EDUCATIONAL INCLUSION BEYOND THE PANDEMIC:

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Comparative analysis of distance education and digitalization in Kyrgyzstan, Mongolia, and Tajikistan
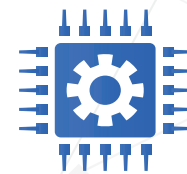
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INTRODUCTION

The COVID-19 pandemic caused huge upheavals in the world's education systems. School closures and the rapid shift to distance learning affected nearly 1.6 billion students in more than 190 countries. This translates to 94% of the world's student population and almost 100% in low- and lower-middle income countries.[1] In Kyrgyzstan, Mongolia and Tajikistan, the pandemic further exposed existing problems in the school systems, principally relating to the state of material and technical equipment, level of teacher training and preparation, and unequal distribution of resources.

The three countries' educational responses to the pandemic were very varied. In Kyrgyzstan, schools closed from 16 March 2020 for three weeks and continued in distance format until 1 April 2021 for all learners except first graders. Due to its shared border with China and concerns over the public health system, schools in Mongolia faced prolonged closures starting in January 2020. Students were taught by distance education for 20 school weeks (in rural areas) or 22 weeks (in the capital), with blended learning operating in the first part of 2021/22. In contrast, Tajikistan's schools did not experience extended closures with the onset of the COVID-19 pandemic. Instead, the 2019/20 school year was cut short by an extended summer holiday that lasted from the end of April until mid-August 2020. With health measures in place, educational institutions were subsequently re-opened for in-person learning.

Governments in all three countries formally announced priorities and policies for digitalization in education even before COVID-19 and responded to the pandemic with measures to train and build digital competencies. Although distance learning is seen as a necessary and effective way to continue the continuity of education, the experiences of these countries have been very mixed regarding its organization and quality assurance. The underdeveloped digital infrastructure, teachers' lack of digital competencies and students' lack of skills have reinforced existing challenges and added new inequalities in education.

In this context, the three-year 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 pandemic-era experiences of these three countries to identify innovations, challenges, and the prospects for digital transformation in distance learning. Particular attention was given to known vulnerabilities in the region relating to gender (both girls and boys), geography (remote and rural areas), and identity (ethnic and/or linguistic minority affiliation).

Data for this project was collected in three phases. First, a review of policies and initiatives launched following the onset of the COVID-19 pandemic helped establish the context for innovation and to map examples of educational innovation. Second, extensive qualitative field research was undertaken during 2022. This incorporated participant observation, focus groups, and semi-structured interviews, reaching 665 participants in total. Third, student and teacher surveys were developed to ascertain preparedness for distance education. The surveys were administered at schools across all three countries and were completed by a total of 6,475 students and 1,621 teachers. In total, the research encompassed 8,761 participants.

This report brings together the findings from all three phases of the research with the objective of comparing selected main results across the three countries. The methodology section outlines the wealth of data collected during the project. The report then focusses on high-level comparative findings related to the policy framework for distance education and digitalization, digital infrastructure, educational innovations, readiness for distance education, and the impact of distance education on vulnerable students. The report is designed to be read and used alongside other final outputs from the project that include a technical report and three country policy briefs.[2]

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[1] https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf
[2] Available at https://kix.taalimforum.kg/en/

PROJECT METHODOLOGY

Data for this project was collected in three phases. During *phase one* (2021), the research team mapped policies and initiatives launched following the onset of the COVID-19 pandemic to understand the landscape for innovation in pedagogical and professional development activities.

In *phase two* (2022), the research team undertook extensive qualitative field research.[3] Across the three countries, ten research sites were selected: four in Kyrgyzstan and three each in Mongolia and Tajikistan (see Appendix I). The sites were chosen following consultations with representatives of relevant governmental, international, and non-governmental organisations, as well as experts in the education community. The qualitative research methods included:

- Participant observation[4] with two students (one female, one male) per research site. Families were selected by convenience sampling. A researcher spent 10 days with the selected family observing the student, their family, parent, school, and peer relationships, extracurricular activities, role of their teachers and common social issues for children living in the neighbourhood.

- Focus groups with students and parents/guardians. In each country, student focus groups were organized into two age groups: aged 10-12 (in 3rd, 4th and 5th grade) and aged 14-17 (in 8th, 9th and 10th grade). Within each age group, girls and boys met separately. Parent/guardian focus groups were also held separately for female and male caregivers. The focus groups aimed to improve understanding of learning experiences during the pandemic period, and identify vulnerable groups, educational innovations and additional support measures.

- Semi-structured interviews with purposively selected experts (policymakers, local government representatives, school administrators, and teaching/IT professionals with experience in planning and developing online resources and television educational materials) as well as teachers, parents, and students.

Table 1 summarizes the scope of the qualitative research.

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[3] Ethics approval was granted by the American University of Central Asia (Kyrgyzstan), reference #2022012700000168.
[4] The Mongolian and Tajik teams noted the first time participant observation has been experienced by them in education research

Table 1: *Overview of qualitative research participants*

Method	Kyrgyzstan	Mongolia	Tajikistan	Total
Participant observation	8	6	6	20
Focus groups with parents/ guardians	9 40 women, 32 men)	6 (25 women, 23 men)	6 (21 women, 18 men)	21 focus groups 159 participants (86 women, 73 men)
Focus groups with students	17 85 girls, 85 boys)	12 (58 girls, 56 boys)	12 (43 girls, 6 boys)	41 focus groups 373 participants (186 girls, 187 boys)
Expert interviews	13	11	7	31
Interviews with teachers	16	16	1	33
Interviews with parents	7	8	5	20
Interviews with students	8	13	8	29
Total number of participants	294	216	155	665

In phase three (2023), a survey[5] of students and teachers was designed based on the findings of the qualitative research. The survey aimed to uncover students' and teachers' motivation to learn, trust, and innovate in distance education, and their readiness to adapt to change and use distance education. The survey was designed in Russian and translated into Kyrgyz, Mongolian, Tajik and Uzbek (for use in Kyrgyzstan). A pilot study was conducted in all four languages among representatives of the target groups. The survey was administered to students aged 14-17 (in 8th, 9th and 10th grade) and teachers and carried out using tablets with SurveyCTO software.

