POLICY BRIEF

INNOVATIONS AND CHALLENGES IN DISTANCE EDUCATION AND THE PROSPECTS FOR POST-PANDEMIC DIGITAL TRANSFORMATION: EVIDENCE FROM KYRGYZSTAN

Executive summary

- The school system in Kyrgyzstan was not prepared for the challenges raised during the pandemic, despite government initiatives and volunteer-led educational innovations.

- Learners who were previously most susceptible to marginalization – girls, ethnic minority groups, and those in rural/remote locations – remained at risk.

- For distance education to be effective in improving quality and expanding access in Kyrgyzstan, it requires digital transformation on a scale and with a level of broad stakeholder engagement that has not yet been achieved.

- Recommendations include:

  o o Continue building up schools' digital infrastructure

  o o Increase the effectiveness and accessibility of digital learning platforms

  o o Teach digital competencies to teachers and students.

  o o Establish mechanisms to identify and scale up innovative models and practices of digital pedagogy.

  o o Substantially update teacher training programmes

  o o Collect disaggregated data to inform strategies to support vulnerable groups.

Introduction

With the onset of the COVID-19 pandemic, schools around the world were forced to close their doors, leaving millions of students either without educational opportunities at all or compelled to work with new ways of continuing their education outside of the bricks and mortar classroom. In Kyrgyzstan, this global scenario layered onto existing vulnerabilities in education systems and challenging geographical terrains.

Forced school closures highlighted existing problems in the school system in Kyrgyzstan. Closed from 16 March 2020 for three weeks, school continued in distance format until 1 April 2021 for all learners except first graders. The introduction of online learning did not always align to clear goals and objectives, especially considering school infrastructure, internet accessibility, and technical capabilities of teachers, students, and parents.

Responses to the transition to online learning were very varied. Technological and pedagogical innovations emerged in education as a result of initiatives by teachers, government, and other stakeholders. At the same time, students who had previously been most at risk of educational marginalization – girls, those from ethnic minorities, and those in rural and remote locations – became more exposed because of the pandemic.

In this context, the project Distance Education to Improve Quality and Access in Kyrgyzstan, Mongolia, and Tajikistan was initiated in 2021. The project's aims were to study the experiences of these three countries in using distance education to identify innovations, challenges, and the prospects for digital transformation in distance learning. Particular attention was given to the use of distance education to address inequalities in educational access and quality.

This policy brief summarizes the project's three phase methodology and presents key findings from the field research in Kyrgyzstan: readiness for distance education, innovations in distance education, barriers to integrating innovation, effects on learner vulnerability. It includes recommendations for policymakers on how distance education and digital transformation can improve quality and expand access to education for communities in Kyrgyzstan and beyond.

Methodology

Data for this project was collected in three phrases. To establish the policy context, the first phase was desk research covering statistical data, policy documents, academic research and media reports relating to (distance) education and digitalisation.

In phase two, the research team conducted 44 semi-structured interviews with local government officials, school administrators, IT and distance education specialists; 26 focus group discussions with students and parents; and participant observation, where researchers lived with eight families for 10 days at a time. Four regions were selected as field research sites (Figure 1).

Figure 1 Field research sites

Location	Type	Region	Rationale
Uzgen	City	Osh	Educational enrolment is lower than national average Large ethnic minority (Uzbek) population
Kochkor	Village	Naryn	Educational enrolment is lower than national average Mountainous location Mix of languages used in education
Altyn-Ordo estate	Suburb	Bishkek	Poorly developed infrastructure Large number of internal migrants
Uch-Korgon	Village	Jalal-Abad	Higher poverty rate than national average Mix of languages used in education Mainly ethnic minority population (Uzbek and Tajik)

In phase three, survey instruments were developed based on the findings from the phase two field research. The surveys were administered by the research team with students in grades 8-10 (ages 14-17) and teachers to understand their perceptions and experiences of distance education, and levels of preparedness for change in education. Across 180 schools in seven regions and the two main cities of Bishkek and Osh, the survey was completed by 3,577 students and 896 teachers.

