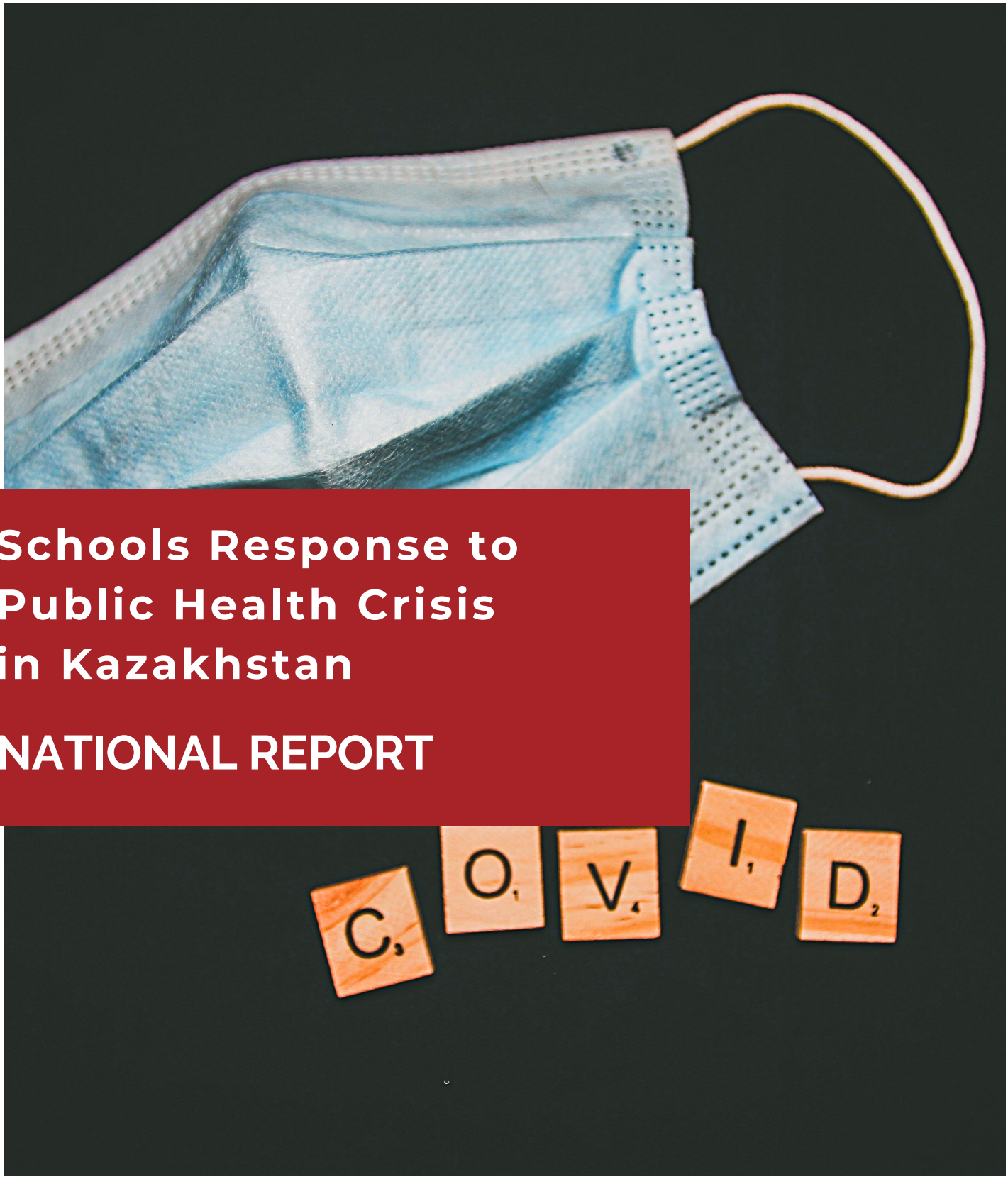

Schools Response to Public Health Crisis in Kazakhstan

NATIONAL REPORT

School *for all*

EDUCATIONAL FOUNDATION

Impressum

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1. INTRODUCTION

1.1. Global context

According to UNESCO (2020), the current COVID-19 pandemic has forced around 90 percent of all learners around the world to either switch to distance learning, or to temporarily halt their learning process. According to Memon et al (2021) COVID-19 crisis has already had more significant impact on education systems around the world than H1N1 influenza pandemic and Ebola outbreak did. This pandemic shook all education systems leaving them with uncertainty in how to manage the situation.

1.2. Country context

One of such systems is Kazakhstani system that has 7249 schools and around 3.4 million students (Education System Statistics, 2021), while the number of teachers in Kazakhstan is around 344 000. (Gov.kz, 2021). Kazakhstan also had 821 art/vocational education schools as of 2019 (informburo.kz, 2020). Student to teacher ratio in 2019 as of February 2020 was 17.2, according to World Bank (2020). Computer to student ratio is not available in recent data, however Report on Completion of State Program (2019) states that in 2018 it was 1:10. Nevertheless, National Report by Informational Analytical Centre (2019) states that 92.2 percent of schools is provided with Internet access with an average speed of 4Mbps. In addition, The Global Information Technology Report 2016 illustrates that 59 percent of households in Kazakhstan have internet access, and World Bank (2019) suggests that 82 percent of individuals in Kazakhstan use Internet. At the same time, according to the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan, 79.6 percent of population in Kazakhstan are digitally literate (Egov.kz, 2021).

All the numbers mentioned above were the partial goals of the state program named “Informational Kazakhstan 2020” that was approved in 2013. Another aspect of which was the development of “e-learning” system that should have developed equal access to technologies across schools (including broadband Internet access) and high-quality educational services (development of necessary platforms). However, COVID-19 pandemic has revealed problems associated with implementation of the “e-learning” that was noted by the President of Kazakhstan himself, namely the unpreparedness of the system for COVID-19 pandemic (Informburo.kz, 2020). Thus, the electronic government (development of which was also the part of the program) reports the plan of increasing the number of digitally literate population to 83 percent by 2022, which is expected to be achieved by the renewal of education system with a focus on “creative and critical thinking and use of modern technologies in the learning process” (Egov.kz, 2021). It also reports that 6250 public schools are connected to broadband Internet with the speed of 4 Mbps and more, 6353 online schools are connected to digital education resources. These goals are defined by "Digital Kazakhstan" State Program approved by the Government of the Republic of Kazakhstan in December 2017.

However, COVID-19 pandemic has erupted the normal flow of education system in Kazakhstan, same as did around the world. In March 2020 almost all schools were transferred to distance learning for all grades, except some remote rural schools and some primary school classes (based on parents’ requests) with a condition of rigid sanitary standards. Initially, the government set four ways to support the delivery of distance learning: online platforms, television, radio, and post (for distant communities with no local schools) (Primeminister.kz, 2021). Later, in August 2020, the government approved the distribution of 500,000 computers for the children from families in need, the creation of

electronic versions of textbooks, and organization of online republican parent meeting (Primeminister.kz, 2021). The meeting was held in a format of press-conference and its recording can be found online (Youtube.com, 2021).

The following report at several spots mentions “Orleu” training center, especially when it comes to teacher support during COVID-19 pandemic. Since this entity is specific to country-context there is a need to clarify its nature. According to its own Strategy for Development for 2012-2020, “Orleu” training center was developed as a part of State Development Program for Education (2012) with a focus on the aspect of teacher status elevation. Center’s strategy reports three main ways of improving teacher training: creation of renewed teacher training system, modernization of teacher training content, and development of innovative system of teacher training. The website mentions international collaborations with embassies of foreign countries and academic centers as well as 17 active branches around Kazakhstan.

It should be also mentioned that there is already some research performed about how COVID-19 pandemic affected school system of Kazakhstan. For instance, in contrast to this report, Bokayev et al (2021) has explored the satisfaction of parents with the educational process during the pandemic. Their results report some positive correlation between satisfaction and parents’ age and level of income, and negative correlation between satisfaction and number of children in a family. At the same time, Saurambayeva (2020) mentioned the lack of legislative framework for digital learning as an issue for transition to distance learning in her article for Central Asian Bureau for Analytical Reporting.

2. METHODOLOGY

Before presenting information on the implementation of the teaching process during the COVID-19 pandemic in Serbia (section 2.3.), sections 2.1. and 2.2. introduce the context in which the schools operated, providing the main data that give an overview of the Serbian education system, especially in terms of technological equipment of schools and households in Serbia, as well as the current digitalization policy in the education sector.

2.1. Research sample

The research sample involved school principals and school (vice-) principals from primary, secondary, art, and vocational education and training (VET) schools. The total number of participants was 953, where 83% (798) were teachers and 17% (155) were (vice-) principals. The sample size was also defined by the language that is used as a main medium of instruction in the school. Hence, it should be mentioned that out of 798 teachers, 38% (302) were from Kazakh language (KL) schools, while 62% (496) were from Russian language (RL) ones. When it comes to principals, in total 40% (62) of all participants administered KL schools, and 60% (93) RL schools.

74% (225) of KL teachers were from urban schools, while 26% (77) answered from rural areas. At the same time, 94% (464) of RL teachers participated from urban environment, and 6% (32) from rural. 87% (54) of KL principals took part in the survey from urban schools, and 13% (8) from rural. Meanwhile, 94% (88) urban RL school principals and 6% (5) rural RL school principals filled out the poll.

In total, 87% of teachers were from urban areas and 13% were from rural areas, while 92% of principals were from urban areas and only 8% from rural.

Among KL principals, the survey attracted 5 primary, 51 general, and 6 VET school principals (no art school principals). Regarding RL principals, there were 4 primary, 66 general, 21 VET and 2 art school principals. In total, 5% were primary school, 75% general, 17% VET, and 1% were art school principals.

Among KL teachers, 22% (67) identified themselves as head teachers in primary school, 5% (15) as subject teacher in primary school, 55% (166) as main subject teacher in secondary, 13% (38) as general subject teacher in secondary, 4% (13) as theoretical vocational subject, and 1% (3) as practical vocational subject teachers.Among RL schools the corresponding numbers were 23% (113) head teachers in primary, 7% (37) subject teacher in primary, 42% (207) main subject in secondary, 12% (62) general subject in secondary, 10% (48) theoretical vocational subject and 6% (29) practical vocational subject teachers. Overall, there were 23% head teachers in primary school, 7% subject teachers in primary school, 47% main subject secondary, 13% general subject secondary, 7% theoretical vocational subjects, and 3% practical vocational subject teachers. Also, 2% (3KL, 14RL) of teachers admitted that they teach in more than one school.

2.2. Sample limitations

The main limitation of the aforementioned sample happens to be the disproportionately low number of principals that took the survey (1:5 ratio, while initial expectation was 1:1). That could be explained by the fact that not all the principals that received the survey and agreed to take it, actually participated in the study, and more than expected number of teachers took part in the poll.