Participant selection used a two-stage cluster sampling technique. First, a sample of all public mainstream schools in each country was taken and equally distributed among regions and main cities. At each selected school, students in 8th to 10th grade and teachers were randomly sampled with quotas set by grade and gender (for students), and by subject and teaching experience (for teachers). Table 2 summarizes the reach of the survey.

Table 2: *Overview of survey participants*

Group	Kyrgyzstan			Mongolia			Tajikistan			
	F	M	Subtotal	F	M	Subtotal	F	M	Subtotal	Total
Students	1,81	1,765	**3,577**	446		**898**	1,041	959	**2,000**	**6,475**
Teachers	794	100	**896**	171	54	**225**	390	110	**500**	**1,621**
Schools			**180**			**45**			**162**	**387**

POLICY FRAMEWORK FOR DISTANCE EDUCATION AND DIGITALIZATION

All three countries have a **policy framework that is conducive both to distance education and to digitalization.** This is set out in a range of policies covering national development, education, and digitalization. These policies typically connect the role of education and digitalization with national development. For example, Mongolia's long-term national development plan, *Vision-2050* [6], introduced in 2020, highlights the ongoing role that online and distance education can play as part of national development, building on policy measures in place since the early 2000s.

In terms of **digitalization strategies**, Kyrgyzstan adopted *Digital Kyrgyzstan 2019-23* [17], a plan for digital transformation across all spheres of society. This identifies the education system as a key area for change. As part of this strategy, the Ministry of Education and Science is tasked with the development of electronic textbooks; creation of a National Electronic Library; ensuring conditions for remote access for persons with disabilities to obtain higher education; and the introduction of e-learning. Mongolia enacted a *Digital Nation* policy in 2020 and within a year, 2/3 of Mongolians were using the e-Mongolia public services platform.[8] The country's achievements in digital learning platforms and initiatives have been recognized by the United Nations with Mongolia's inclusion as a 'champion country' in the 2022 global Transforming Education Summit.[9]

The **pandemic acted as a catalyst** for policymakers to prioritize and expedite the development and implementation of policies that make more direct connections to education and distance learning/digitalization. In Kyrgyzstan, the *Education Development Programme for 2021-2040* [10] acknowledges the impact of the pandemic on the education system, principally the wholescale transition to distance education and creation of online learning and teaching resources. The policy also points out some of the barriers that still remain to digitalization, such as the lack of computer equipment in schools, insufficient training in digital skills and a lack of digital materials and distance learning platforms. Also introduced during the pandemic was the Concept on the *Transition to Digital Education in the Republic of Tajikistan 2022-2042.* [11] This policy sets out a comprehensive approach to the creation of a digital learning environment and the use of distance learning technologies in education. It also encompasses the need to improve teachers' skills in digital technologies and the need to augment technical equipment in schools.

While distance education and distance learning are terms that are frequently used in **education policies,** they are not always fully defined or backed up with targets that relate to teacher development or school education. For example, Mongolia's Education Medium Term Development Plan 2021-2030 [12] states that by 2025, there will be universal access to formal and informal education, where only informal education is understood as including distance learning. The plan includes targets for increasing the number of students who study online/by distance but only at the level of higher (post-compulsory) education. Similarly, Tajikistan's National Strategy for Education Development 2020-2030 [13] repeatedly mentions the need to expand distance education at all levels of education but only considers distance learning an option for students with disabilities, and commitments to expanding internet access and connectivity are focussed on higher education.

[6] https://vision2050.gov.mn/eng/
[7] https://www.gov.kg/ru/programs/12
[8] https://www.urbanet.info/digital-governance-mongolia/
[9] https://www.un.org/sites/un2.un.org/files/2022/09/gateways_to_public_digital_learning_long.pdf
[10] https://cbd.minjust.gov.kg/158227/edition/1070465/ru
[11] http://www.portali-huquqi.tj/publicadliya/view_qonunhoview.php?showdetail=&asosi_id=26482
[12] https://www.globalpartnership.org/sites/default/files/document/file/2020-12-13-endorsement-education-sector-mid-term-development-plan-2021-2030-Mongolia.pdf
[13] https://www.globalpartnership.org/content/tajikistan-national-strategy-education-development-2021-2030

In summary, all three countries have established policy frameworks that make connections between the role of education and digitalization as drivers of national development. To date, the impact of such policies on societal change has been more evident in Mongolia than Kyrgyzstan or Tajikistan. The countries' early experiences of the pandemic led to the creation of new policies that brough these spheres together more directly. However, the findings from this research highlighted multiple disconnects between government policies and on-the-ground experiences of ICT and distance learning. While the ambitions set out in the policies appear highly conducive to digitalization and the reinforcement of distance education, digital transformation is hindered by inadequate **digital infrastructure**, particularly in Kyrgyzstan and Tajikistan, volatility in education leadership in Kyrgyzstan[14], and insufficient investment in human capacity and technical resources across the three countries.

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[14] During the period of this research project, for example, there were four Ministers of Education, with an average tenure of less than a year in post.

DIGITAL INFRASTRUCTURE

Both the desk and field research for this project confirmed that **limitations in digital infrastructure pose major barriers to the realization of policy ambitions for longer-term digitalization.** Digital infrastructure encompasses access to the internet, quality and cost of internet, and access to digital devices (typically smartphones, tablets, laptops). Challenges in this domain were particularly felt in Kyrgyzstan and Tajikistan.

In **Kyrgyzstan**, although 99% of schools officially have internet access, 37% had insufficient connection speed for online work, and 20 schools located in hard-to-reach mountainous regions had no internet connection at all during the pandemic. Less than half (45%) of schools have computers and one in five teachers had access to an internet-enabled computer.

