that most of the participants are moderate computer users and hence their IT skills were probably sufficient for taking the INSET distance course.

While participating via Zoom may have helped participants feel less inhibited, and also allowed them to save commute time, it was clear that six participants joined from their school buildings. This caused some disturbance due to background noise. Three participants were also wearing coats, presumably due to lack of heating in the school buildings.

Participants noted the flexibility of Moodle as they could "access it any time of the day" and it was "very convenient" for them. They also highlighted that this mode of studying enabled them to work from home and avoid spending resources on commuting. Participants highlighted that Moodle is based "on international standards" and the platform is "good to base the future courses for both teacher training and teacher retraining".

Regarding negative comments, participants noted that this format of learning was "new and it was difficult at the beginning". They also noted that "it would be better if Moodle materials were available on Telegram as well since it is more accessible than the platform". They also experienced "technological access issues" and lacked "Moodle using and navigation skills" in particular at the start. However, they were able to overcome the aforementioned issues throughout the course.

Course learning materials were mostly reading material with follow-up tests. When observing the participants' answers, we noted that insufficient time was allocated to the reading part and participants seem

---

[8] The interview was conducted via Zoom on November 20, 2020 by Aleksey Semyonov and observed by Elena Volkova, Gulnaz Bektemirova and Svetlana Fayzullina. Malika Shavkiyeva was a moderator.

to go straight to taking the tests. It was also noted that reading materials and assessment were highly focused on state standards and government decrees and, in fact, the tests contained some outdated material, such as decrees that were no longer valid.

It was noted that the methodology of the course delivery rests on the traditional presentation-assessment method which was reported as ineffective. Participants mentioned that the course does not really meet their professional development. It was also obvious that the participants took the course because it was obligatory.

The following questions were asked by the focus group participants during the discussion:

- To what extent is it possible to employ learning by doing?
- What does the course teach - reading and tests?
- To what extent could video cases, real examples and best practice sharing be employed?
- What about diversification of assessment?
- Does awareness of state decrees need better justification as a topic of the course?

6. Limitations of the evaluation study

Within the conditions and the time limitation, we envisaged certain problems and risks to the research quality. Employing triangulation, the research team tried to collect unbiased data to evaluate the course. However, considering the methodology employed the following biases might have affected the validity and reliability of the results obtained.

Firstly, the questionnaire involved items on technology and IT literacy and since it was distributed online, only participants with an adequate level of IT skills were likely to respond. This assumption is somehow buttressed by the results of the survey, as the majority of respondents indicated proficiency in the use of technology.

Secondly, the focus group was organized via zoom, and again seemed to involve only those participants who have stable internet access. Internet access is problematic in regions of Uzbekistan. Although some participants accessed the focus group from their homes, others connected from work. Clearly, the focus group only involved participants who had access to technology. For some participants, conducting focus group discussions online was inconvenient because of technical issues. For example, a couple of participants dropped out a few times due to poor Internet connections but rejoined within minutes. The session flow was somewhat slow and at times we could not see the participants clearly or sense their emotions due to connection issues.

Thirdly, the survey only had 93 respondents out of 1700, which is not enough to claim the results with the 5 percent confidence level. Conclusions were drawn based on the survey responses but further confirmatory studies is recommended to state the reliability of these findings.

Fourth, the current content of the program was not reviewed by the team and was assumed to be up to date and relevant at the beginning of the study. This assumption has driven the data collection and participants have not indicated any proposals in relation to the enhancement of the course material. A few respondents to the survey stated that the course had little relevance to their current duties, and therefore a recommendation for further research is to evaluate the program's relevance and suitability for purpose.

Lastly, during the focus group it was clear that participants were very cautious in suggesting improvements to the program and its delivery. The majority of responses started by praising the current state of affairs. Additionally, not all participants took active part in the discussions. Multiple focus groups and better communication of the purposes of the study could potentially improve engagement and help enhance the course.

7. Evaluating the potential for scaling online INSET

In conclusion, and based on the evidence outlined above, from the three options (scaling up, out, or deep), our context suggests that we should aim for **scaling out** and **scaling deep**.

The course studied is delivered in a narrow specific area to subject area leaders only, and the scaling out approach would assume introducing the same practice to teachers of other disciplines taught at secondary schools in Uzbekistan. It is an intention of the Avloniy training institute to launch the course/s in December 2020. To do so, the best reported innovative elements should be adopted and employed.

These are:
1. Online mode of delivery, which participants assessed as convenient and allowing a certain degree of flexibility;
2. Moodle as an LMS, which participants noted as simple and efficient.

However, the course should not be obligatory due to equity and ease of use considerations. It may be beneficial to provide an alternative option to take the course in a traditional way (not online).
To ensure the quality of the course, the scaling deep approach seeks to improve the existing practice. Thus, the following elements should be considered for revisions:

1. Course content: The curriculum development process should be based on a needs analysis and the preferences of the participants in each specific area. The content is seen as overwhelming and imbalanced in areas of the legal framework of education in Uzbekistan. Thus, content needs to be revisited and updated on a regular basis to reflect the existing situation in the country.

2. Course methodology and assessment: It is very much preferred that the methodology adopted is contemporary and reflects a student-centered philosophy, empowering participants and allowing for more effective, articulated and self-monitored professional development. Among other elements, participants highlight hands-on activities, master classes, video contents, and guest speakers as preferred ways of learning.