2.3. Data collection details

The response rates among teachers were 68 (KL) and 73(RL) percent. At the same time, principals produced 74(KL) and 73(RL) percent response rates. The average time spent on the survey for teachers was 24 (KL) and 21(RL) minutes, respectively. It took principals approximately 29 (KL) and 28(RL) minutes to complete the survey.

3. RESULTS

This chapter presents the results of the study by visualising and summarising the data retrieved during data collection.

3.1. Information flow during the COVID-19 pandemic

The following section contains results on the sources of information, the quantity and clarity of it, as well as its transfer, challenges associated with that during COVID-19 pandemic in Kazakh Language (KL) and Russian Language (RL) schools.

The last part of this section also reports different ways that participants used to overcome those challenges.

3.1.1. Sources of information

- Who/what are your sources of information on the organisation and implementation of teaching process during the COVID-19 pandemic? Please rank the sources from 0 to 4, where 0 means that you are not informed by that source at all, and 4 means that the source informed you the most.

○ *Principals:*

Figure 1. Main sources of information during COVID-19 pandemic. Principals. KL schools.

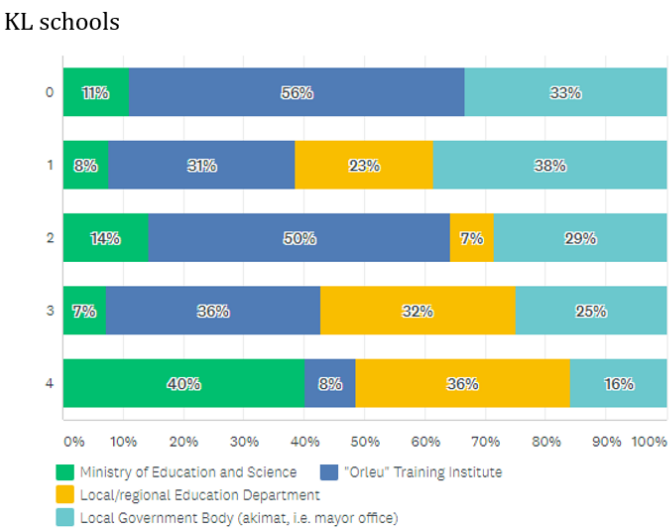
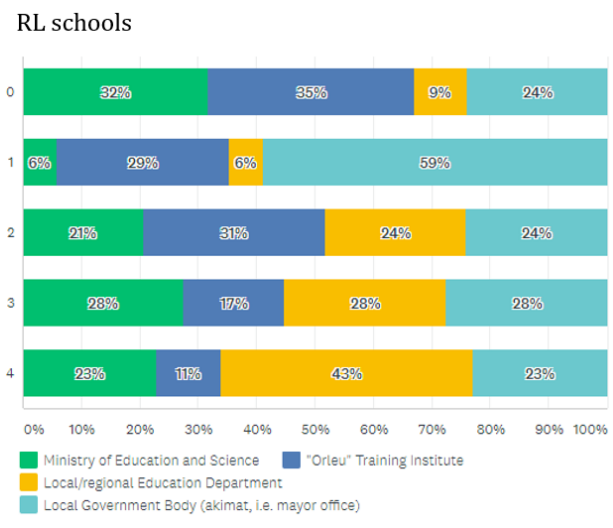


Figure 2. Main sources of information during COVID-19 pandemic. Principals. RL schools.



One of the main sources of information for both KL and RL school principals during COVID-19 pandemic happened to be Local/Regional Educational Departments. The least helpful source was "Orleu" Training Institute. It can be noted that, according to data, KL school principals relied on Ministry of Education and Science as a main source significantly more than RL school did.

- *Teachers:*

Figure 3. Main sources of information during COVID-19 pandemic. Teachers. KL schools.

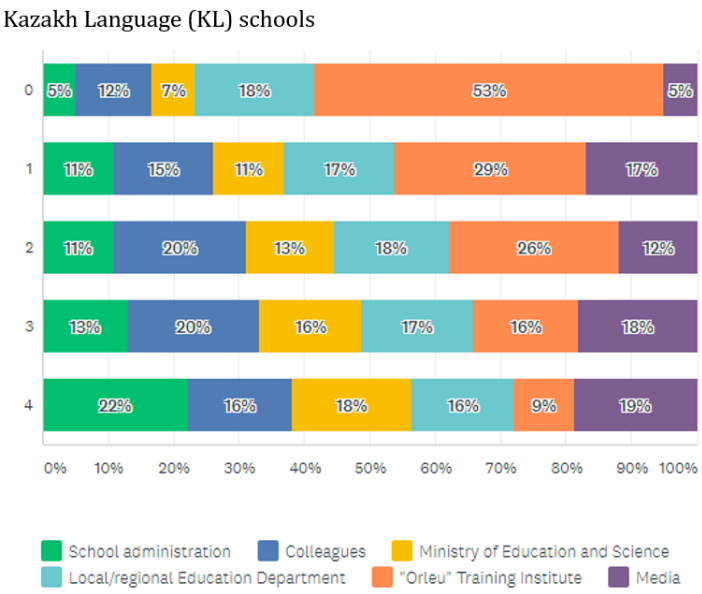
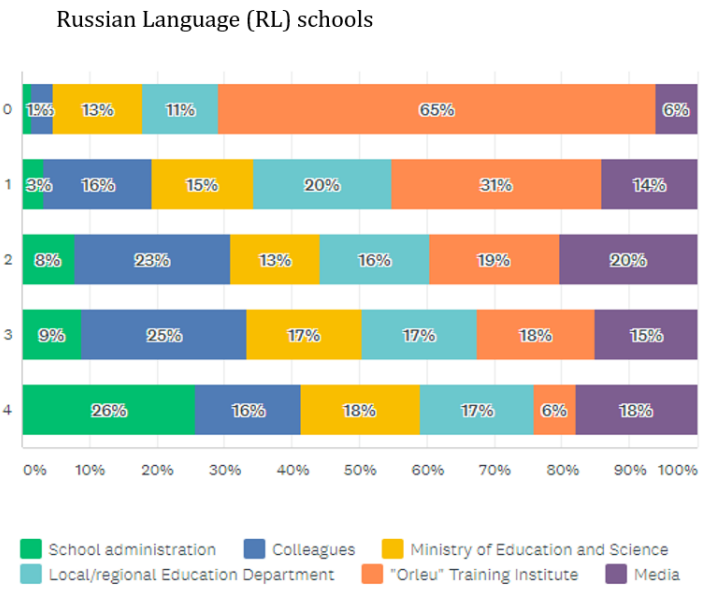


Figure 4. Main sources of information during COVID-19 pandemic. Teachers. RL schools.



When it comes to teachers, apparently, they relied on a wider range of sources during the pandemic, since the rate of reliance among all variants is relatively equal with one exception. That exception was "Orleu" training institute, which happened to be the least helpful source of information according to teachers of both KL and RL schools. Among other sources, School Administration was the leader for all teachers (KL and RL) when it came to being informed on situation with coronavirus. It can be also noticed that Local/Regional Educational Departments had almost the same importance as Colleagues and Mass Media for KL and RL teachers.

- If you have doubts about the organisation and implementation of teaching process during the COVID-19 pandemic, which institution/person do you approach with the request for information? Please rank each institution/person from 0 to 4, where 0 means that you did not approach that institution/persons, and 4 that you approached that institution/persons the most.

○ *Principals:*

Figure 5. Sources of information when having doubts during COVID-19 pandemic. Principals. KL schools.

Kazakh Language (KL) schools

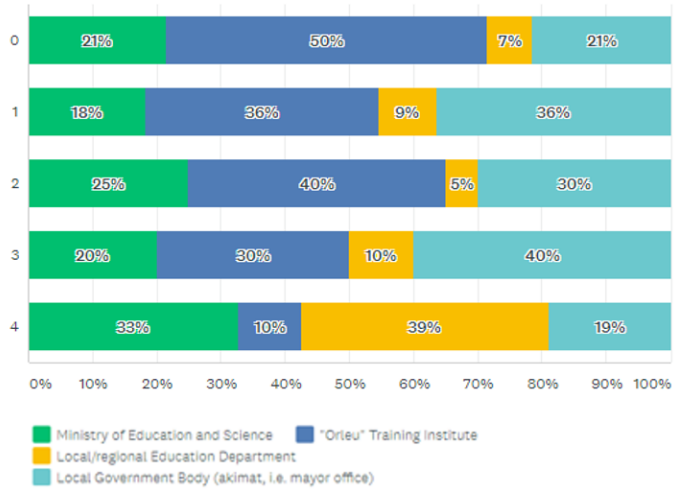
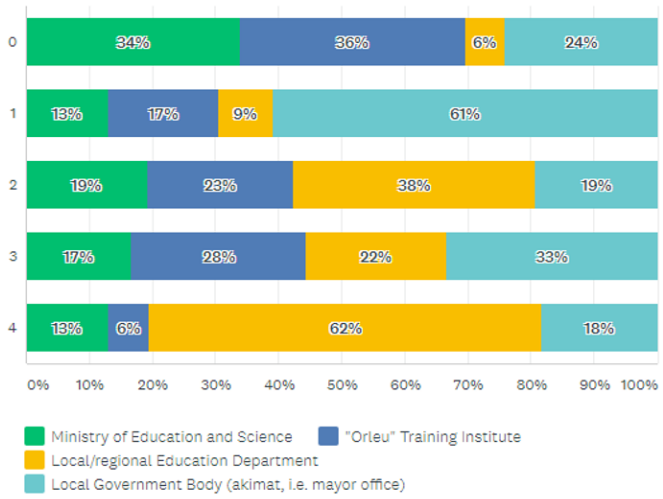


Figure 6. Sources of information when having doubts during COVID-19 pandemic. Principals. RL schools.

Russian Language (RL) schools



Regarding situation when principals had doubts about organization of teaching process, Local/Regional Educational Departments were the first choice among RL school principals and their vice-principals. However, RL principals tended to rely solely on that source, while KL principals almost equally approached Ministry of Education as well.

○ *Teachers:*

Figure 7. Sources of information when having doubts during COVID-19 pandemic. Teachers. KL schools.