Readiness for distance education

Although the survey revealed positive and high assessments of readiness for distance learning among both teachers and students, this did not correspond to students' more negative views on how teachers dealt with this format of learning. These results are also at odds
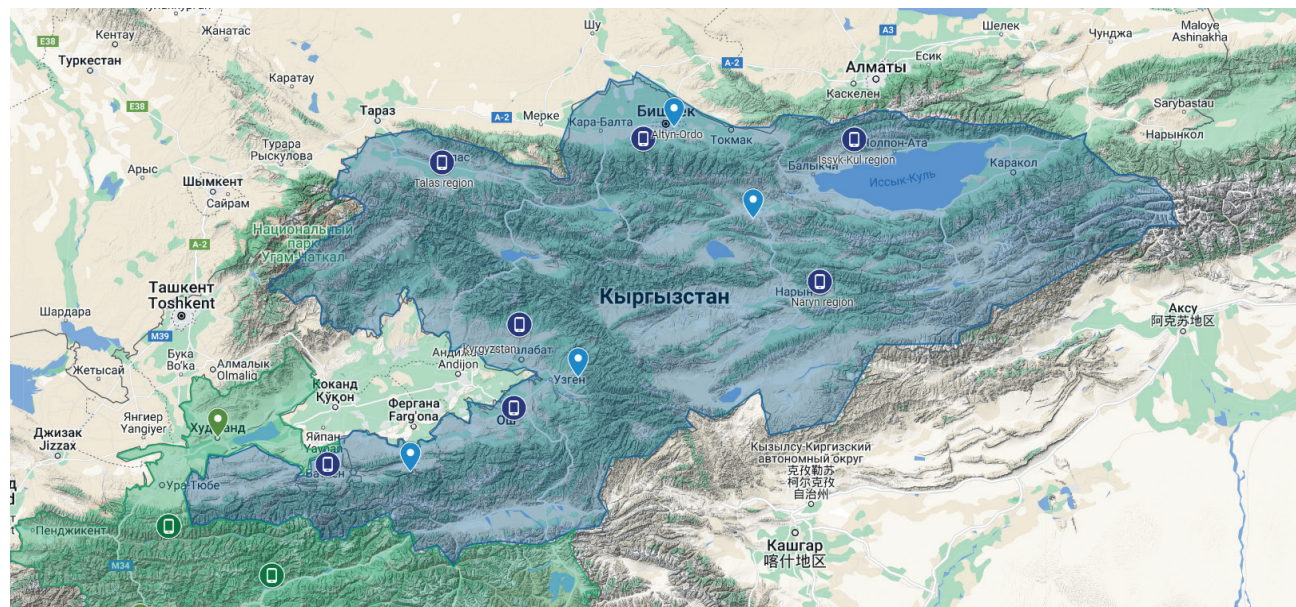

Figure 2: All research locations

with the attitude of teachers and students who are unwilling to move to not only distance (online) learning but also blended learning. For example, 83% of teachers said that distance education 'seriously impaired the quality of students' knowledge and skills'.

Many teachers, having entrenched traditional offline lessons in their mental model, found themselves unable to present alternatives, resulting in distance learning lessons being reduced to broadcasting traditional lessons via TV lessons, YouTube videos or formal lessons using messaging services such as WhatsApp. Only 13% of teachers agreed that distance education was better than 'traditional' forms of learning.

«Teachers did not know what to do. Lack of gadgets and low computer literacy contributed to the decline in the quality of education. We have not been able to actively engage our children. The big problem is low internet speed. The next major problem for teachers is parents. Most parents did not realise the importance of online learning. They did not feel responsible. Especially in rural areas, there are cases when children are involved in agricultural work.»

Teacher, Batken

For students, in addition to access to devices and the Internet, self-organisation and independent work skills had a significant impact on their readiness for distance learning. The level of students' mastery of technologies also depends on teachers' competences as much as on the availability of technologies.