3. Course administration: Much emphasis is given to monitoring participants. Hard measures are placed on those who are registered to study thus leading to often fraudulence and faking the participation. Interestingly, the flexibility which is highlighted as a positive element of innovation contradicts mechanisms of control. This needs to be reviewed so that the philosophy of online learning, underpinned by the important principles of freedom and self-regulation, is adhered to in the new course.

4. Pre-course training (non-existent at the moment): This has been articulated as an integral part of the online learning.

8. Feasibility of scaling "Uzbekistan: education sector development project"

Having studied the evidence collected during the study of the project, and through intensive group discussions and literature analysis, this study concludes that some components of the project as it was initially designed require consideration and revisiting. The outcomes are summarized in the table below.

3.1. Feasibility components

Scaling components (indicate the successful features of the innovation to be scaled)	1. Distance mode of delivery, which offers flexibility and resilience 2. Moodle based LMS, which is reported as a very user-friendly platform requiring very modest IT skills and understanding
Scaling goal (indicate the end goal of scaling)	The ultimate goal is to maximize access to professional development for teachers (GE teachers in all disciplines), ensuring that professional development opportunities are inclusive and reflective of best educational practices in teacher education
Scaling type/approach (up/deep/out)	Out – meaning that the context of the e-module for English Language teaching and Leadership and management should serve as a basis for other discipline-focused modules to capitalize on the strength of the existing ones Deep – meaning that current practice of e-delivery will be reviewed and enhanced
Scaling strategy (subtraction, simplification, institutionalization, etc.)	Subtraction – unnecessary and redundant elements will be reduced. Institutionalization – e-learning practice should become a universally validated practice for the professional development of teachers in Uzbekistan (potentially in all levels of education in the future)
Scaling entity (organisation that will implement the scaled pilot-project/innovation)	Avloniy Central Institute for Education Staff Development – It is very much envisaged that only one agency should become the owner of the e-content to ensure the content validity, reliability of the methods and authenticity of the teachers' experience.
Time-horizon of scaling (indicate the key scaling milestones and respective time-frame)	2020- onwards

3.2. Scaling Feasibility Matrix

CRITERIA	(A) Pilot-project/Innovation as it is now	(B) RECOMMENDED MODIFICATIONS FOR SCALING

		(Present data to back up the assessment) [9]
1. DESIGN (What and Why)		
1.1. Theory of Change components ● Intended Change ● Key activities ● Key outputs ● Key intermediate outcomes ● Key long-term outcomes ● Key assumptions	Key activities 1. Train core group of national professionals in distance education program development 2. Develop three trial distance education programs in (i) primary school teaching, (ii) new teaching methodologies, and (iii) selected secondary school subjects 3. Establish Distance Education Centers comprising one distance education development center, 14 regional coordinating units; and 70 learning resource centers (LRCs) Three vans, equipped as LRCs, provided; allowing extension of distance education into remote areas 4. Supply DECs with equipment and materials; 5. Develop Modules to train teaching staff 6. Expose to ICT skills development course approximately 75,000 staff 7. Expose to new methods of teaching at least 75,000 through distance education means Key assumptions 1. Identification of qualified personnel 2. Release of staff to undergo training 3. Joint Ministry of Public Education (MOPE) –Ministry of Higher and Secondary Specialized Education collaboration to develop modules 4. MOPE commitment to establish the distance education system and include certification programs 5. Government funding to rehabilitate, staff, and maintain distance education units and centers Confirmation of technical feasibility (infrastructure and communications) 6. Collaboration between pre and in-service institutions Government	We propose modification in two major areas: Key activities Point 1 - Training of trainers needs to be replaced with training the team of material designers, so that they would be qualified to develop appropriate, quality materials for e-learning Point 3 – The number of education centers should be reviewed based on current needs. This should be done through a survey to estimate the number of teachers requiring access to equipment. It is envisaged that this amount has dramatically decreased since the pilot, due to the spread of mobile technology. A new point 8 should be added stipulating that monitoring of the needs and teaching and learning experiences is mandatory; and that based on this monitoring continuous updating of the course should be introduced. Key assumptions Point 2 will become obsolete as the e-modules will be self-administered and self-paced. Relating to point 6, on coordination of the learning process, this will not be required to the same extent as it was in the pilot innovation. Furthermore, in relation to point 6, emphasis should be placed on the financial remuneration of the module developers. Point 8 will become obsolete

	funding of civil works Sufficient incentives for module writers, trainers, and teachers Coordination and scheduling of multiple programs 7. Regional hubs have necessary infrastructure to support equipment 8. School-based learning centers are capable of covering the costs for maintenance of computers, internet and software 9. Schools have capacity for data collection 10. Schools have necessary communication mechanisms to process questionnaires to identify the needs 11. Teachers have necessary skills and understanding for blended learning activities	There are also new assumptions that arise from the proposed recommendations 1. Awareness and capacity of the material developers' group to develop e-courses 2. Sustainable team to oversee curriculum development process 3. Willingness of the monitoring bodies to release the controls to the teachers themselves 4. Teachers' autonomy and preparedness to learn independently 5. Availability of other available courses
1.2. Theory of Change statement	If distance education for teachers is introduced in Uzbekistan, it will lead to improved teaching capability and better student learning because more teachers will have opportunities to undertake a professional development course that is up-to-date and reflective of contemporary approaches in teaching and learning.	There are no recommended modifications to the theory of change statements and its elements. The necessity to introduce distance education of teachers in Uzbekistan has become even clearer during the COVID pandemic. Teaching and learning in the Emergency Remote teaching situation of the 2020-2021 has revealed many more obstacles that require attention and that could be overcome if the innovation is scaled.
1.3. Contextual factors/Enabling conditions (includes political, social, economic, and cultural spaces)	The project was closed in 2010 and among others reasons, lack of governmental support was reported.	Increased government focus (Government Resolutions, and other necessary documents regulating the processes) is needed. Enhanced technological potential for supporting distance teacher education is required. Management capacity delegation to Avloniy Central Institute of Professional Development to oversee the process in a more effective way
1.4. Characteristics of target beneficiaries (Demographic, socio-economic, gender and other socio-cultural factors)		No modifications in this area
1.5. Relevance ● link to national development priority ● political and social buy-in		The relevance has increased due to the pandemic of 2020.