Kazakh Language (KL) schools

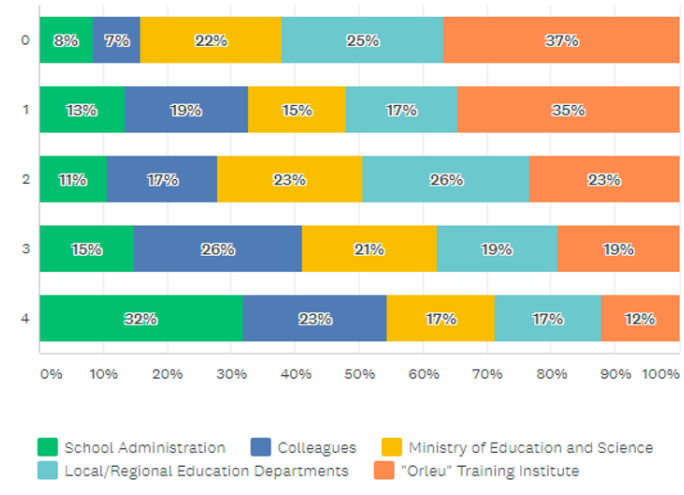
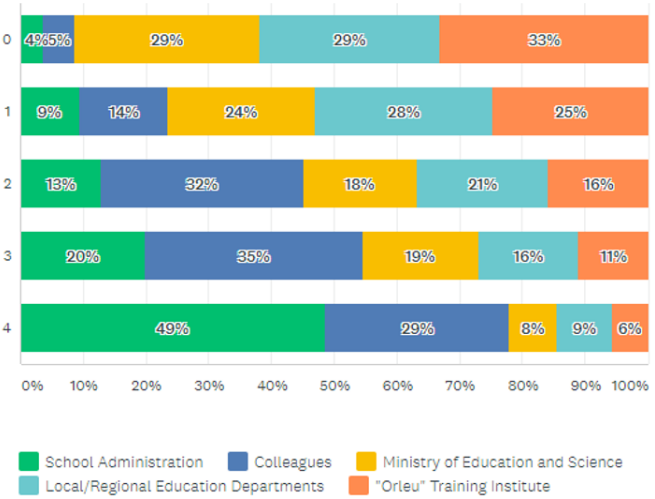


Figure 8. Sources of information when having doubts during COVID-19 pandemic. Teachers. RL schools.

Russian Language (RL) schools



On the other hand, teachers in both KL and RL schools tended to approach School Administration and Colleagues when they had doubts about the way to organize their teaching process. However, it can be noticed that KL school teachers were more eager to consider other options, while their RL colleagues limited themselves to two popular choices mentioned above.

- *Principals:*

  - If you have doubts about the organisation of the final exam for primary school, which institution do you approach with the request for information? Please rank each institution from 0 to 4, where 0 means you did not approach that institution, and 4 means that you approached to that institution the most.

Figure 9. Sources of information regarding final exams during COVID-19 pandemic. Principals. KL schools.

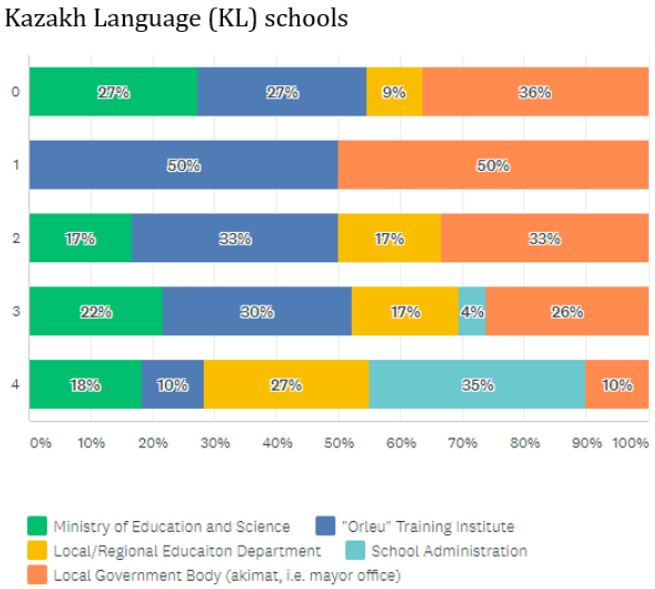
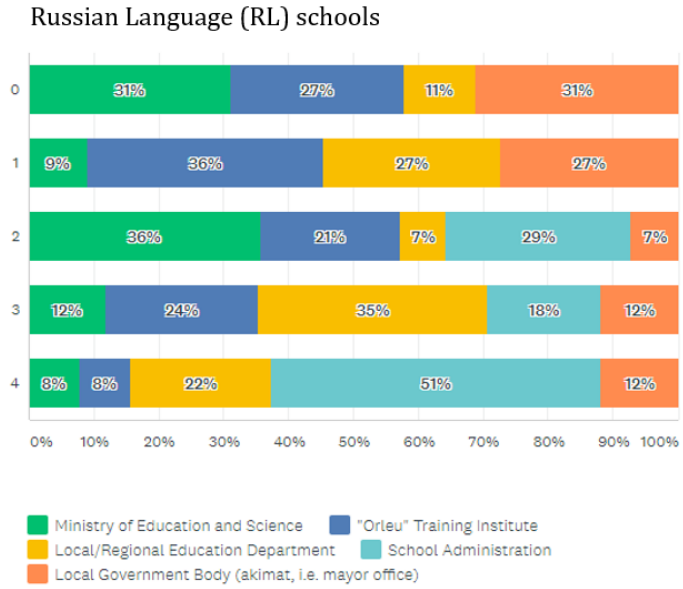


Figure 10. Sources of information regarding final exams during COVID-19 pandemic. Principals. RL schools.



When it came to organization of final exams for primary school, both KL and RL (vice-)principals tended to rely on School Administration in a first place. The second popular choice was Local/Regional Educational Departments, albeit more among KL administration rather than RL. The least popular choices were "Orleu" Training Institute and Local Government (akimat, i.e. mayor office).

3.1.2. The quantity and clarity of information

- Please assess, on a scale of 1 to 5, how well are you being informed about the organisation and implementation of teaching process during the COVID-19 pandemic?

  - *Principals:*

Figure 11. Awareness about teaching process organization during COVID-19 pandemic. Principals. KL schools.

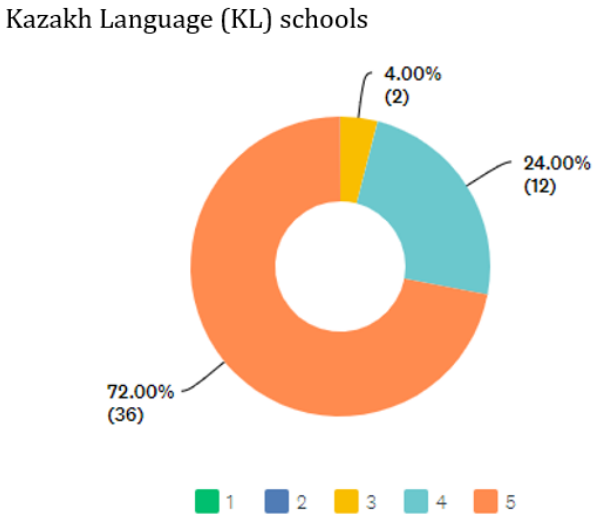
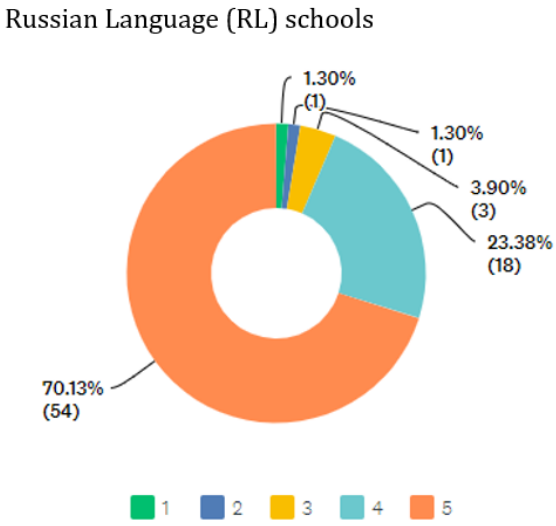


Figure 12. Awareness about teaching process organization during COVID-19 pandemic. Principals. RL schools.



More than 90 percent of all principals (KL and RL) claim to have been either completely or mostly aware of ways to organize teaching process during the pandemic.

○ *Teachers:*

Figure 13. Awareness about teaching process organization during COVID-19 pandemic. Teachers. KL schools.

Kazakh Language (KL) schools

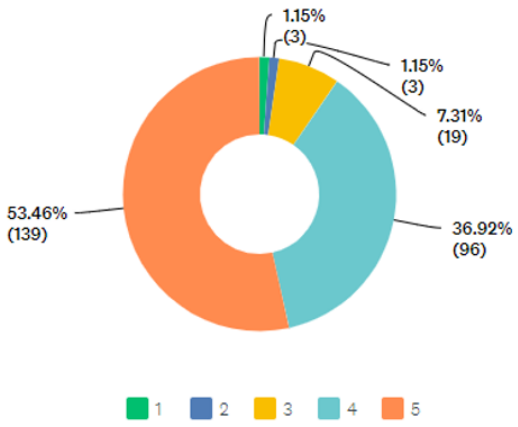
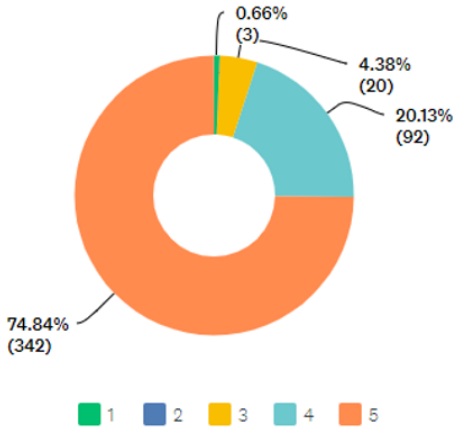


Figure 14. Awareness about teaching process organization during COVID-19 pandemic. Principals. RL schools.

Russian Language (RL) schools



In general, the figures for teachers resemble the ones for principals. Around 90 percent of all teachers were absolutely or generally informed on how to set up their teaching processes. However, in KL schools, the proportion between those who were completely aware and mostly aware is slightly rigged towards the latter compared with RL schools. (53 and 37 percent vs 75 and 20 percent).

- Please assess, on a scale of 1 to 5, clarity of information about the organisation and implementation of teaching process during the COVID-19 pandemic you received?

○ *Principals:*

Figure 15. Clarity of information about teaching process organization during COVID-19 pandemic. Principals. KL schools.

Kazakh Language (KL) schools

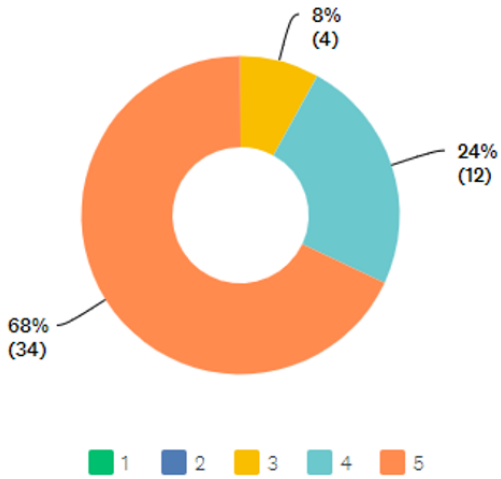
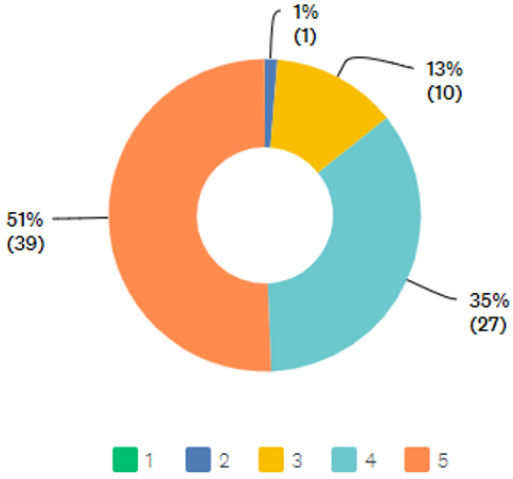


Figure 16. Clarity of information about teaching process organization during COVID-19 pandemic. Principals. RL schools.