> *"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, Batken province, Kyrgyzstan

After returning to in-person learning, the research found that many electronic educational resources were no longer fully utilized. In addition, some of these resources, such as those accumulated during the pandemic on *Sanarip Sabak* (see next section) were not updated.[15]

By the start of 2023, the level of internet penetration in **Tajikistan** reached 41% but internet access is expensive and is among the slowest in the world. The country's predominantly mountainous terrain also poses connectivity issues. At the onset of the pandemic, only 15% of schools in Tajikistan were able to make the internet available for educational purposes.[16]

> *"We do not have internet at school. We use mobile internet at home, but it is very expensive."*
>
> Teacher, Sogd province, Tajikistan

The digital environment in schools is similarly challenged. The research found that in Dushanbe, 56% of teachers reported having internet access at school for conducting online classes, while the availability of internet in schools was reported as substantially lower in the regions, ranging from 9% to 25%. In terms of school-level access to digital educational resources, the study found that online learning resources, tests, and teaching resources are used in approximately a quarter of schools in Dushanbe, in every tenth school in Sogd and Khatlon regions, and by only 5-6% of schools in the Districts of Republication Coordination. However, even when schools are equipped with tools for digital education, maintenance seems to be a serious issue.

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[15] Data for Kyrgyzstan from https://kix.taalimforum.kg/report/Analytical_Report_School_Education_in_Kyrgyzstan_Readiness_for_Digital_Education_en.pdf
[16] Data for Tajikistan from https://kix.taalimforum.kg/report/Analytical_Report_Tajikistan_Readiness_for_Digital_Education_en.pdf

> *"We have electronic boards, but we do not use them. When the supplier delivered it, some spare parts were missing, I guess… we could not switch it on"*
>
> ICT Teacher, Darvoz district, Tajikistan

As **Mongolia** has been developing online and distance education since the early 2000s, digital infrastructure issues were less prevalent in the research findings. An education data centre was created in 2000; by 2015, all teachers had laptops, and by 2022, all public schools are connected to the Trans-Eurasia Information Network which provides gigabit speed internet access in urban areas, high speed access in rural areas and satellite-powered internet to remote schools. Nevertheless, the pandemic placed extra burden on the country's digital infrastructure.

> *[The quality of technology and the level of digital skills among teachers was such that] "teachers' microphones were not working or computers were switched off".*
>
> Focus group with school students (girls aged 15-17), Umnogobi province, Mongolia

EDUCATIONAL INNOVATIONS DURING THE COVID-19 PANDEMIC

The research uncovered a range of educational innovations that were spurred by the pandemic. At government level, all three countries introduced nationwide online learning portals and developed online and television learning materials. In Kyrgyzstan and Mongolia, platforms and courses were created to support teacher professional development whereas in Tajikistan, opportunities for teachers to train/upskill in the use of ICT in education has been limited. Other educational innovations included a grassroots initiative in Kyrgyzstan to support parents with home schooling, an eSchool that was created in Mongolia in 2022 and an electronic service platform for teachers, parents and students in Dushanbe, Tajikistan. Examples of each category are provided below.

A striking difference among these innovations relates to stakeholder groups responsible for their creation. The Ministry of Education and Science in all three countries was actively involved in the development of online learning portals and online/TV lessons, in Mongolia often in concert with other government agencies with an education/technology remit. In Tajikistan, international organizations such as UNICEF and the European Union played a critical role in enabling innovation, whether in partnership with the Ministry or by introducing initiatives. In Kyrgyzstan, there was considerably more evidence of grassroots-led innovations, as the examples below indicate. Bottom-up innovations were also found in Mongolia but were typically individual initiatives or smaller scale communities of practice[17].

Online learning portals

- In **Kyrgyzstan**, the Ministry of Education and Science developed the *Sanarip Sabak*[18] portal containing TV lessons, links to educational platforms in Kyrgyzstan and Russia, and an electronic library with digitized textbooks.

- In **Mongolia**, *MEDLE.mn*[19] is an open portal with a database of over 10,000 online training materials aligned to the national curriculum. Created in 2019 by the Ministry of Education and Science and the Centre for Education Information Technology, resources were developed by teachers and specialists at the Ministry of Education and Science and the Centre for Education Information Technology following a nationwide competition. In addition to lesson content, MEDLE now includes 147 digitized textbooks, 3,358 interactive exercises, the database of tele-lessons, 805 virtual laboratory experiments and 261 e-skill lessons.

- *Maktab Mobile*[20] in **Tajikistan** is an e-learning portal launched in 2020 by the Ministry of Education and Science with support from UNICEF and the European Union. It contains resources that are also available offline, an online library and attendance/reporting functionalities. In 2021, it reached 5,248 students and 248 teachers.

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[17] A selection of such grassroots initiatives are described at https://kix.taalimforum.kg/report/Policy-Brief-Mongolia-eng.pdf
[18] https://oku.edu.gov.kg/ru/
[19] https://www.medle.mn/
[20] https://maktabmobile.tj/

Online and television learning materials

- In **Kyrgyzstan**[21], an initiative to translate Khan Academy learning materials into Kyrgyz was initially organized by volunteers and has since received support from both local and international organizations. Nearly 200 teachers in all regions are currently ambassadors for the initiative.

> *"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, Kyrgyzstan

- In **Kyrgyzstan**, the Ministry of Education and Science developed and filmed over 1,700 TV lessons in Kyrgyz, Russian and Uzbek during 2020 and broadcast these online, on national television channels, and through special mobile apps.

- A collaboration in **Mongolia** between the Mongolian Television Association, National Institute for Education Research and Institute of Teacher Professional Development created 4,140 tele-lessons which were broadcast on national TV and available online. Take up rates were around 75%, although the participation of herders' children was low, constrained by limited access to TV channels and electricity.