While half of students said that their teachers gave them more homework and around a third report oth-er more negative aspects of distance education, most students also reported that teachers paid more attention to students (61%) and gave them interesting tasks and projects (72%).

Distance education innovations

The term 'innovation' was quite broadly interpreted by teachers in the study, most commonly being associated with the introduction of new practices and the provision of new materials or pedagogical methods that had already been tested in other schools.

In addition to actions taken by the Ministry of Education and Science, respondents named the following organizations as providing innovative and speedy responses to the emerging environment during the pandemic:

- *Mugalim online school* – Created in summer 2020 as a volunteer initiative of a group of young professionals to teach teachers. In the first five months, five courses were developed and taken by 1,500 teachers in both urban and rural schools. To date, over 3,000 teachers have taken courses developed by Mugalim.

- *Khan Academy in Kyrgyzstan* – Translation of Khan Academy learning materials into Kyrgyz. Initially organized by volunteers, it has since received support from both local and international organizations. Nearly 200 teachers in all regions are currently ambassadors for the initiative.

- *Sanarip Mugalim Training Centre* – During the pandemic, the Training Centre provided emergency methodological support to teachers from remote regions on issues related to the transition to remote teaching. Over 1,000 teachers improved their digital literacy during the pandemic. Today, its YouTube channel has 17,000 subscribers and the Facebook group has almost 30,000 members.

- *Online Mektep education platform* – Created during the pandemic, Online Mektep began as a series of webinars led by 48 volunteer teachers. Topics included tips for online learning and advice for parents on home schooling. Subsequently, a platform with 72 hours of online lessons in Kyrgyz by 48 volunteer teachers has been developed.

«An achievement has been the dissemination of Kyrgyz language materials on the internet. Previously, it was very difficult to find materials in Kyrgyz…. [Now,] some teachers are busy opening their own channels on the internet.»

Computer science teacher, Bishkek

Barriers to integrating innovation

Teachers listed the following as the main barriers to integrating innovation:

- Lack of funding (**43%**)
- Lack of/inadequate teaching equipment (**37%**)
- Low student and parental motivation (**39%**)
- Excessive workload (**34%**)
- Reform fatigue (**26%**)

The study revealed gaps in the integration of innovation, including the absence of a conceptual framework defining innovation in school education, types of innovative ideas and practices oriented towards the creation of professional communities. The lack of social organisation and practices of professional interaction in pedagogical communities, low efficiency of the structures responsible for identifying, evaluating and implementing innovations, monitoring their implementation, as well as underdeveloped practices related to the creation of communities of parents, teachers and students.

Furthermore, schools often obliged technologically advanced teachers to assist teachers who were having difficulties in the new working conditions. As a result, this resulted in additional unpaid workload, shifting responsibility instead of creating equal partnership relations, atmosphere of co-operation and teamwork.

Effects on vulnerable learners

The project focussed on the effects of distance education on students traditionally marginalized in education: girls, those from ethnic minority groups, and those in rural and remote locations.

Girls: During the pandemic, girls did housework more than boys; for example, 74% of girls cleaned vs 36% of boys. On the other hand, boys did more outdoor work. For instance, 41% of boys did agricultural work compared to 10% of girls. Around half of all students had to help younger siblings with their learning – 57% of girls and 47% of boys.

Some girls got a mobile phone for the first time during the pandemic, having previously not been allowed due to widespread perceptions, particularly among conservative/religious families about the corrupting influence of social media, especially on girls and young women.

«My parents didn't let me use the internet or a phone because they were considered harmful. But because I needed to study and stay in touch with my classmates, dad bought me a smartphone. I learned to find information on the internet and use WhatsApp and Zoom. And I had lots of time to communicate online with my classmates.

Focus group discussion with upper years female students

Distance education reinforced perceptions that boys in Kyrgyzstan are sedentary, lack a desire to learn, and that investment in their education will not pay off. Male and female students themselves rated girls as more diligent and successful learners and boys as unable to organise themselves.

Boys around the country were up to three times more likely to help their parents earn money, especially in regions where parents were more likely to help girls with homework and/or read books with girls than with boys.