Russian Language (RL) schools



Comparing the mean values (from 1 to 5) it can be stated that all principals considered the information they received rather clear. However, RL school principals believe that to a lesser extent than KL school principals (4.35 vs 4.60).

- *Teachers:*

Figure 17. Clarity of information about teaching process organization during COVID-19 pandemic. Teachers. KL schools.

Kazakh Language (KL) schools

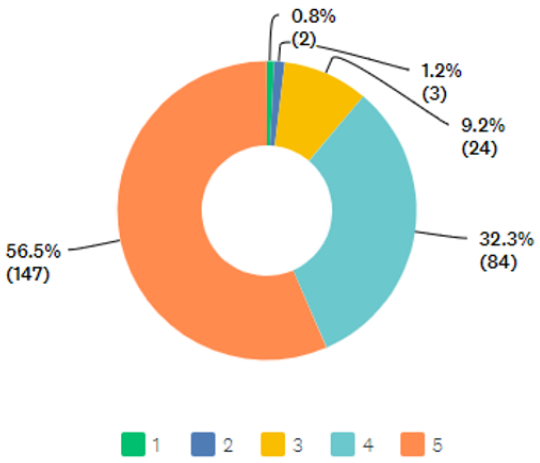
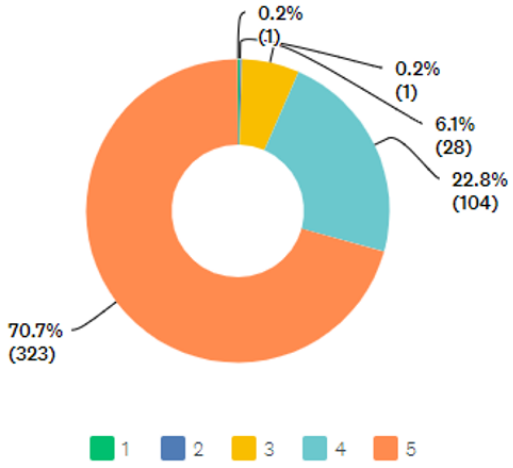


Figure 18. Clarity of information about teaching process organization during COVID-19 pandemic. Teachers. RL schools.

Russian Language (RL) schools



The same category for teachers illustrates almost the same picture, the vast majority of teachers (both KL and RL) asses the received information as rather clear. However, in contrast to principals, KL teachers are less likely to believe that than RL teachers (4.43/5 vs 4.63/5).

3.1.3.Transfer of information and challenges

- *Principals:*

Figure 19. Transfer of information and challenges during COVID-19 pandemic. Principals. KL schools.

Kazakh Language (KL) schools

Target Group	The most popular ways to inform (based on percentage of participants that use it as a main instrument)	The least popular way(s) to inform (based on percentage of participants that do not use it at all)	Most common challenge(s)
School Staff	• Social networks/messengers (78%) • Phone calls (86%) • Email (72%)	• Real-life communication	• Low internet speed • Demanding adaptation to software
Parents	• Social networks/messengers (69%) • Phone calls (44%)	• Real-life communication • Email	• Limited Internet access/low speed (mostly in rural areas) • Low level of digital illiteracy among parents
Students	• Social networks/messengers (60%) • Phone calls (39%)	• Real-life communication	• Limited Internet access /low speed (mostly in rural areas) • Lack of equipment among students • The need to remind about attendance.

Figure 20. Transfer of information and challenges during COVID-19 pandemic. Principals. RL schools.

Russian Language (RL) schools

Target Group	The most popular ways to inform (based on percentage of participants that use it as a main instrument)	The least popular way(s) to inform (based on percentage of participants that do not use it at all)	Challenges
School Staff	• Social networks/messengers (93%) • Phone calls (58%) • Email (56%)	• Real-life communication • Email	• Demanding adaptation to software • Latency in receiving feedback • Initial lack of equipment among staff • Overload of social networks • Organization of Physical Education classes
Parents	• Social networks/messengers (93%) • Phone calls (57%)	• Real-life communication • Email	• Ghosting (parents' side) • Limited Internet access / low speed (mostly in rural areas) • Lack of equipment in families • Restrictions of platforms on the number of simultaneous participants (inability to access large groups of parents at once)
Students	• Social networks/messengers (91%) • Phone calls (47%) • Email (42%)	• Real-life communication	• Internet access/speed (mostly in rural areas) • Lack of equipment among students (restricted to using parents' phones/laptops that are usually available only in the evening)

- *Teachers:*

Figure 21. Transfer of information and challenges during COVID-19 pandemic. Teachers. KL schools.

Kazakh Language (KL) schools

Target Group	The most popular ways to inform (based on percentage of participants that use it as a main instrument)	The least popular way(s) to inform (based on percentage of participants that do not use it at all)	Most common challenge(s)
Parents	• Social networks/messengers (79%) • Phone calls (67%)	• Real-life communication • Email	• Internet access/speed • Organizing individual meetings • Desire for offline education despite health concerns • Digital illiteracy of some parents • Lack of equipment among parents, hence the need to call/visit
Students	• Social networks/messengers (80%) • Phone calls (68%)	• Real-life communication • Email	• Limited Internet access/ low speed (mostly in rural areas) • Lack of equipment among students • Adaptation to software among students • Issues with getting to know new students (e.g., who just finished primary school) • The need to remind about attendance/low motivation among students

Figure 22. Transfer of information and challenges during COVID-19 pandemic. Teachers. RL schools.

Russian Language (RL) schools

Target Group	The most popular ways to inform (based on percentage of participants that use it as a main instrument)	The least popular way(s) to inform (based on percentage of participants that do not use it at all)	Most common challenge(s)
Parents	• Social networks/messengers (87%) • Phone calls (66%)	• Real-life communication • Email	• Limited Internet access /low speed (mainly in rural areas) • The absence of feedback from parents • The complete absence of live communication • Digital illiteracy of some parents • Not considering online learning as a serious medium by parents hence wanting to move to offline regime • Parents do not/cannot control the online attendance of their children

Students	• Social networks/messengers (90%) • Phone calls (62%)	• Real-life communication • Email	• Limited Internet access /low speed (mostly in rural areas) • Lack of equipment among students • Ghosting (from students' side) • Primary school students are not used to online classes hence need to enable parents for help • The need to remind about attendance/low motivation among students • The need to sit in front of a screen for 15+ hours a day • If there is electricity outage, the work halts

3.1.4. Successful ways to overcome challenges related to information transfer

There were several specific ways of overcoming challenges mentioned in the previous sub-section related to organizing transfer of information during the pandemic. The most repeated and/or unique ones are listed below.

○ *Principals:*

- Organizing a virtual teacher lounge (e.g., by using Padlet.com platform).
- Collecting feedback via Google Forms.
- Using other platforms than Zoom for parent meetings (due to simultaneous participants limit), e.g., Instagram Live.
- Keeping the strict hierarchy of information transfer, i.e., principal > vice-principal > classroom teacher > parents > children.

○ *Teachers:*

- Regularity of informative sessions (daily/weekly).
- Using other platforms than Zoom for parent/student meetings.
- Creating school pages in different platforms (e.g., YouTube/ Instagram/ School website/ Telegram channel) and refresh them regularly with recent information.

3.2. School work organisation

The following section reports on different aspects of school organisation during COVID-19 pandemic, including exploited organisational models, percentages of students who studied exclusively online, teachers who attended special training beforehand, challenges associated with school management and teaching process, as well as resources.

3.2.1. Organisational models

- *Principals:*

Figure 23. Organizational models during COVID-19 pandemic. Principals. KL schools.

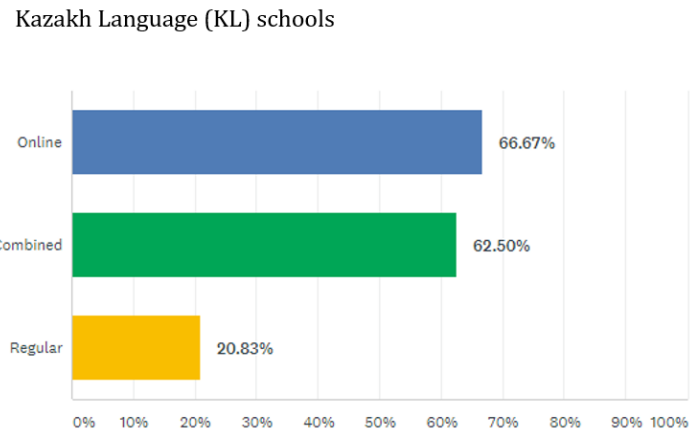
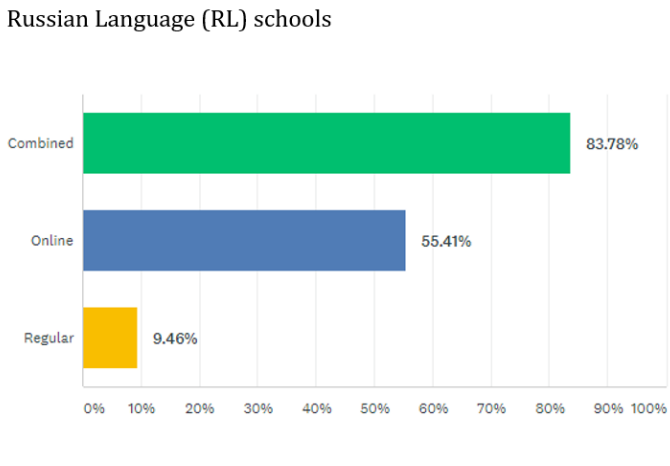


Figure 24. Organizational models during COVID-19 pandemic. Principals. RL schools.



It can be noted that total online learning and mixed model are the most popular ones according to all principals. However, if among KL school principals, the rate of online and mixed is roughly the same, their RL colleagues were more eager to exploit mixed over exclusively online option.

○ *Teachers:*

Figure 25. Organizational models during COVID-19 pandemic. Teachers. KL schools.