1.6. Comparative advantage (Analysis of competing solutions addressing the same purpose)		NO modifications in this area. Distance education for teachers seem to be more reasonable, resilient and a sustainable alternative as opposed to the face-to-face course that is highly dependent on the human factor.
2. OPERATIONAL ARRANGEMENT AND COSTING (How and How much)		
2.1 Implementation capacity (Systems, infrastructure and human resources)		IT hubs owned and monitored by the Avloniy as opposed to decentralizing the facilities that led to complete loss of investment (equipment installed in schools during the pilot stage has disappeared) Curriculum developers and material designers' teams need to be trained
2.2 Adaptability of organizational factors ● Administrative and Logistics procedures; ● Supervision and accountability processes; ● Communication strategy; ● Organizational culture;		NA
2.3. Ownership (Level of ownership by the implementers at the design and evaluation stages)		Avloniy Central Institute of Professional Development should be a locus of the course development and should own the content, process, assessment, certification. The Coursera Courses should serve as prototype for the system development.
2.4. Partnership (Key stakeholders buy-in and support[10]; existence of Champions)		No modification
2.5. Cost feasibility and effectiveness		NA
2.6. Resilience to risk		NA
3. FEASIBILITY ASSESSMENT SUMMARY		

The pilot **Uzbekistan: Education Sector Development Project** is scalable as observed through the detailed evidence analysis

Subtraction as a principle must be employed to get rid of unnecessary elements. Enhancement of some elements are needed and we recommend to adopt an institutional approach.

9. Recommendations

Overall, the project has engendered some significant results, such as the promotion of a blended mode for learning, the introduction of innovative technologies to support learning activities and increase awareness of alternative modes of education among the population of beneficiaries. Thus, based on the feasibility study and the results of conducted research, two recommendations for scaling and continuation were drawn from the initial pool of the project outcomes:

1. To scale up and enhance the Virtual Learning Environment (VLE) - Moodle for delivery of professional development courses
2. To introduce a web-based skills development program to equip beneficiaries of VLE with the skill-set necessary for undergoing professional development in online and blended modes

The original implementation of the VLE-based courses was centered on training the trainers and involving a large number of offline training activities, which due to staff turnover and trainer-retention related issues were set to be cyclical. However, considering the strengths of the VLE platforms and their current state of development, this study proposes modifying that approach and replacing it with a VLE-based training program, which would guide beneficiaries through the necessary components to undergo further learning activities through the VLE.

Implementation of this recommendation would lead to a reduced number of trainers, who would be replaced with a smaller number of content and material developers specifically trained to accommodate the future and existing professional development programs for delivery through the VLE. Students would be required to pass the VLE training before taking any course as a pre-requisite for their engagement with the VLE. Student interaction with the course would change, as shown in figure 1 below.

VLE-based professional development courses are adapted by the designers based on the information provided by the professionals responsible for development of the particular professional development program. This modification would allow for better presentation of the materials and to help develop high quality, relevant programs tailored specifically to benefit the stakeholders.

Implementation of this recommendation requires government's support as the system, albeit reduction of operational costs needs to be maintained and constantly updated for the content and provision of the programs. Material and content designers could be recruited and attached to the "Avloniy" center for professional development. Emphasis on VLE also makes completion rate and learner motivation issues conspicuous and requires program administrators to address those questions for maximization of the results.

Furthermore, implementation of this recommendation requires four major changes to take place at the "Avloniy" Centers:
1. Firstly, a team of material and content developers needs to be recruited and trained.
2. Secondly, clear feedback mechanisms as well as monitoring and reporting systems need to be established.
3. Next, a course approval framework needs to be adopted following the recommendations of the SISQE or any other robust quality assurance guidelines. This would ensure program quality and provide for course modifications/ approval/ discontinuation.
4. Lastly, a clear Academic Regulations guide should be developed and approved for students to know their rights and responsibilities and to deal with the issues in a consistent and pre-defined manner.