- *Feed Me*[22], a mobile app introduced by USAid in **Tajikistan**, supports language acquisition for early readers and Tajik as a second language learners. The app has been downloaded over 7,000 times.

- *Tomaktabi.tj*[23] in Tajikistan is the Tajik version of the Magic Box platform developed by UNICEF, Microsoft, and the University of Cambridge. The platform is designed to provide access to quality education for preschool age children.

Teacher professional development

- *Mugalim online school*[24] in **Kyrgyzstan** was 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*.

- *Sanarip Mugalim* Training Centre[25] in **Kyrgyzstan** – 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.

- In **Mongolia**, the *Aplus*[26] platform for teachers – contains 148 online courses in 19 areas delivered by more than 180 experts which provides an opportunity for teachers to study self-paced courses in their areas of interest. Each teacher can participate in three courses with the cost covered by the government in the school budget.

21 https://ky.khanacademy.org/
22 https://www.usaid.gov/tajikistan/education 23 https://tomaktabi.tj/
23 https://tomaktabi.tj/
24 https://mugalim-edu.com/
25 https://www.facebook.com/groups/510698196324657
26 https://aplus.mn/

Other educational innovations

- Created during the pandemic, *Online Mektep* education platform[27] in **Kyrgyzstan** began as a series of webinars led by 48 volunteer teachers. Topics included tips for online learning and advice for parents on homeschooling. Subsequently, a platform with 72 hours of online lessons in Kyrgyz by 48 volunteer teachers has been developed.

- An *eSchool*[28] was established by the Minister of Education and Culture in **Mongolia** and launched in 2022/23 with the initial aim of providing the online delivery of elective courses for high school grades 10-12 and an integrated Mongolian language and culture programme for overseas Mongolian students. 10,000 students were enrolled in its first year of operation. Offered through MEDLE.

- The platform *eDonish*[29] is a notable example of a locally developed initiative in **Tajikistan**. Launched in Dushanbe schools in August 2020, eDonish digitizes a series of paper-based processes and is designed to improve communications between students, families, and schools. It was created as a partnership between the local government in Dushanbe and the public enterprise Smart City. Used by 105 schools, eDonish reaches over 200,000 students.

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[27] https://kreativ-taalim.com/online-mektep/
[28] https://eschool.mn/
[29] https://www.edonish.tj/

READINESS FOR DISTANCE EDUCATION

Textual analysis of data from the qualitative research revealed that most participants, when discussing their experiences during the pandemic, associated it with the concept of distance education. This ranged from 40.4% in Kyrgyzstan to 54.9% in Mongolia and 60.5% in Tajikistan[30]. Respondents had both negative and positive association with distance education, as shown at Table 3.

These associations varied by country, with Kyrgyzstani respondents more likely to identify the **negative impact** of distance education, especially in relation to its effects for teachers. Mongolian and Tajikistani respondents were more likely to focus on the **conditions** for distance education (e.g., accessibility, the need for family support, the experience of distance education in other countries). Variation was also noted between stakeholder groups, with parents more likely to see distance education as inferior quality and/or inaccessible, whereas government representatives pointed to the ways that distance education could expand access to education.

Table 3: *Most frequent associations with distance education*

Kyrgyzstan	Mongolia	Tajikistan
1. Low quality teaching owing to teachers' lack of experience in distance education	(Lack of) accessibility (financial and technological)	Technical barriers
2. Challenges with assessment and learning methods	Flexibility/mobility	Flexibility/mobility
3. Leads to dropouts from education	Effective means of communication	Need for family support/ participation
4. Lack of communication	Need for family support/ participation	Leads to dropouts from education
5. Change in attitudes towards teachers	Lack of communication	Learning from/applying good practices in other countries

Readiness for distance education was further interrogated through the creation of indexes based on the teacher and student survey results. The methodology was adapted from a previously developed tool[31] and enables the calculation of a percentage score using the self-reported perceptions of teachers' and students' overall preparedness for distance education that was also broken down into five components:

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30 Based on proportion of coded text (transcripts from interviews and focus group discussions) that aligned to the discursive category 'distance education'. Sections of the transcripts were categorized into one of six overarching categories: distance education, inequality, vulnerability, competences, quality, and innovation.
31 Hosny, S., Ghaly, M., Hmoud AlSheikh, M., Shehata, M. H., Salem, A. H., & Atwa, H. (2021). Developing, Validating, and Implementing a Tool for Measuring the Readiness of Medical Teachers for Online Teaching Post-COVID-19: A Multicenter Study. Advances in Medical Education and Practice, 12, 755–768. https://doi.org/10.2147/AMEP.S317029

1. Online learning and course development skills
2. Digital communication
3. Basic computer skills
4. Advanced computer skills
5. Use of learning management systems

Comparing the overall score (Table 4) highlights two significant country-level findings. First, teachers in all three countries perceived themselves to be more prepared for digital education than students, with overall scores of between seven and 14 percentage points higher than for students. Second, the overall score for Tajikistan for both teachers and students is markedly lower than for their counterparts in Kyrgyzstan and Mongolia, where the scores were more similar. A breakdown of the index scores by component for teachers and students can be found at Appendix II.

Table 4: *Digital Education Readiness Index – Overall score*

	Kyrgyzstan	Mongolia	Tajikistan
Teachers	72	78	64
Students	65	64	55

In **Kyrgyzstan**, the high level of self-assessed readiness for distance education did not always match teachers' attitudes in practice. For example, 83% of teachers agreed that distance education seriously impaired the quality of students' knowledge and skills. Many teachers, having entrenched the idea of teaching in-person, found themselves unable to present alternatives, resulting in distance learning lessons being reduced to broadcasting traditional lessons via TV lessons, YouTube videos or using messaging services such as WhatsApp. Nevertheless, while half of students said that their teachers gave them more homework and around a third reported other more negative aspects of distance education, the majority of students also reported that teachers paid more attention to students (61%) and gave them interesting tasks and projects (72%).