Ethnic minority groups: 55% of learners studying in the ethnic minority languages of Uzbek or Tajik were bought a smartphone and 39% received a tablet or laptop during distance learning. For many students, this was the first time they obtained access to technology. These figures are lower than students in Kyrgyz and Russian language schools, where over 70% already had access to devices before the pandemic.

The problem of limited access to digital resources among children from these communities is not only due to family poverty. Of the online courses developed during the pandemic, only a course in Uzbek language was available in Uzbek and there were no courses in Tajik. Furthermore, attitudes towards education and motivation to teach and learn are often influenced by lowered 'achievement ideals' for children in these communities.

Rural and remote locations: Isolated mountainous villages are characterised by poorly developed infrastructure, lack of employment, low incomes, and high outflow of labour migrants. The lack of digital infrastructure and restrictions on access to the Internet created great difficulties during the pandemic, coupled with families' deteriorating socio-economic situation, even greater reduction of income and poverty in general.

> "We bought everyone a phone on credit, it was hard, those who had livestock sold it and used it to buy phones for their children."
>
> *Focus group discussion with mothers, Uch-Korgon*

The research also found that remoteness was not only geographic but socio-economic, as in the case of students living in large residential estates surrounding the capital city. There is no school nearby and public transport is limited, hindering the creation of peer communities, and creating difficulties of integration among classmates. In this sense, studying from home removed some of the usual obstacles such as travelling long distances to school, resulting fatigue, and pressure on parents to ensure their children reach school.

In addition to these factors, students from large families with many children (88%), poor families (65%) and/or single parent families (64%) had the most difficulties during distance education according to teachers, school leaders, and administrators. The pandemic period also revealed new forms of vulnerability among students in the earliest school years, and/or whose mothers have a low level of education, and/or who dropped out of school after the pandemic.

Conclusion

The school system in Kyrgyzstan was not prepared for the challenges raised during the pandemic. Despite efforts by the government to engage with distance education and a number of volunteer-led innovations, initiatives and programmes were fragmented and ultimately limited in scope.

Learners who were previously most susceptible to marginalization – girls, ethnic minority groups, and those in rural/remote locations – remained at risk. The use of smartphones for learning had some benefits for girls and those in rural/remote locations. Boys were disadvantaged by additional pressures to support family livelihoods and societal perceptions of their lack of motivation to learn were reinforced. The research also identified other groups of students who were vulnerable.

For distance education to be effective in improving quality and expanding access, it requires digital transformation on a scale and with a level of broad stakeholder engagement that has not yet been achieved in Kyrgyzstan. There is an urgent need for more innovation in education, which should cover not only teacher training, but also include professional development programmes and the development of teacher professional communities.

Recommendations

1. Continue building up schools' digital infrastructure with computer equipment, technical support personnel, and increased internet speed, especially for remote, high-mountainous regions.

2. Increase the effectiveness and accessibility of digital learning platforms. This includes promoting existing and new open educational resources and online libraries, expanding and updating resources in Kyrgyz, Uzbek and Tajik languages, and continuing the digitization of books and teaching aids in interactive formats.

3. Teach digital competencies to teachers and students. Teachers also need to be trained on methods to increase student motivation and independent work skills. To increase teacher motivation, leadership and professional networks, and the exchange of knowledge and experience, should be actively developed.

4. Establish mechanisms to identify and scale up innovative models and practices of digital pedagogy. Support best practices of self-organisation, leadership, volunteering and networking among innovative teachers and the Association of Subject Teachers.

5. Substantially update teacher training programmes to meet modern realities. The state system of pro-

fessional development, in turn, should be ready to provide teachers with timely methodological support, especially in the context of the lack of skills in the use of new information and communication technologies in pedagogical activities.

6. Collect disaggregated data to inform strategies to support vulnerable groups. Data on factors such as gender, place of residence, educational status of parents, and ethnic minority status will support system managers. It is also important to recognize that vulnerabilities are intersecting.

Contact information