Figure 1: Student Course Journey Cycle
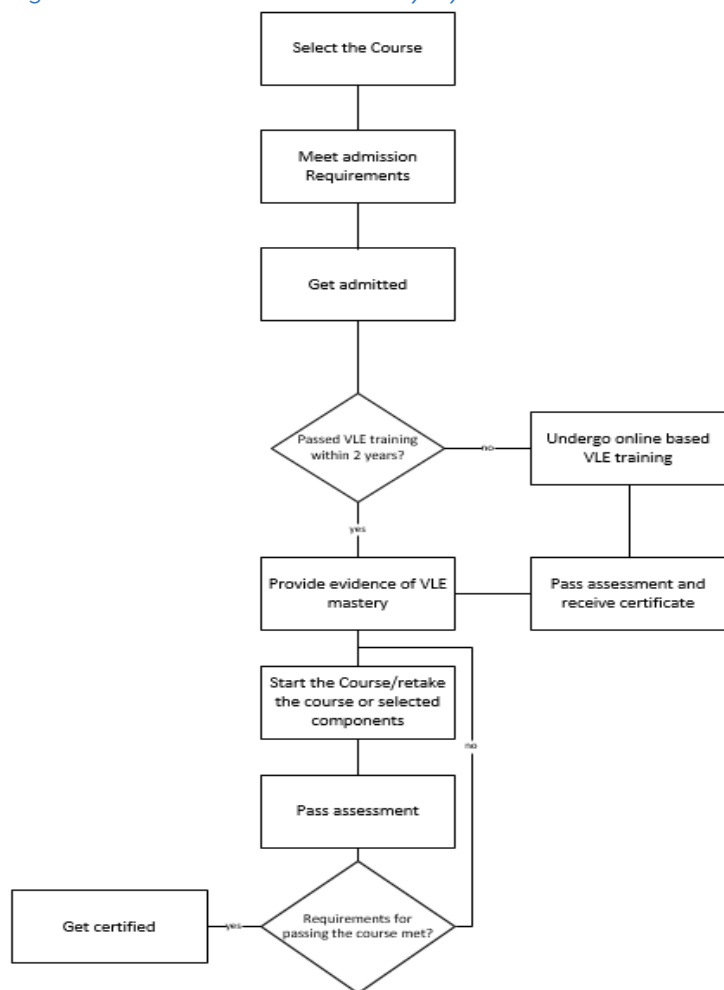
These structural changes would lead to a new process of course development cycle, which is schematically shown in figure 2.

The study was conducted on the existing project, which is currently in its post project completion stage. The project has been reviewed based on the originally approved project documentation and the results of research conducted. The sample size drawn for interviews and focus groups only represents a small fraction of the beneficiaries of the course and the results might not be representative of the general views held by the population of the beneficiaries. The review of the project took place in 2020, while the original project was completed in 2010. Hence, the original project documentation did not envisage the development of modern technology and thus, recommendations include not only scaling up the existing best practices, but also enhancing the technological developments in recent years.

Figure 2: Changes in "Avloniy" Centre Structure
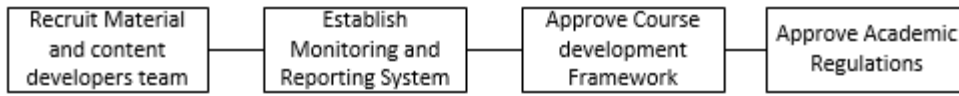
Course Cycle for Review
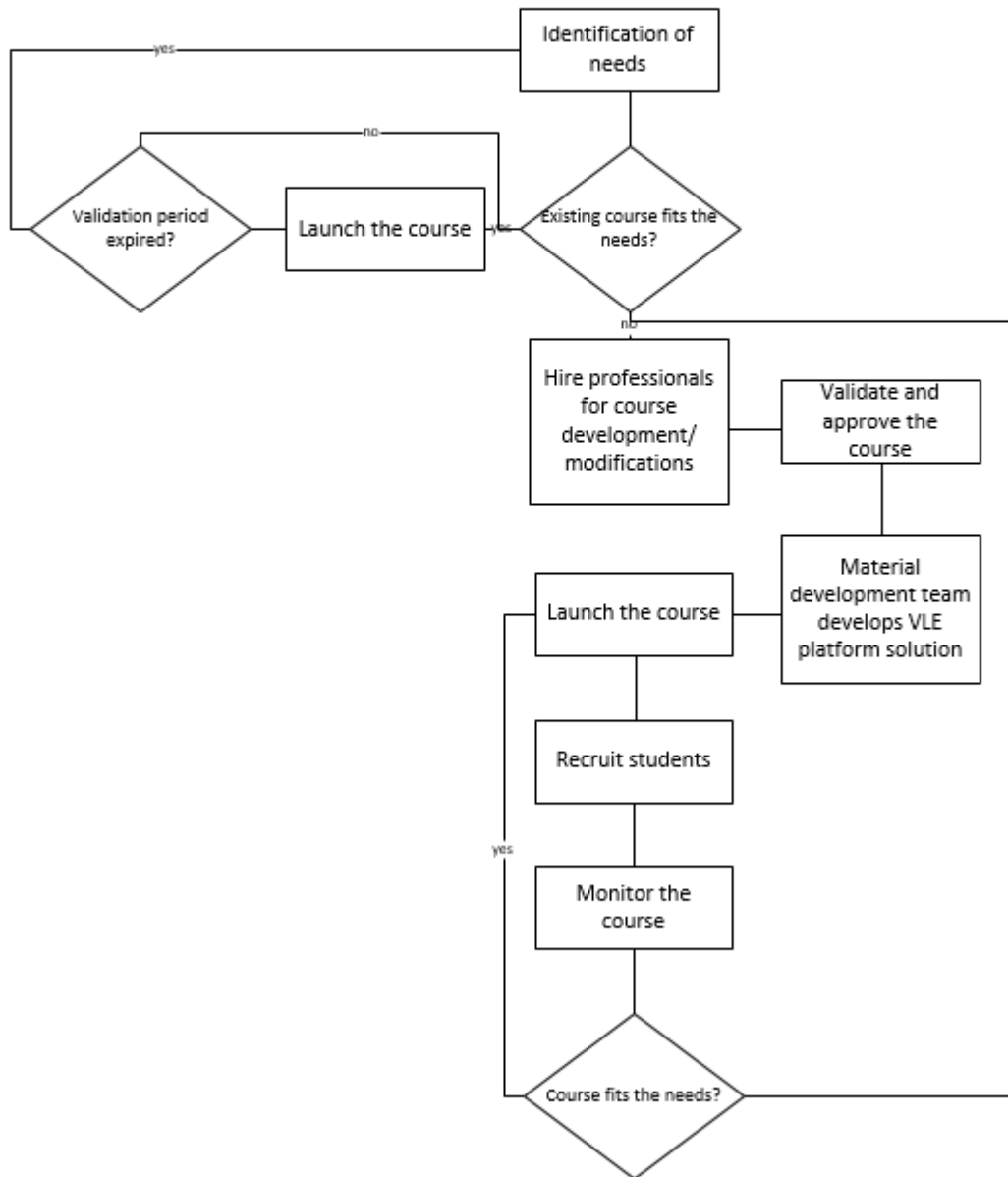
ANNEXES