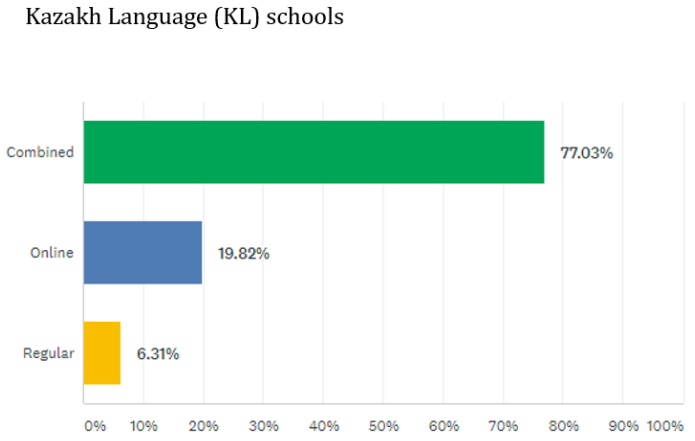
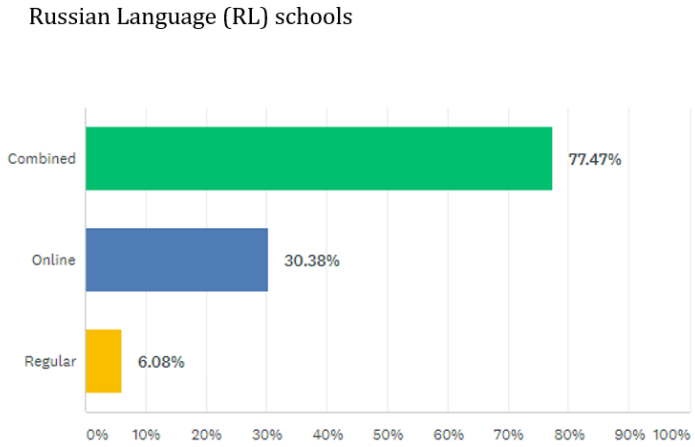


Figure 26. Organizational models during COVID-19 pandemic. Teachers. RL schools.



In general, there is a consensus among KL and RL teachers on which model they used. The hefty portion (around 70 percent) report using mixed model, while for exclusively online learning figures are 20 percent (KL) and 30 percent (RL), respectively.

3.2.2. Percentage of students learning exclusively online

○ *Principals:*

Figure 27. Percentage of students learning exclusively online during COVID-19 pandemic. Principals. KL schools.

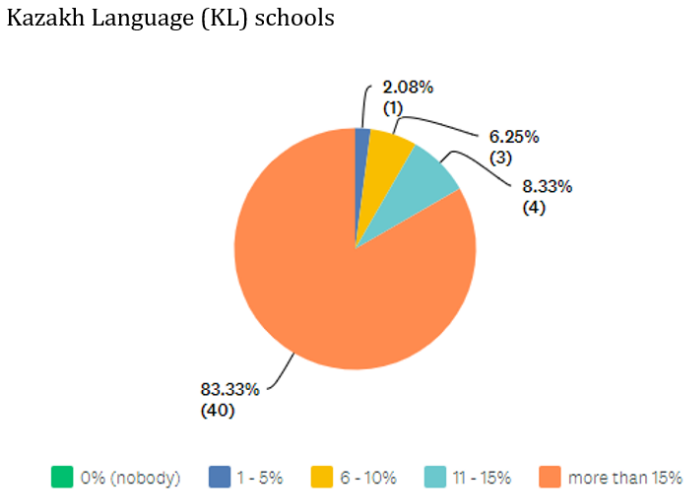
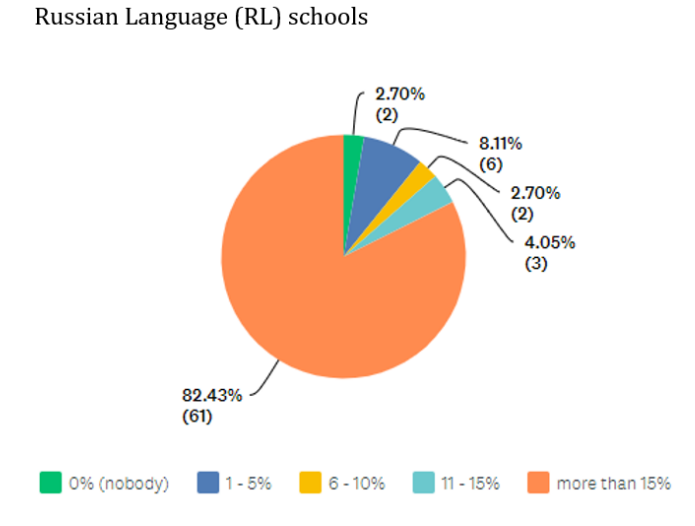


Figure 28. Percentage of students learning exclusively online during COVID-19 pandemic. Principals. RL schools.



It is apparent that most of student were taught through solely online media. According to both KL and RL principals more than three quarters of students received learning exclusively online.

3.2.3. Percentage of teachers attending training for the development of digital competencies before the COVID-19 pandemic

- In general, how many teachers participated in professional development activities related to development of their digital competences before the appearance of the COVID-19 pandemic? (Participated in at least one training dedicated to development of digital competencies in last 2 years).

○ *Principals:*

Figure 29. Percentage of teachers who attended digital training pre-pandemic. Principals. KL schools

Kazakh Language (KL) schools

Answer Choices	**Responses**	
Teachers did not participate in professional development related to development of their digital competences	4.17%	2
Only IT teachers	0.00%	0
Around 10 percent of all teachers did	6.25%	3
Around 20-30 percent of all teachers did	12.50%	6
Around 40-50 percent of all teachers did	8.33%	4
Around 60-70 percent of all teachers did	4.17%	2
Around 80-90 percent of all teachers did	27.08%	13
All teachers participated in professional development related to development of their digital competences	37.50%	18
Total	48	

Figure 30. Percentage of teachers who attended digital training pre-pandemic. Principals. RL schools

Russian Language (KL) schools

Answer Choices	Responses	
Teachers did not participate in professional development related to development of their digital competences	4.05%	3
Only IT teachers	2.70%	2
Around 10 percent of all teachers did	4.05%	3
Around 20-30 percent of all teachers did	1.35%	1
Around 40-50 percent of all teachers did	6.76%	5
Around 60-70 percent of all teachers did	5.41%	4
Around 80-90 percent of all teachers did	21.62%	16
All teachers participated in professional development related to development of their digital competences	54.05%	40
Total	74	

- *Teachers:*

- Have you, and if yes to what extent, attended training for development of digital competencies before the COVID-19 pandemic?

Figure 31. Percentage of teachers who attended digital training pre-pandemic. Teachers. KL schools

Kazakh Language (KL) schools

Answer Choices	Responses	
No	28.38%	63
Yes, but rarely	49.10%	109
Yes, very often	22.52%	50
Total	222	

Figure 32. Percentage of teachers who attended digital training pre-pandemic. Teachers. RL schools

Russian Language (KL) schools

Answer Choices	Responses	
No	28.10%	111
Yes, but rarely	35.95%	142
Yes, very often	35.95%	142
Total	222	

It can be noticed that almost 38 percent of KL principals believe that all their teachers have attended at least one digital competency training in the last two years. The same category for RL principals reports 54 percent. Four percent of all principals suppose that none of their teachers had such experience.

When it comes to teachers, roughly 23 percent of KL teachers report that they frequently attended digital competency training pre-pandemic, while 36 percent of RL teachers can say the same about themselves.

Almost every third teacher did not attend any training devoted to digital competence before the pandemic.

3.2.4. Demanding aspect of school management

- Which aspect of school management has been the most demanding for you during the COVID-19 pandemic? Please rank the challenges related to school management you have experienced during the COVID-19 pandemic on a scale from 0 to 4, where 0 means smallest challenge and 4 means biggest challenge.

○ *Principals:*

Figure 33. Demanding aspects of school management during COVID-19 pandemic. Principals. KL schools.

Kazakh Language (KL) schools

Answer Choices	**0**	**1**	**2**	**3**	**4**	**Total**	**Mean Value (out of 5)**
Planning and organising online teaching	0% (0)	2.3% (1)	0% (0)	20.5% (9)	77.3% (34)	44	4.73
Coordination of the employees	2.6% (1)	2.6% (1)	5.1% (2)	25.6% (10)	64.1% (25)	39	4.46
Fulfilment of administrative obligations	3.0% (1)	3.0% (1)	15.2% (5)	21.2% (7)	57.6% (19)	33	4.27
Monitoring of implementation of protective measures related to the health of students and employees	2.4% (1)	4.9% (2)	4.9% (2)	12.2% (5)	75.6% (31)	41	4.54
Communication with parents	0% (0)	2.7% (1)	10.8% (4)	10.8% (4)	75.7% (28)	37	4.59

Figure 34. Demanding aspects of school management during COVID-19 pandemic. Principals. RL schools.

Russian Language (RL) schools

Answer Choices	0	1	2	3	4	Total	Mean Value (out of 5)
Planning and organising online teaching	16.2% (11)	16.2% (11)	17.6% (12)	13.2% (9)	36.8% (25)	68	3.38
Coordination of the employees	16.9% (12)	11.3% (8)	16.9% (12)	22.5% (16)	32.4% (23)	71	3.42
Fulfilment of administrative obligations	25.4% (17)	13.4% (9)	20.9% (14)	13.4% (9)	26.9% (18)	67	3.03
Monitoring of implementation of protective measures related to the health of students and employees	16.7% (12)	11.1% (8)	16.7% (12)	12.5% (9)	43.1% (31)	72	3.54
Communication with parents	14.3% (10)	18.6% (13)	17.1% (12)	17.1% (12)	32.9% (23)	70	3.36

Comparing mean values (1 to 5), it can be clearly noticed that KL principals struggled more than their RL colleagues when it came to school management during the pandemic. The most challenging aspect, according to KL (vice-)principals was planning and organizing online teaching. At the same time RL principals report monitoring of implementation of protective measures as the most demanding aspect.

3.2.5. Challenges organizing teaching process

- Please rank the challenges you have experienced in organisation of teaching process during the COVID-19 pandemic on a scale from 0 to 4, where 0 means smallest challenge and 4 means biggest challenge.