The research findings for **Mongolia** echo the disparity between the readiness index and the realities of teaching and learning during the extended school closure. The main challenge reported by teachers was the lack of or poor quality of internet (63%), followed by the lack of technical means (56%). Despite distance education being more embedded in Mongolia, only 20% of teachers agreed that they prefer distance education to 'traditional' forms of learning. Teachers in Mongolia and in the other two countries explained how online teaching required significantly more preparation time and also made it more difficult to assess students' progress. 70% of teachers in Mongolia said that interactions with students during distance education were very limited and the same proportion reported that students actively participated. The following section provides some explanations for the limitations faced by students.

> *"Preparing for a lesson is more difficult than conducting it. A teacher spends 3-5 hours to prepare one lesson. Firstly, the teacher has to search for material without using any books. You have to dig through many websites to make your lesson interesting. In e-learning, you cannot have live interaction with children, so you need to involve students more than usual."*
>
> Teacher, Ulaanbaatar, Mongolia

IMPACT OF DISTANCE EDUCATION ON VULNERABLE STUDENTS

The project identified three vectors of vulnerability among students relating to **gender** (both girls and boys), **geography** (remote and rural areas), and **identity** (ethnic and/or linguistic minority affiliation). While these three factors are intersecting and should not be understood in isolation, the sections below highlight some of the key comparative findings across the countries. The research also identified additional factors that emerged as vulnerabilities during distance education and school closures.

Gender

The experience of distance education did little to adjust pre-existing gender roles and in many cases **reinforced gender stereotypes**. For example, the perception that boys in **Kyrgyzstan** are sedentary, lack a desire to learn, and that investment in their education will not pay off for them was underlined by both male and female students, who rated girls as more diligent and successful learners and boys as unable to organise themselves. In **Tajikistan**, lower educational participation and outcomes for girls and the persistence of gendered expectations for girls and boys were substantiated by the research. The study found that boys are often prioritized for education as future providers, while girls are typically assigned domestic duties in preparation for marriage. Parental attitudes varied, with some expressing uncertainty or reluctance regarding their daughters' educational paths, influenced by traditional gender roles and societal pressures.

Many children took on a **greater non-school workload** during the pandemic, both at home (housework, childcare) and outside the home (outdoor household tasks, jobs). Again, this division of labour largely fell along typical gendered lines and was more prominent outside of cities. In **Tajikistan**, girls frequently bore the burden of domestic work, impacting their ability to pursue education or career aspirations. Boys were more likely to be taken by their parents to clubs, sports, and other extracurricular activities.

> *"At home, more attention is paid to boys' education, whereas girls are told that they have to learn how to do things around the house, because girls will be married off. And since boys are future men, they have to study and provide for their families. So girls' studies are not treated as strictly."*
>
> Focus group discussion with upper years female student, Dushanbe, Tajikistan

Girls in **Kyrgyzstan** also did housework more than boys; for example, 74% of girls cleaned vs 36% of boys. 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. On the other hand, boys did more outdoor work: 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. Extra work for all children created barriers to learning during school closures.

> *"There were families who worked together with their children during the pandemic in the fields, making mud bricks. Children worked from early morning and came home very late, there was no energy and time at all to do homework or participate in online classes."*
>
> Focus group discussion with fathers, Osh province, Kyrgyzstan

In **Mongolia**, as in Kyrgyzstan, gender issues intersected with geographic challenges. Children in herder and farmer households – especially high school boys – were less likely to be able to engage in distance education due to being involved in seasonal migration, livestock and farming work. This aligns to the reverse gender gap in Mongolia, where girls outnumber boys at all levels of education.[32]

However, the pandemic also limited opportunities for some girls in Mongolia, such as high school age girls in households with many children in the urban peripheral districts who did not study due to caring for their younger siblings or housework. Both boys and girls of high school age in these urban outskirts had to work to contribute to their household income because their parents lost their jobs.

A new finding uncovered by the research relates to the **role of devices in mediating the links between gender and access to education**. One the one hand, this connects to the previous point that the experience of distance education reinforced pre-existing gender stereotypes. For example, boys in **Tajikistan** in all regions were more likely than girls to have a smartphone (although device access increased for both boys and girls). In cases where device access in a household was limited due to cost and/or family size, this typically disadvantaged older children. In **Mongolia**, this particularly affected older boys.

> *"The older brother decided not to study and gave the use of the smartphone to his younger brothers and sisters because they are primary school students."*
>
> Teacher, Khovd province, Mongolia

On the other hand, the need for a device to ensure pedagogical continuity also served as a facilitator for girls' access to education. Some girls in **Kyrgyzstan** 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 student, Batken, Kyrgyzstan

Geography

In **all three countries**, 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.

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[32] https://www.diplomaticcourier.com/posts/mongolias-reverse-gender-gap

The research found that remoteness in Kyrgyzstan and Mongolia was not restricted to rural and mountainous areas but was also a relevant issue for students in **urban peripheries** surrounding the capital city. Teachers in **Mongolia** reported that the greatest challenges facing children from vulnerable groups such as those living in the Ger districts of Ulaanbaatar[33] were the lack of/low quality internet (84% of survey respondents), lack of devices (75%) and lack of comfortable workspace at home (60%). When there is no school nearby and public transport is limited, hindering the creation of peer communities, and creating difficulties of integration among classmates. In **Kyrgyzstan**, some parents noted how distance education 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.

> *"Online learning was good for children. They did not have to get up in the morning and did not have to walk long distance to go to school"; "They had enough sleep and did not have to ride overcrowded buses."*
>
> Focus group discussions with mothers and fathers, Bishkek suburbs, Kyrgyzstan

In **Mongolia**, remoteness is also experienced by those living **nomadically**. The participant observation found that children from nomadic families were unable to consistently participate in tele- and online lessons due to the need to help with household chores or owing to the inaccessibility of suitable devices. Younger children who needed more support with their learning were not always able to access this due to adults' farming or livestock duties. A further geographic challenge unique to Mongolia relates to **mining-intensive regions**. In several cases, the research found that parents in these regions who were occupied in time-consuming mining jobs were unable to support/control their children's education. Furthermore, some neighbourhoods are abandoned once the mining is completed, leaving non-mining populations of young people marginalised.