ANNEX 1. Project Details: Uzbekistan Education Sector Development Project

Part 1: Project Description

Project title: Education Sector Development Project (Improving and Extending Teacher Education Component)
Start date: November 2003 (Improving and Extending Teacher Education Component - January 2004)
End date: September 2010 + ongoing (Achievement of output targets of the original project was limited mainly due to lack of one of the partners' financing which did not permit completion of the project as per schedule). The government continues to work on the project-initiated activities for the development of a distance education teacher training system.
Funders: Asian Development Bank, Government of Uzbekistan
Project objectives and expected outcomes:
Improving and Extending Teacher Education - establish a distance education (DE) capacity to conduct teacher training and retraining activities.
Objective 1.   Distance Education capacity development
Objective 2.   Upgrading teaching in primary schools
Objective 3.   Dissemination of new teaching methods
Objective 4.   Upgrading teaching in junior secondary schools

Target audience, target regions and beneficiaries

Target region: Uzbekistan
Target Audience and Beneficiaries: Ministry of Public Education, Central Institute for Education Staff Development, public primary and secondary schools across Uzbekistan

3. Identifying the elements of Theory of Change

Goal: Improving and Extending Teacher Education
Description of Activities implemented by the project
The following table demonstrates the logical model as presented in the project document. While reviewing it, we noticed that the steps that would correspond to activities are not detailed to the level that may be expected. For this reason, we have created our own logical model, which is more informative and thus gives a better picture of the project activities.

Table 5: Logical model by ADB Completion report (Project Number: 34160 Loan Number: 1961, December 2010)

Design Summary	Performance Targets and Indicators[a]	Monitoring Mechanisms	Assumptions and Risks
3.2 Improving and Extending Teacher Education			
Enhanced national capacity to develop distance education for teachers	Core group of national professionals trained in distance education program development Three trial distance education programs developed in (i) primary school teaching, (ii) new teaching methodologies, and (iii) selected secondary school subjects	Reports on study visits and short-term courses abroad Distance education modules Decree on the accreditation of distance education programs Midterm review and evaluation	Identification of qualified personnel Release of staff to undergo training Joint MOPE–Ministry of Higher and Secondary Specialized Education collaboration to develop modules
Increased opportunities for In-service teacher training and continuous learning via a modern distance education system	Distance education centers established and provided with equipment and materials ; comprising one distance education development center, 14 regional coordinating units; and 70 learning resource centers (LRCs) Three vans, equipped as LRCs, provided; allowing extension of distance education into remote areas	Midterm review and evaluation MOPE resolutions on distance education	MOPE commitment to establish the distance education system and include certification programs Government funding to rehabilitate, staff, and maintain distance education units and centers Confirmation of technical feasibility (infrastructure and communications)
Enhanced capacity to demonstrate modern teaching methods in pre- and in-service teacher training institutions	120 staff of in-service institutions and 104 staff of pre-service institutions jointly exposed to modern teaching methods Modules developed to train teaching staff Approximately 110,000 teachers exposed to new methods through the existing formal in- and pre-service systems, plus at least 75,000 through distance education means	Reports of short-term courses Teacher training modules Project monitoring system and database Midterm review and evaluation	Collaboration between pre and in-service institutions Government funding of civil works Sufficient incentives for module writers, trainers, and teachers Coordination and scheduling of multiple programs

ANNEX 2. Evidence on the Theory of Change from Secondary Documents

2.1. What evidence or indicators did the project use to measure outputs and outcomes?

Taken from ADB Completion report (Project Number: 34160 Loan Number: 1961 December 2010)
[11]Targets of this output were partially achieved. The major impact of the activities was the establishment of a distance education-based system for the teacher education system. Of the 8 Resolutions of the President of Uzbekistan: Ref. No. 744, 12 December 2007; 1024, 29 December 2008; and 1245, 22 December 2009. Uzbekistan. 5 anticipated three-tiered satellite structure, the project was able to fully establish a two-tiered satellite structure at the Central Institute for Education Staff Development (CIESD) (first tier) and 14 regional in-service teacher training institutes (second tier). The third tier at 70 learning resource centers (LRCs) was prepared for the distance education system and infrastructure was set up. However, it could not become operational. Achievement of output targets was limited mainly due to inadequate counterpart financing (para. 37). The regional distance education pilot, recruitment of distance education training staff, and district training pilot could not be conducted during project implementation. These were started in the fourth quarter of 2010. The government continues to work on the project-initiated activities for the development of a distance education teacher training system.