○ *Principals:*

Figure 35. Challenges organizing teaching process during COVID-19 pandemic. Principals. KL schools

Answer Choices	0	1	2	3	4	Mean (out of 5)
Technical problems (lack of infrastructure in the school)	32%	16%	16%	30%	5%	2.59
Lack of digital competencies of employees	35%	16%	24%	14%	11%	2.49
Lack of digital competencies of students	30%	22%	16%	22%	11%	2.62
Lack of devices that teachers can use at home	37%	29%	10%	15%	10%	2.32
Lack of devices that students can use at home	29%	21%	19%	12%	19%	2.71
Uneven choice of online tools used by employees	41%	15%	13%	18%	13%	2.46
Support for students who do not have the opportunity to attend online classes/teaching activities	34%	10%	12%	17%	29%	2.98

Organization and planning of school activities	27%	11%	11%	24%	27%	3.14
Organisation of practical teaching/work-based learning (only for secondary vocational schools)	29%	0%	29%	25%	18%	3.04
Obligations to government authorities (reporting, etc.)	40%	7%	30%	17%	7%	2.43
Organisation of the final exam	52%	6%	9%	15%	18%	2.42
Monitoring of the work of employees	29%	14%	17%	20%	20%	2.89
Communication with parents	34%	14%	14%	20%	17%	2.71

Figure 36. Challenges organizing teaching process during COVID-19 pandemic. Principals. RL schools

Russian Language (RL) schools

Answer Choices	**0**	**1**	**2**	**3**	**4**	**Mean (out of 5)**
Technical problems (lack of infrastructure in the school)	51%	21%	9%	13%	6%	2.03
Lack of digital competencies of employees	35%	37%	18%	9%	0%	2.02
Lack of digital competencies of students	23%	35%	21%	20%	2%	2.42
Lack of devices that teachers can use at home	53%	27%	15%	2%	3%	1.74
Lack of devices that students can use at home	37%	26%	26%	7%	6%	2.20
Uneven choice of online tools used by employees	40%	26%	22%	9%	4%	2.13
Support for students who do not have the opportunity to attend online classes/teaching activities	39%	24%	21%	10%	6%	2.21
Organization and planning of school activities	31%	23%	28%	6%	11%	2.42
Organisation of practical teaching/work-based learning (only for secondary vocational schools)	44%	6%	21%	9%	21%	2.56
Obligations to government authorities (reporting, etc.)	34%	19%	23%	17%	6%	2.42
Organisation of the final exam	44%	15%	18%	10%	15%	2.37
Monitoring of the work of employees	23%	26%	22%	18%	11%	2.68
Communication with parents	20%	32%	25%	14%	9%	2.60

It can be observed that the most significant challenges were experienced by KL principals when it came to organization and planning of school activities, as well as organization of practical teaching/work-based learning for KL vocational school principals. At the same time, RL principals reported monitoring of employees and communication with parents as the biggest challenges.

3.2.6. Provision funds

- What funds has the school used for provision of the necessary equipment for the protection from COVID-19 virus (masks, gloves, visors, disinfectants, etc.)? Please rank the sources on a scale from 0 to 4, where 0 means it has not been used at all, and 4 that it has been used the most.

○ *Principals:*

Figure 37. Provision funds during COVID-19 pandemic. Principals. KL schools

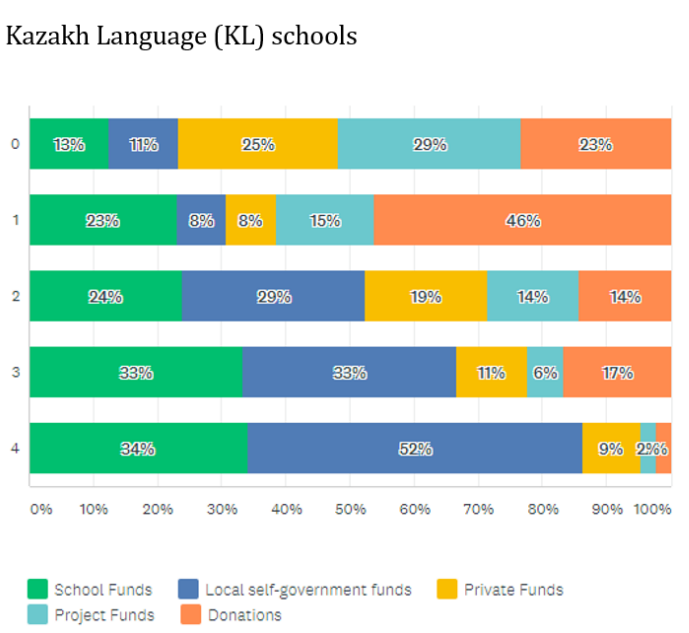
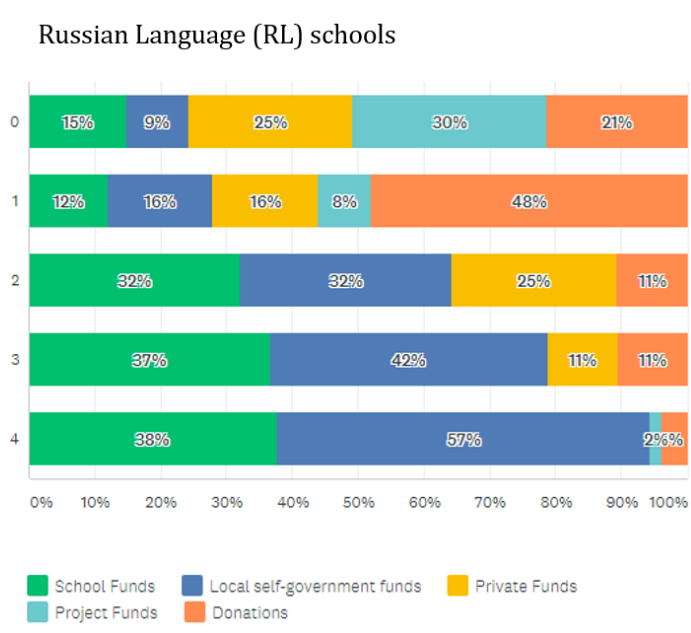


Figure 38. Provision funds during COVID-19 pandemic. Principals. RL schools



Local self-government funds and school budget were the main sources of provision funds for all principals, the former being more popular option.Principals also reported funding by using personal savings and cutting expenses on other school activities.

3.2.7. Lack of technical equipment

- Does your school lack any technical equipment and/or infrastructure to implement the online teaching in the school year 2020/21? Multiple answers are possible.

○ *Principals:*

Figure 39. Technical equipment lacked by school during COVID-19 pandemic. Principals. KL schools.

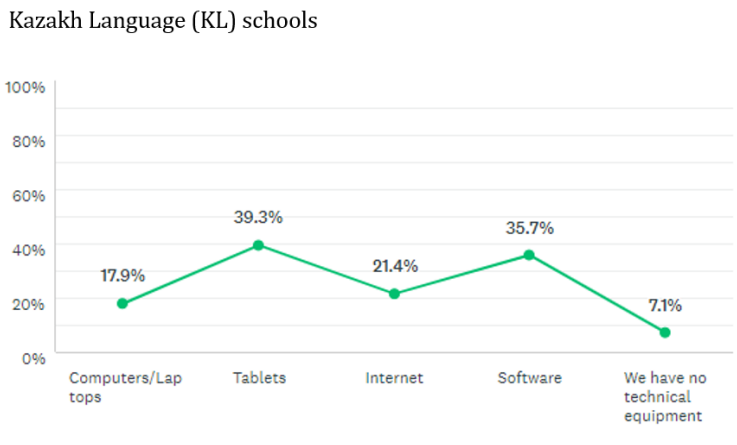
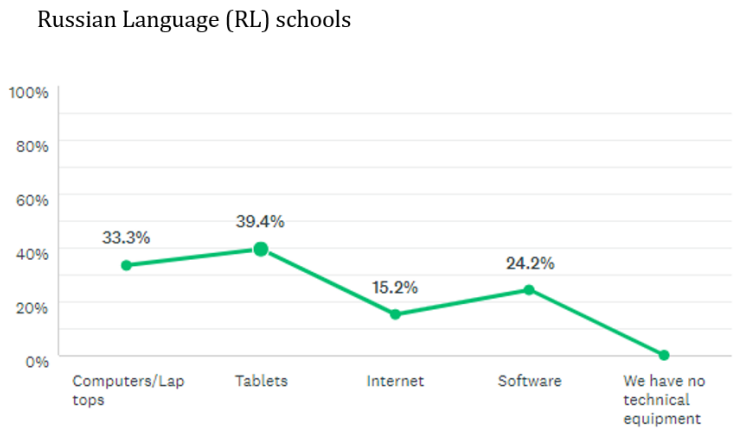


Figure 40. Technical equipment lacked by school during COVID-19 pandemic. Principals. RL schools.



There is no reported significant lack of technical equipment, but Tablets are the most popular option to be considered in deficit among all school principals. In addition, the second most deficit item in KL schools is shown to be Software, while in RL schools it is Laptops.Important to note that zero RL principals reported a complete absence of technical equipment, while approximately 7 percent of KL principals admit being such case.

3.3. Organisation and implementation of teaching process during the COVID-19 pandemic

The following section repots on different aspects of teaching process during COVID-19 pandemic, including exploited online tools, and factors affecting the choice of them, challenges associated with teaching as well as cooperation with parents and colleagues.

3.3.1. Choice of online platforms

- In situation of implementation of online teaching, through which online platform or means of communication teachers deliver classes? Please rank the platform from 0 to 4, where 0 means that the platform is not used, a 4 meaning the platform is mostly used.

- *Principals:*

Figure 41. Online platforms chosen during COVID-19 pandemic. Principals. KL schools

Kazakh Language (KL) schools

Answer Choices	0	1	2	3	4	Mean Value (out of 5)
Google Classroom	3%	3%	18%	18%	58%	4.24
E-classroom	57%	13%	0%	9%	22%	2.26
Microsoft Teams	23%	13%	10%	29%	26%	3.23
Moodle	61%	9%	4%	13%	13%	2.09
Email	8%	8%	19%	12%	54%	3.96
Zoom	2%	2%	5%	16%	77%	4.59
Viber	59%	5%	14%	14%	9%	2.09
Facebook	46%	13%	8%	4%	29%	2.58
Coursera	71%	5%	10%	10%	5%	1.71
OnlineMektep	9%	3%	3%	0%	86%	4.51
iMektep.kz	21%	4%	8%	21%	46%	3.67
Bilimland.kz	3%	5%	3%	5%	87%	4.65

According to KL principals, Zoom was the most popular online platform exploited during the pandemic.

However, local online services that are part of educational system such as OnlineMektep and Bilimland.ks showed almost the same level of attraction. The least popular options among KL principals were Coursera and Viber.

Figure 42. Online platforms chosen during COVID-19 pandemic. Principals. RL schools

Russian Language (RL) schools

Answer Choices	0	1	2	3	4	Mean Value (out of 5)
Google Classroom	17%	17%	24%	9%	33%	3.26
E-classroom	66%	21%	8%	3%	3%	1.55
Microsoft Teams	38%	26%	19%	2%	15%	2.30
Moodle	60%	23%	3%	0%	15%	1.88
Email	6%	13%	24%	19%	39%	3.72
Zoom	1%	1%	4%	14%	78%	4.67
Viber	61%	22%	8%	3%	6%	1.69
Facebook	46%	21%	15%	3%	15%	2.21
Coursera	91%	6%	0%	0%	3%	1.19
OnlineMektep	20%	2%	4%	5%	69%	4.02
iMektep.kz	43%	8%	13%	10%	30%	2.78
Bilimland.kz	11%	3%	8%	13%	64%	4.15

RL principals reported almost similar results to their KL colleagues, reporting Zoom as the most popular option when it came to online platform. They also reported using OnlineMektep and Bilimland.kz as the second most popular platforms.

The least popular options also matched with KL principals, them being Coursera and Viber. It can be noticed that RL principals report using Google classroom and E-classroom at a significantly lower rates than KL principals.