Within **Tajikistan**, regional differences were evident in relation to the digital education readiness index results **differed quite extensively between regions**. Both teachers and students in Sogd province in the northwest of the country scored lower on almost all indicators. The survey identified a lower level of coverage of professional development courses in Sogd province compared to the rest of the country, which may partly explain the gaps. By contrast, teachers and students in the capital city Dushanbe typically scored highest in the index, which may be partly explained by better provision of resources in the capital. Dushanbe has the highest internet coverage in the country and 83% of surveyed teachers have access to an internet-enabled computer at work compared to half of less in the other regions. Advanced tools such as the previously mentioned eDonish service could explain why, for example, 90% of teachers in Dushanbe stated that they were comfortable using electronic reporting logs.

Identity

In the research, identity was primarily investigated through the lens of **language spoken at home**. In **all three countries**, students in households where the main state language is not spoken at home were less well equipped for distance education. In **Kyrgyzstan**, 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. In **Tajikistan**, the digital education readiness index showed that students

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[33] https://borgenproject.org/ger-districts-in-mongolia/

who spoke Tajik and Russian at home were most prepared (index score of 75) and those who were lead prepared were children whose home languages are Pashto (63), Tajik and Uzbek (63), and Tajik and Kyrgyz (54).

The problem of limited access to digital resources among children from these communities also extends to the availability of **learning materials in different languages**. Of the online courses developed during the pandemic in **Kyrgyzstan**, only a course in Uzbek language was available in Uzbek and there were no courses in Tajik. In **Tajikistan**, no educational materials on the various online learning platforms were available in Uzbek. Those who speak Russian at home in Kyrgyzstan and Tajikistan, primarily located in the capital cities, were also able to access educational materials produced by Russia.

Emerging vulnerabilities

In addition to the intersecting influences of gender, geography and identity, several additional vulnerability factors emerged in the course of the research. As noted above, one new factor was **digital inequities**, which encompass unequal access to (high quality/fast) internet, devices, level of digital skills among students, teachers, and parents. Another was the impact of **emotional and physical isolation** from students' peers and barriers that distance education created that are minimized during in-person schooling for example., socialization opportunities and facilitation of groupwork. Distance education was more challenging for students from **large families** with many children, **poor** families and/or **single parent** families. The pandemic period also revealed new forms of vulnerability among **younger students** in the earliest school years. Many of these new inequalities have also been evidenced in other countries around the world; in the context of this research, they are factors that layer on top of the pre-existing vulnerabilities that, as previously noted, remain in existence for the most part.

CONCLUSION

This report has highlighted some of the main areas of similarity and difference in the experiences and educational impact of the COVID-19 pandemic in Kyrgyzstan, Mongolia and Tajikistan. As the data generated during the project *Distance Education to Improve Quality and Access in Kyrgyzstan, Mongolia, and Tajikistan* were so extensive, this report's focussed approach enabled the high-level comparison of research findings in five areas.

The reference points for distance education and digitalization are set by the **policy framework for distance education and digitalization**. All three countries have policy commitments to national development, education, and digitalization, which are connected in various ways across the range of policies. In Kyrgyzstan and Tajikistan, these policy frameworks recognize the potential of distance education in promoting both educational digitalization and equality, but the research identified a significant disconnect between policy and practice. For example, Tajikistan made very little used of distance education during the pandemic, rendering policy commitments largely untested. By contrast, the discourse of the importance and promise of digital education is widespread in the Mongolian educational environment, reinforced by related policies and initiatives that can be traced back over more than 20 years.

The policy framework can in turn be substantiated or undermined by the state of the **digital infrastructure**. Due to Mongolia's greater experience of tackling its geographic and social challenges through digitalization, the country's digital infrastructure is very advanced. Access to devices and reliable internet at home were among the main infrastructure issues in Mongolia. These challenges resonated in Kyrgyzstan and Tajikistan, where mountainous terrain, urban/rural differences in digital access, and government/family resource constraints are also major barriers to effective digital infrastructure.

Significant **educational innovations** in all three countries were identified during the research. The Ministry of Education and Science in Kyrgyzstan and Tajikistan oversaw the introduction of online learning portals. Mongolia's Ministry of Education and Science had already developed a portal before the pandemic and expanded it during school closures, also introducing a fully online eSchool in 2022. All three countries developed a large number of online and television learning materials. The extent to which other educational stakeholders were involved varied by country, with significant grassroots innovation and involvement by teachers in Kyrgyzstan and a greater prevalence of international organizations in Tajikistan.

Teachers' and students' **readiness for distance education** was assessed in the research through the creation of a distance education readiness index. Teachers in all three countries showed higher levels of readiness than students; these self-assessed perceptions did not, however, match other research findings that highlighted some of the barriers faced by teachers in relation to their workload, scope of innovation, and skill level in working with digital teaching technologies. The distance education readiness index scores were higher in Kyrgyzstan and Mongolia than in Tajikistan.

In terms of the **impact of distance education on vulnerable students,** the research findings affirmed that learners who were previously most susceptible to marginalization based on gender, geography, and identity remained at risk during the pandemic. Pre-existing gendered expectations were reinforced, most specifically to the detriment of girls' educational prospects in Tajikistan. Across the countries, girls and boys took on more tasks/work outside of school that mostly conformed to prior gendered distinctions with girls doing more chores in the household and boys, especially older boys and boys in rural areas, doing more outside tasks or work outside the family. The use of smartphones for learning had some benefits for girls and those in rural/remote locations. Based on location, students with poorer access/educational outcomes included those in rural area in all three countries, students in urban peripheral areas in Kyrgyzstan and Mongolia, students from nomadic families and in mining-intensive regions in Mongolia. Students speaking minority languages at home also faced greater educational challenges. In addition, vulnerabilities were identified in relation to digital inequities and the impact of family dynamics (family size, children's age, etc.).