Developing capacity in distance education. Distance education capacity was to be developed through a network with the Distance Education Development Center (DEDC) located in CIESD; 14 regional coordinating units (RCUs), one in each region; and 70 pilot LRCs, in five selected districts of each of the 14 regions. All distance education units were to be provided with modern ICT equipment, science laboratories, language classes, library facilities, and reference materials (footnote 1, para. 99). At project completion, a DEDC was established in Tashkent at CIESD, 14 RCUs, and 70 distance education LRCs in five selected districts of each region. The buildings of all distance education centers were renovated and equipped with furniture, computers, and other necessary communication equipment, as well as laboratory instructional materials for chemistry, physics, biology, languages, and ICT. The project helped establish facilities to train 24 teachers at a time at each RCU and 12 teachers at each LRC. The same training capacity has been established at various regional and district laboratories. For preservice postsecondary teacher education, ICT and modern educational equipment was provided to the teaching faculties of eight universities and five pedagogical institutes; these are now in use. Procurement of three mobile LRCs, designed to serve remote schools that do not have computers and communication links, was cancelled. This procurement was no longer required as the government equipped all schools in the country with computers under the NPBED.

2.2. What were the final results stated in the project documents on these output and outcome indicators?

Output: Improving and Extending Teacher Education: targets of the output were partially achieved. The major impact of the activities was the establishment of a distance education-based system for the teacher education system. Of the anticipated three-tiered satellite structure, the project was able to fully establish a two-tiered satellite structure at the Central Institute for Education Staff Development (CIESD) (first tier) and 14 regional in-service teacher training institutes (second tier). The third tier at 70 learning resource centers (LRCs) was prepared for the distance education system and infrastructure was set up. However, it could not become operational. Achievement of output targets was limited mainly due to inadequate counterpart financing (para. 37). The regional distance education pilot, recruitment of distance education training staff, and district training pilot could not be conducted during project implementation. These were started in the fourth quarter of 2010. The government continues to work on the project-initiated activities for the development of a distance education teacher training system.

---

[11]Ibid

Developing capacity in distance education. Distance education capacity was to be developed through a network with the Distance Education Development Center (DEDC) located in CIESD; 14 regional coordinating units (RCUs), one in each region; and 70 pilot LRCs, in five selected districts of each of the 14 regions. All distance education units were to be provided with modern ICT equipment, science laboratories, language classes, library facilities, and reference materials. At project completion, a DEDC was established in Tashkent at CIESD, 14 RCUs, and 70 distance education LRCs in five selected districts of each region. The buildings of all distance education centers were renovated and equipped with furniture, computers, and other necessary communication equipment, as well as laboratory instructional materials for chemistry, physics, biology, languages, and ICT.9 The project helped establish facilities to train 24 teachers at a time at each RCU and 12 teachers at each LRC. The same training capacity has been established at various regional and district laboratories. For preservice postsecondary teacher education, ICT and modern educational equipment was provided to the teaching faculties of eight universities and five pedagogical institutes; these are now in use. Procurement of three mobile LRCs, designed to serve remote schools that do not have computers and communication links, was cancelled. This procurement was no longer required as the government equipped all schools in the country with computers under the NPBED.

The project helped *to develop necessary curriculum materials and teacher training courses*. A core distance education group of 98 specialists at DEDC and 14 RCUs were recruited, and six training courses were conducted for trainers. Three training courses were conducted for 11 DEDC subject experts. Twelve workshops were conducted to inform the rectors and staff of the regional RCUs about the objectives of the project, organizational arrangements, and the goals of the distance education system, as well as for 49 staff to inform them about the basic administrative principles of the system. In addition, a demonstration distance education course on modern training methods was conducted for the staff of 14 RCUs.
To provide incentives for distance education, the Ministry of Public Education (MOPE) issued order No. 223 (5 September 2006) to pay bonuses of not less than 2 months' salary to teachers attending distance education-based advanced training and receiving a certificate. In addition, according to Cabinet of Ministers (COM) resolution No. 134 (30 June 2007), the titles of staff positions and functional responsibilities of DEDC staff and staff of the 14 RCUs were reviewed and brought in line with the technical and financial requirements of the project.

Upgrading teaching in primary schools. As anticipated, training of nine writers and materials developers was accomplished and materials for the pilot multilevel training course, including distance education materials for the participants and instructors, were developed. Ten additional distance education curricula were developed for primary education course modules and introductory training was conducted for 20 teachers. Although the target was to train 146 tutors, only 28 could be trained during project implementation; training of the remaining tutors continues. However, cascade (further downstream) training in multigrade teaching for 3,500 rural teachers, distance education courses for upgrading primary teaching for 7,000 primary school teachers, and training and certification of 7,000 teachers could not start during project implementation because of delays in various activities. They are expected to be started in 2011.