- *Teachers:*

Figure 43. Online platforms chosen during COVID-19 pandemic.
Teachers. KL schools

Kazakh Language (KL) schools

Answer Choices	0	1	2	3	4	Mean Value (out of 5)
Google Classroom	25%	11%	13%	18%	36%	3.28
E-classroom	58%	9%	12%	12%	12%	2.15
Microsoft Teams	36%	10%	11%	21%	23%	2.85
Moodle	60%	9%	12%	11%	11%	2.05
Email	17%	7%	19%	19%	42%	3.61
Zoom	3%	2%	7%	17%	73%	4.52
Viber	64%	10%	4%	15%	8%	1.93
Facebook	44%	10%	15%	10%	20%	2.53
Coursera	73%	6%	9%	5%	7%	1.67
OnlineMektep	10%	2%	4%	9%	76%	4.40
iMektep.kz	31%	3%	14%	11%	41%	3.28
Bilimland.kz	4%	2%	7%	13%	74%	4.52

Figure 44. Online platforms chosen during COVID-19 pandemic.
Teachers. RL schools

Russian Language (RL) schools

Answer Choices	0	1	2	3	4	Mean Value (out of 5)
Google Classroom	40%	10%	10%	13%	28%	2.80
E-classroom	76%	6%	6%	5%	7%	1.63
Microsoft Teams	45%	8%	10%	10%	29%	2.70

Moodle	75%	6%	6%	2%	11%	1.67
Email	24%	11%	17%	13%	36%	3.27
Zoom	7%	4%	6%	13%	70%	4.33
Viber	80%	5%	5%	5%	5%	1.49
Facebook	71%	8%	8%	6%	7%	1.69
Coursera	85%	4%	5%	3%	3%	1.34
OnlineMektep	18%	3%	5%	10%	66%	4.00
iMektep.kz	63%	5%	6%	4%	21%	2.14
Bilimland.kz	16%	4%	10%	9%	62%	3.97

Zoom, OnlineMektep, Bilimland were the three most popular choices among all teachers at almost the same rate, in contrast to principals, who favored Zoom much more. The second most popular online tool was Email for both KL and RL teachers.

The least popular items on the list were Coursera and Viber, identical to what principals reported.

- How did teachers in your school choose online platforms they use for delivering online classes/teaching activities in the school year 2020/21?

○ *Principals:*

Figure 45. Choice of online platforms during COVID-19 pandemic. Principals. KL schools.

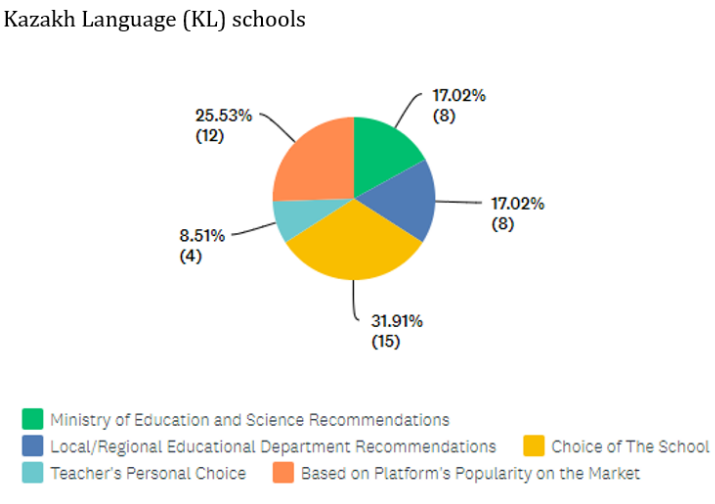
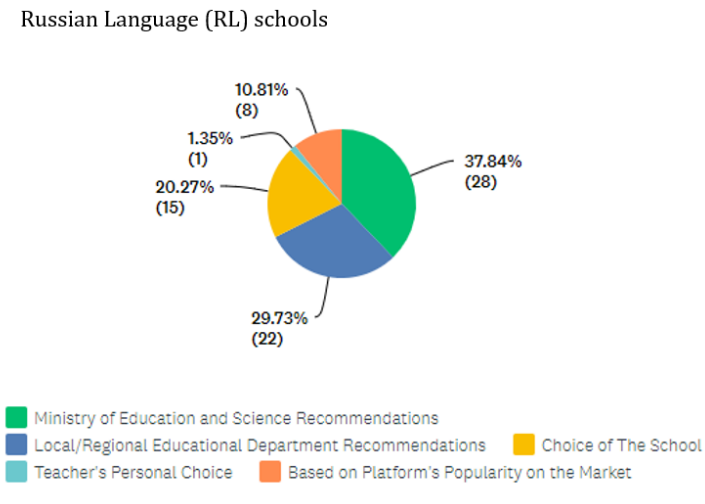


Figure 46. Choice of online platforms during COVID-19 pandemic. Principals. RL schools.



KL administrators report the Choice of The School as the main factor in teachers choosing online platform.
At the same time, RL administrators underline recommendations from Ministry of Education and Science as well as Local/Regional Educational Departments as defining factors.

- How did you choose the online platform that you use for delivering online classes/teaching activities in the school year 2020/21? Multiple answers are possible.

○ *Teachers:*

Figure 47. Choice of online platforms during COVID-19 pandemic. Teachers. KL schools.

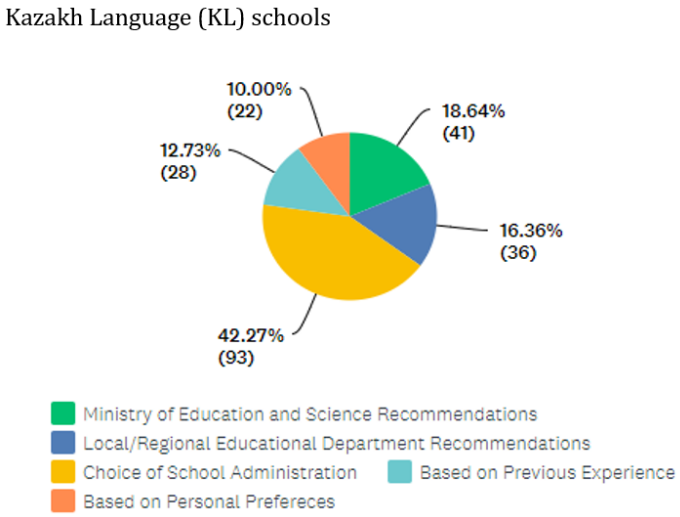
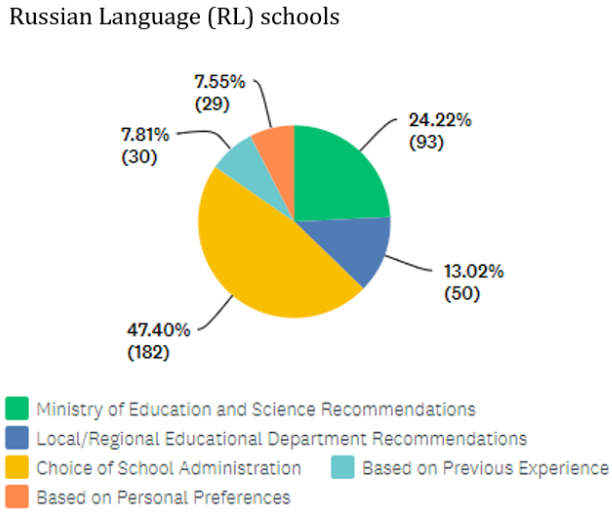


Figure 48. Choice of online platforms during COVID-19 pandemic. Teachers. RL schools.



Teachers themselves (both KL and RL) report School Administration as the main factor in choosing which platform to use for work. Personal preferences were the least influential factor among all teachers, according to themselves.

3.3.2. Lack of equipment and access

- Which technical equipment do you lack to implement the online teaching in the school year 2020/21? Multiple answers are possible.

○ *Teachers:*

Figure 49. Technical equipment lacked by teachers during COVID-19 pandemic. Teachers. KL schools.

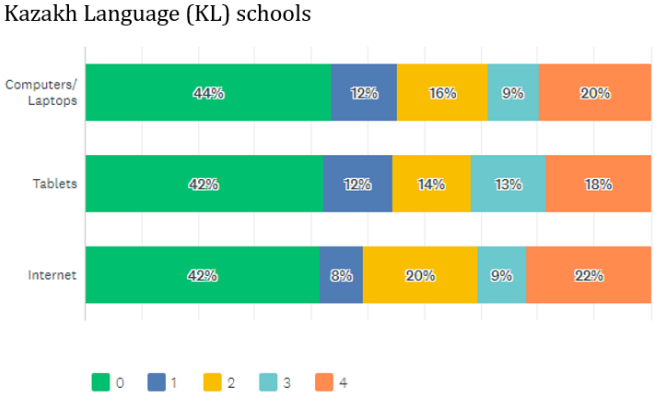
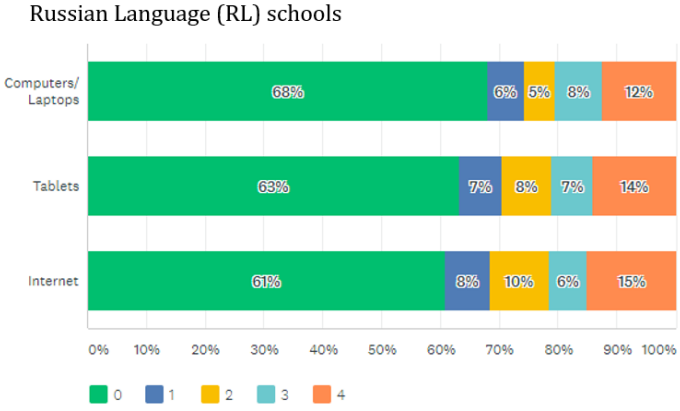


Figure 50. Technical equipment lacked by teachers during COVID-19 pandemic. Teachers. RL schools.



Teachers did not report severe lack of any technical equipment (~2.5/5 for KL schools, ~2.0/5 for RL schools). However, it can be noticed that KL school teachers suffer from that issue more than their RL colleagues. The most problematic aspect for all teachers was the quality of Internet connection.

- Do students lack any technical equipment to participate in online schooling in the school year 2020/21? Multiple answers are possible.

○ *Principals:*

Figure 51. Technical equipment lacked by students during COVID-19 pandemic. Principals. KL schools.