Looking ahead to the emerging post-pandemic landscape, each country is taking forward a policy commitment to distance education and digitalization. For these ambitions to be put into action, attention must be paid both to educational access as well as quality. In **Kyrgyzstan**, efforts by the government to engage with distance education were matched by significant volunteer-led innovations, often from teachers. These initiatives can be consolidated and scaled up, which requires consistency and greater resourcing from government and broad stakeholder engagement and societal commitment to the teaching profession. Given **Mongolia's** more advanced progress in digitalization, the country's next steps can focus on enhancing educational access for students in urban peripheries and those living nomadically. This can be combined with greater pedagogical flexibility and opportunities for teacher professional development to better enable teachers to meet current demands and adapt to students' needs. For **Tajikistan**, an urgent priority is to address the country's weak digital infrastructure. This includes upgrading and maintaining technical equipment in schools, improving internet coverage and reducing its cost around the country, and continuing to invest in online educational platforms. Consolidating the use of digital tools and resources can also be a means to remedy the gender gap in girls' educational outcomes and confront gender stereotypes.

APPENDIX I: RESEARCH SITES

Table 5 shows the location of each of the ten research sites for the qualitative research phase. It includes the type of location, its geographic position (region/province) and country and provides the rationale for site selection. A map of the research sites follows the table at Figure 1.

Table 5. *Features of qualitative research sites*

Location	Type	Region / Province	Country	Rationale
Uzgen	City	Osh	Kyrgyzstan	• Educational enrolment is lower than national average • Large ethnic minority (Uzbek) population
Kochkor	Village	Naryn	Kyrgyzstan	• Educational enrolment is lower than national average • Mountainous location • Mix of languages used in education
Altyn-Ordo	Municipal district	Bishkek	Kyrgyzstan	• Poorly developed infrastructure • Large number of internal migrants
Uch-Korgon	Village	Batken	Kyrgyzstan	• Higher poverty rate than national average • Mix of languages used in education • Mainly ethnic minority population (Uzbek and Tajik)
Buyant	District	Khovd	Mongolia	• High concentration of ethnic minority groups including the Khalh, Kazakh, Tuva, Dorvod, and Ould
Tsogttsetsii	District	Umnogobi	Mongolia	• Most developed mining region • Located in Gobi Desert steppe • High level of internal migration leads to many parents having to leave their children in school dormitories or with relatives
Bayanzurkh	Municipal district	Ulaanbaatar	Mongolia	• Most populous of capital's nine districts • High concentration of schools
Firdawsi and Sino	Municipal districts	Dushanbe	Tajikistan	• Higher number of internal migrants • Larger Uzbek communities • Greater prevalence of traditional lifestyles
Yoget	Village	Darvoz district	Tajikistan	• Mountainous village • Small community practicing *mazhab*[34] • Highest level of poverty in the country
Khujand	City	Sogd	Tajikistan	• Khujand is the second largest city, located in the north of the country • Sogd province in the northwest is characterised by poorly developed infrastructure, distant location of schools, and mixed communities (Uzbek and Tajik)

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[34] A widespread Islamic term used in theological literature to designate a teaching doctrine, not practiced in neighbouring communities