Disseminating new teaching methods. As planned, the out-of-country training of managers and course designers of the national and regional distance education system was conducted for 260 selected staff. The duration of the study was reduced due to project time constraints caused by delays in procurement activities. However, six out-of-country trainings on a demonstration distance education course on modern teaching methods were conducted for 260 educational personnel, exceeding the target of 224 participants. They acquired valuable knowledge and practical skills of distance education design, implementation, and teaching methods, and shared the materials and experience with their colleagues. Twelve modules (including a pilot module on modern methods) were developed for 10 subjects for secondary school and primary education, including mathematics, information technology, languages, natural sciences, and social sciences. These modules were integrated into curricula through a series of seminars and workshops. A demonstration distance education course was conducted for 42 teaching methods specialists from 14 RCUs in three areas:

informatics, geography and economy, and foreign languages. An orientation workshop was conducted to inform the participants about the goals and objectives of the course, to provide them with appropriate instructional materials, and to register them in the network system. However, the training of 200 tutors and 7,500 teachers could not be started during project implementation due to delays in various activities. They were started after the loan closing date and were ongoing in late 2010.

Upgrading teaching in secondary schools. Based on the results of analysis and the detailed plan for conducting pilot distance education courses, retraining of teachers in five main secondary school subjects was assessed to not be feasible under the project. In accordance with the state requirements for teacher training and retraining modules, each of the five training modules would require 576 hours of training (instead of 154 hours indicated by the project). This would be very difficult to achieve unless some other components were curtailed. In view of this and taking into account the need to put more emphasis on upgrading teaching in primary schools, the government decided to postpone implementation of this subcomponent to 2012 using its own resources.

The output was supposed to be supported by a consulting firm, but due to delay in consultant recruitment, the original distance education-based teacher training system was adjusted in accordance with the government's reformed strategies to promote teacher development and new teacher training activities of other new projects. Subsequently, consulting services inputs and terms of reference were revised and a team of four international and seven national individual consultants was engaged to support implementation of the component. The assignments were completed successfully.

2.3 Do you believe that the indicators reported by the project are sufficient to support the causal linkages of the theory of change? If not, what more information do you believe you will need to establish the causal linkages between project activities and project outcomes? You can list additional indicators that you would like to see in order to evaluate the project.

We intend to gain deeper insights about the impact through qualitative data, for which a set of interviews and focus groups are planned.

ANNEX 3. Additional tables and figures

Table 6: Educational qualification of teachers in regular general education schools (as of the beginning of 2004/2005 academic year)

	Number of teachers (excluding part-time), thousand persons	Of which, educational level percent				Share of women in total number of teachers and tutors
		Higher	Incomplete higher	Secondary special (non-pedagogical and secondary general)	Secondary pedagogical	
Total (including heads of schools)	449.2	68.6	4.3	27.2	26.6	65.8
Principals:						
of primary schools	0.1	86.4	2.7	10.9	10.9	55.5
incomplete secondary schools	2.2	100.0	-	-	-	26.6
secondary of schools	7.4	100.0	-	-	-	28.5
Deputy principals:						
of incomplete secondary schools	2.1	98.5	0.1	1.4	1.4	43.8
of secondary schools	11.7	98.5	0.4	1.1	1.0	46.5
Deputy principlals for extracurricular education of children	9.4	97.6	0.6	1.8	1.7	45.1
Teachers:						
1- 4 grades	119.5	41.4	4.3	54.3	53.9	84.5
5-11 grades	222.7	87.7	4.7	7.6	7.4	65.9
music and singing, fine arts, drawing, physical education, labor skills training	74.1	41.5	4.7	53.9	51.8	46.8

Figure 3: Regular general education schools by types (in percentages)

Legend:
- Primary
- Incomplete secondary
- Secondary
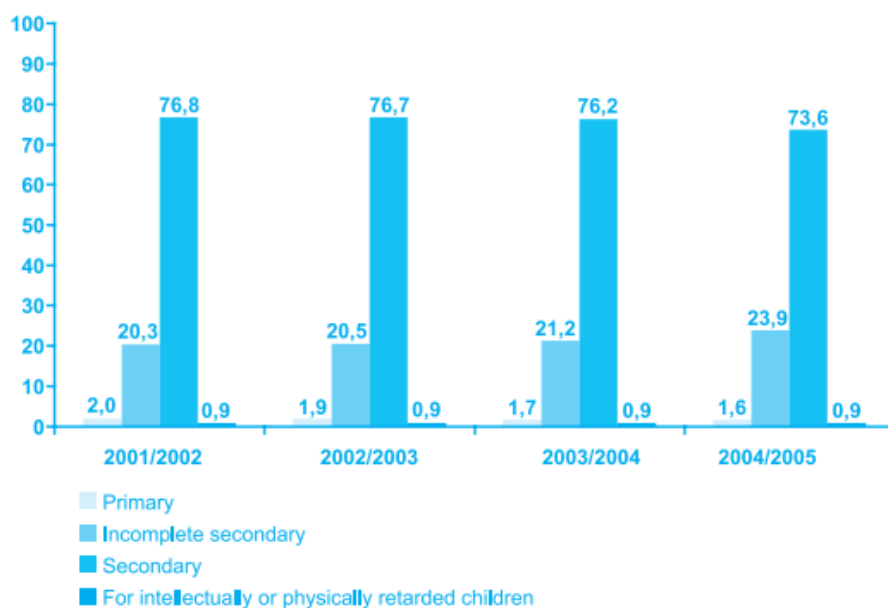- For intellectually or physically retarded children

Table 7: Educational qualification of teachers of regular general education schools by region (at the beginning of academic year)