Figure 1. *Map of qualitative research sites*

APPENDIX II: DIGITAL EDUCATION READINESS INDEX SCORES

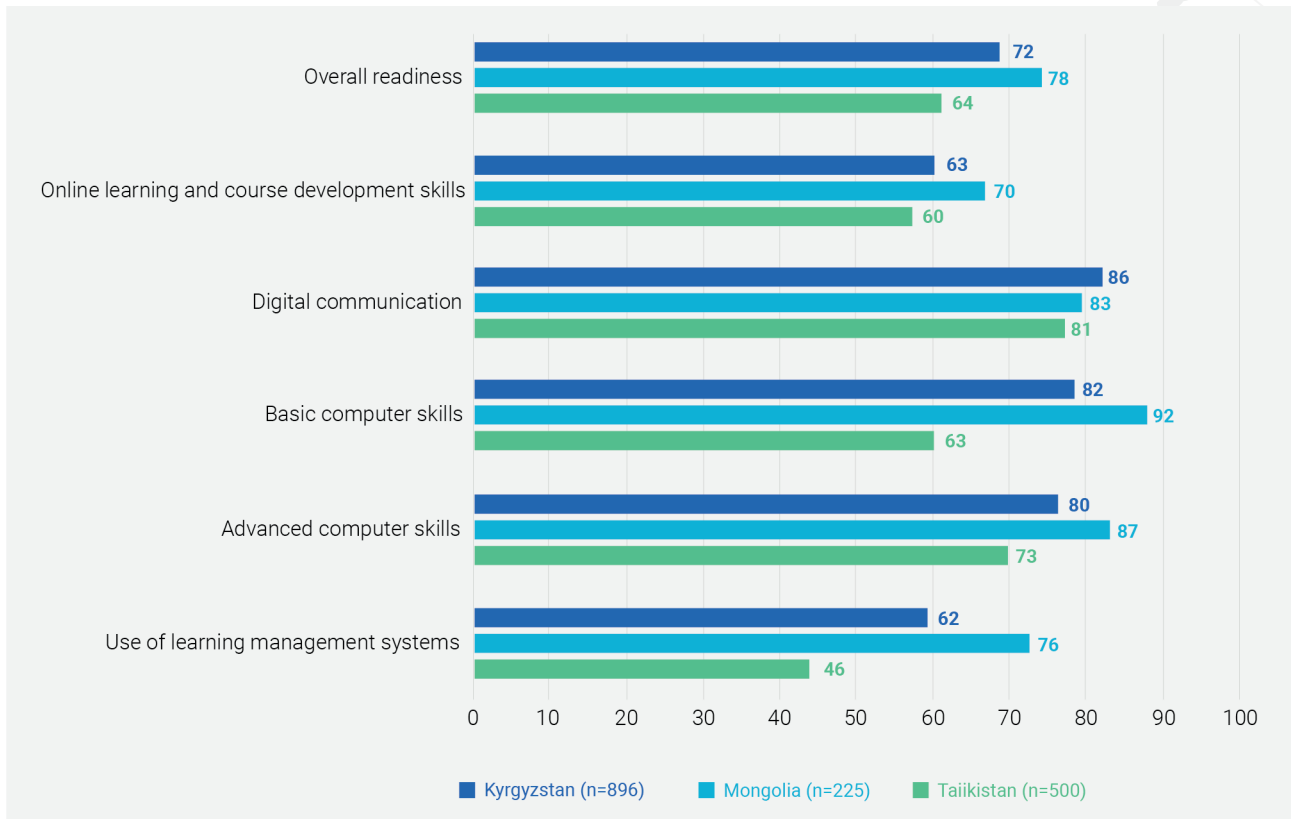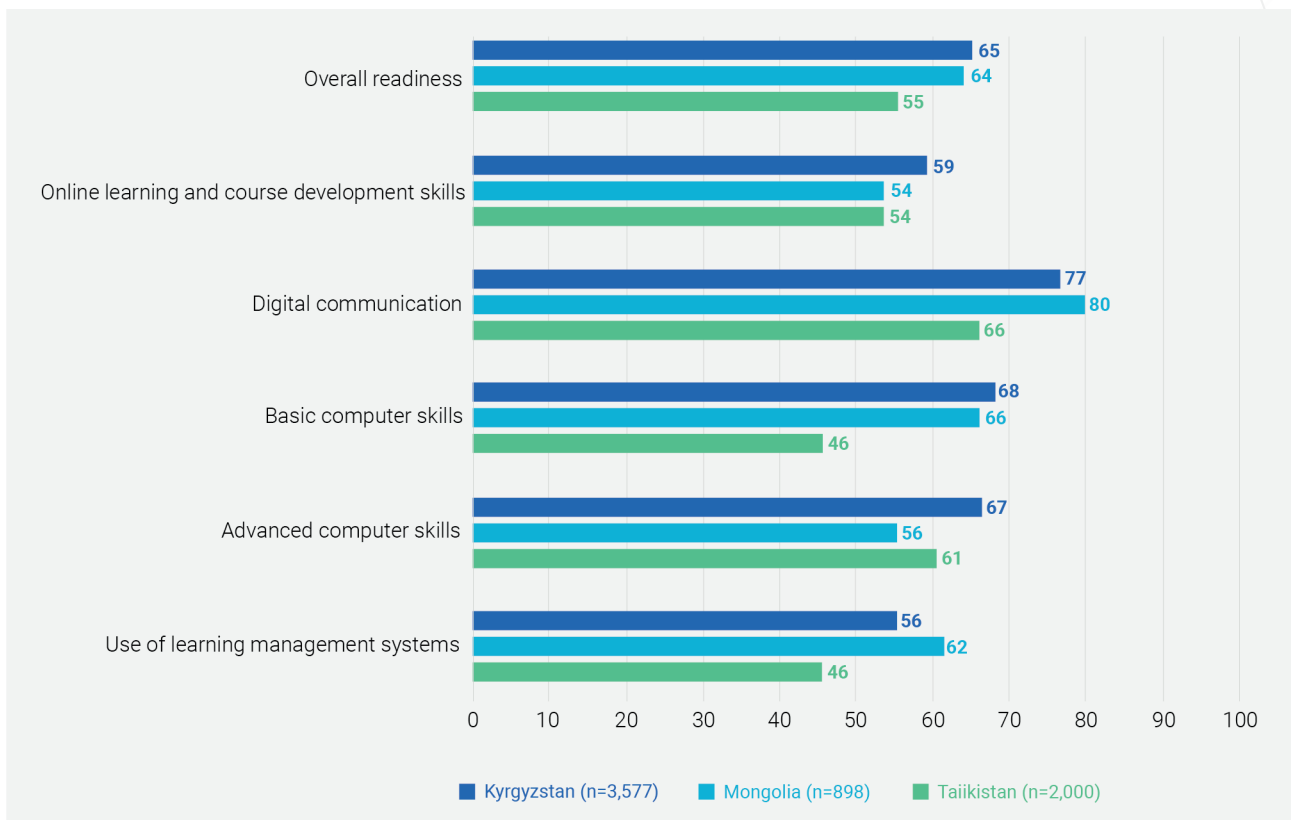**Figure 2.** *Digital Education Readiness Index – Teachers*

Horizontal bar chart showing Digital Education Readiness Index scores for Teachers across Kyrgyzstan (n=896), Mongolia (n=225), and Tajikistan (n=500):

Category	Kyrgyzstan	Mongolia	Tajikistan
Overall readiness	72	78	64
Online learning and course development skills	63	70	60
Digital communication	86	83	81
Basic computer skills	82	92	63
Advanced computer skills	80	87	73
Use of learning management systems	62	76	46

Legend: Kyrgyzstan (n=896), Mongolia (n=225), Taiikistan (n=500)

Figure 3. *Digital Education Readiness Index – Students*

Horizontal bar chart showing Digital Education Readiness Index scores for Students across Kyrgyzstan (n=3,577), Mongolia (n=898), and Tajikistan (n=2,000):

Category	Kyrgyzstan	Mongolia	Tajikistan
Overall readiness	65	64	55
Online learning and course development skills	59	54	54
Digital communication	77	80	66
Basic computer skills	68	66	46
Advanced computer skills	67	56	61
Use of learning management systems	56	62	46

Legend: Kyrgyzstan (n=3,577), Mongolia (n=898), Taiikistan (n=2,000)

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