	Total number of teachers, thousand persons	Education in percentages	
		Higher	Secondary pedagogical
Uzbekistan			
2001/2002	447.7	70.5	26.1
2002/2003	451.9	69.7	26.3
2003/2004	454.1	67.9	27.9
2004/2005	449.2	68.6	26.6
Karakalpakstan			
2001/2002	37.3	65.8	32.8
2002/2003	37.0	62.9	34.9
2003/2004	36.9	60.9	35.4
2004/2005	36.2	60.1	35.5
Andijan			
2001/2002	36.5	69.1	27.2
2002/2003	37.2	68.5	26.9
2003/2004	37.6	68.2	26.5
2004/2005	39.0	70.4	23.4
Bukhara			
2001/2002	26.5	80.3	18.2
2002/2003	26.9	79.2	19.2
2003/2004	27.0	80.2	18.0
2004/2005	26.4	79.1	18.2
Djizak			
2001/2002	19.2	70.9	26.0
2002/2003	19.2	70.1	25.4
2003/2004	19.3	70.8	25.9
2004/2005	19.5	70.9	23.2
Kashkadarya			
2001/2002	49.3	68.9	28.0
2002/2003	50.6	67.7	29.3
2003/2004	51.6	62.5	34.9
2004/2005	50.8	63.8	33.5
Navoi			
2001/2002	16.4	73.3	24.1
2002/2003	16.7	72.5	23.9
2003/2004	16.8	72.6	23.4
2004/2005	17.0	72.9	22.9
Namangan			
2001/2002	30.0	69.6	28.1
2002/2003	30.6	68.5	29.2
2003/2004	31.0	66.8	29.8
2004/2005	30.9	66.8	29.2

	Total number of teachers, thousand persons	Education in percentages	
		Higher	Secondary pedagogical
Samarkand			
2001/2002	56.7	66.8	30.5
2002/2003	56.6	70.3	26.8
2003/2004	57.5	67.9	28.9
2004/2005	57.4	67.5	28.1
Surkhandarya			
2001/2002	34.8	63.0	32.6
2002/2003	36.2	59.5	33.9
2003/2004	37.0	58.4	37.2
2004/2005	35.3	61.7	33.7
Sirdarya			
2001/2002	11.3	75.5	21.1
2002/2003	11.2	74.6	21.6
2003/2004	11.0	73.4	22.0
2004/2005	10.8	71.7	20.0
Tashkent			
2001/2002	34.7	70.0	21.0
2002/2003	33.9	68.8	22.7
2003/2004	33.6	66.4	26.8
2004/2005	32.9	67.1	25.5
Fergana			
2001/2002	46.5	72.3	24.7
2002/2003	47.2	70.3	25.7
2003/2004	47.8	69.1	26.1
2004/2005	47.2	69.7	24.7
Khorezm			
2001/2002	28.4	74.1	24.2
2002/2003	28.6	76.1	22.5
2003/2004	28.1	72.1	23.1
2004/2005	27.5	73.1	23.3
Tashkent City			
2001/2002	20.3	82.8	10.5
2002/2003	20.0	81.4	10.4
2003/2004	18.9	81.8	9.2
2004/2005	18.3	83.1	9.3

Table 8: Vocational training of staff by region in 2004

	Have been retrained and improved their qualifications	Of which undergone training at:		
		Training institutes	Training centers of HEIs	Training courses
Uzbekistan	**170,407**	**66,899**	**16,972**	**73,251**
Karakalpakstan	9,013	3,686	868	4,305
Andijan	17,048	8,215	1,751	6,373
Bukhara	11,850	6,347	457	4,758
Djizak	7,586	3,840	249	3,373
Kashkadarya	13,087	6,869	487	4,795
Navoi	9,851	3,375	493	5,544
Namangan	14,169	8,873	1,482	2,517
Samarkand	11,043	3,326	3,558	2,622
Surkhandarya	3,995	1,448	296	1,744
Sirdarya	5,786	2,323	674	2,497
Tashkent	8,645	2,072	736	4,370
Fergana	16,537	1,452	881	13,174
Khorezm	7,678	4,912	659	1,922
Tashkent City	34,119	10,161	4,381	15,257

Table 9: Key Indicators

Context	
Total population of Uzbekistan	32.1 million
Education spending as share of GDP (2017)	6.4 percent
Education spending as share of government budget (2017)	32.4 percent
Access	
Preschool enrollment rate (ages 3-6/7) (2016-17)	29 percent
Gross enrollment rate in grades 1-4 (2016-17)	100.2 percent
Gross enrollment rate in grades 5-9 (2016-17)	94.4 percent
Share of secondary students enrolled in vocational education and training (2016-17)	87 percent
Gross enrollment rate in higher education (2017-18)	9 percent *6 percent for women* *11 percent for men*
Share of higher education applicants who secured a place in a higher education institution (2017-18)	9 percent
Quality	
Urban-rural gap in reading achievement at Grade 4 (2013)	16 points, equivalent to 0.16 SDs
Female-male gap in learning outcomes at Grade 4 (2013)	11 points in reading 14 points in language
Share of qualified general secondary education teachers (with a higher education degree)	Over 80 percent
Share of SSVE teachers without a higher education degree	30 percent
Share of preschool education institutions in need of major repairs (2016)	47 percent
Share of general secondary education institutions in need of major repairs	15 percent

Figure 4: Educational Qualifications of GSE Education Teachers, by region

Source: **MoPE 2018.**