Kazakh Language (KL) schools

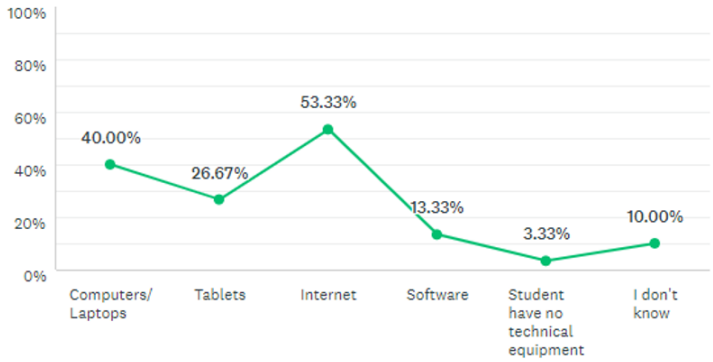
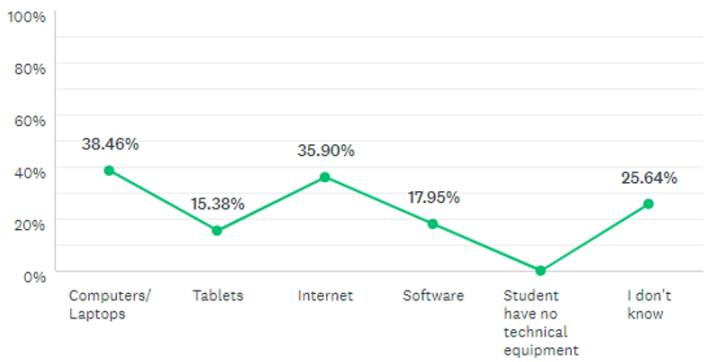


Figure 52. Technical equipment lacked by students during COVID-19 pandemic. Principals. RL schools.

Russian Language (RL) schools



Around 40 percent of all principals declared Computers/Laptops as the scarcest technical equipment among their students. However, more than a half of KL principals mentioned Internet as the resource in short supply among students.

Around 10 percent of KL principals, and 30 percent of RL principals admitted not being aware of situation with technical equipment among their students.

○ *Teachers:*

Figure 53. Technical equipment lacked by students during COVID-19 pandemic. Teachers. KL schools.

Kazakh Language (KL) schools

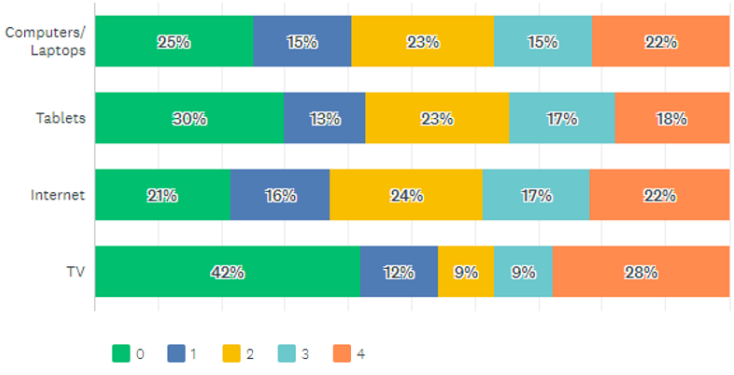
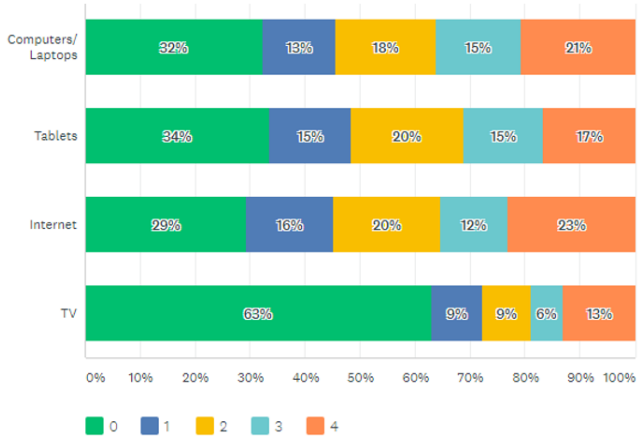


Figure 54. Technical equipment lacked by students during COVID-19 pandemic. Teachers. RL schools.

Russian Language (RL) schools



Both KL and RL teachers report Internet and Computers/Laptops as the most possible candidates for the scarcest technical equipment among students. It is important to note, that similar to principals, teachers report moderate level of scarcity on that aspect, roughly ~2.7 out of 5 on average.

- Roughly, according to your own assessment, how many students do not have access to online teaching process that is being delivered via Internet?

○ *Teachers:*

Figure 55. Percentage of students without access to learning via Internet during COVID-19 pandemic. Teachers. KL schools

Kazakh Language (KL) schools

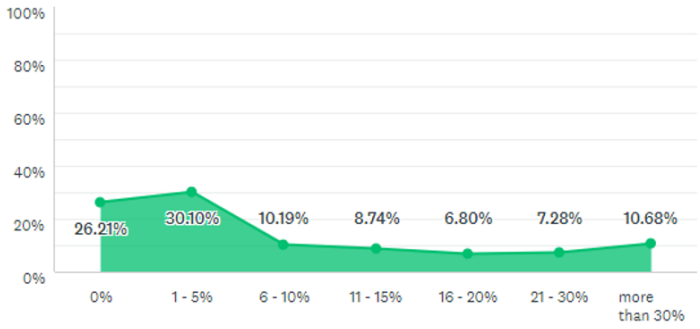
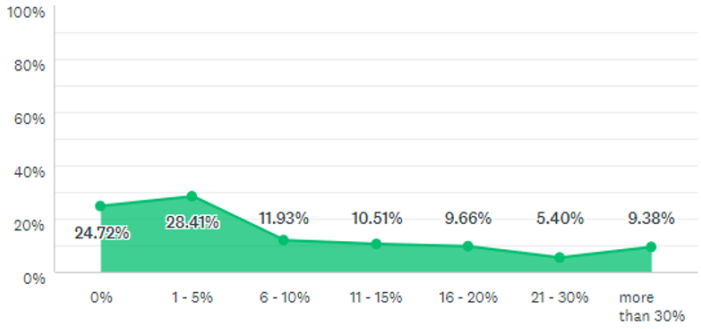


Figure 56. Percentage of students without access to learning via Internet during COVID-19 pandemic. Teachers. RL schools

Russian Language (RL) schools



More than a half of both KL and RL teachers believe that less than five percent of their students do not have access to online learning provided through Internet. Around 10 percent of all teachers reckon that more than 30 percent of their student do not have access to those means of getting knowledge.

- Roughly, according to your own assessment, how many students do not have access to online teaching process that is being delivered via television?

○ *Teachers:*

Figure 57. Percentage of students without access to learning via TV during COVID-19 pandemic. Teachers. KL schools

Kazakh Language (KL) schools

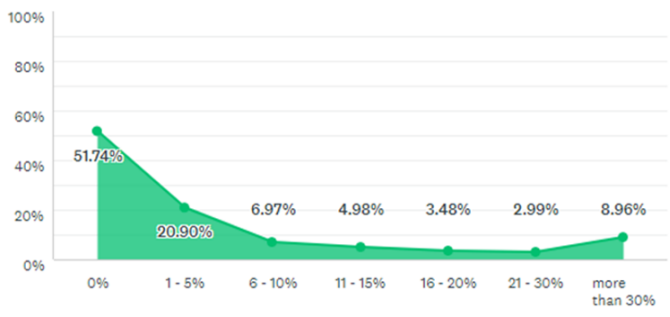
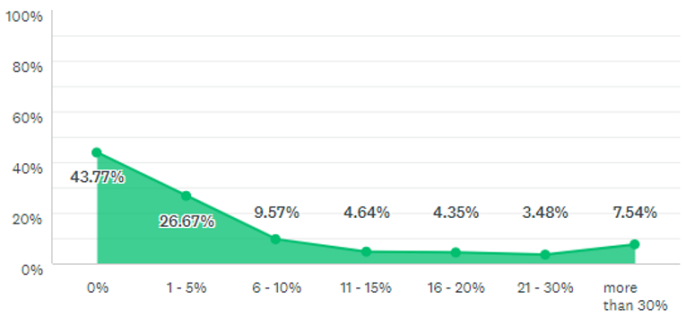


Figure 58. Percentage of students without access to learning via TV during COVID-19 pandemic. Teachers. RL schools

Russian Language (RL) schools



When it comes to teaching delivered via television, around 70 percent of all teachers think that less than five percent of their students do not have access to it. Approximately eight percent of teachers report that more than third of their students cannot reach the education provided via TV.

3.3.3. Other aspects of teaching process

- Do you, within your regular teaching, also use online teaching (e.g. for giving homework, providing feedback to students, etc.)?

○ *Teachers:*

Figure 59. Percentage of teachers using online teaching within regular practice during COVID-19 pandemic. Teachers. KL schools

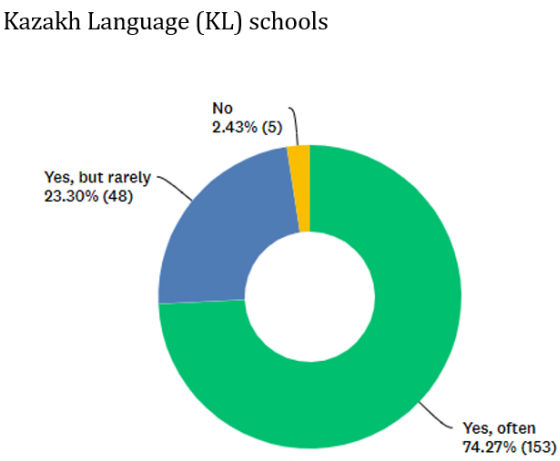
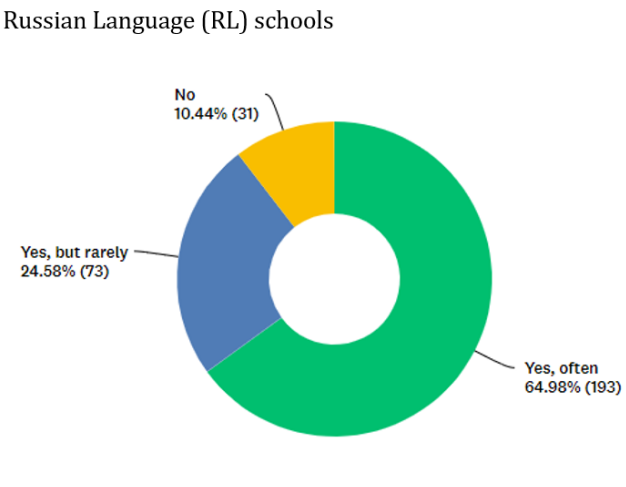


Figure 60. Percentage of teachers using online teaching within regular practice during COVID-19 pandemic. Teachers. RL schools



Almost 75 percent of KL teachers report that they used online teaching within their regular teaching during the pandemic, while 70 percent of RL teachers declared the same about themselves. Around quarter of all (both KL and RL) teachers said that they rarely use online teaching as a companion to their regular practice.

- When you implemented the combined model (students go to school and also attend online classes), for which activity did you use online platforms the most? Please rank each activity from 0 to 4, where 0 means that it was not used at all, and 4 means that it was used the most.

○ *Teachers:*

Figure 61. Reasons for the use of online platforms during COVID-19 pandemic. Teachers. KL schools.

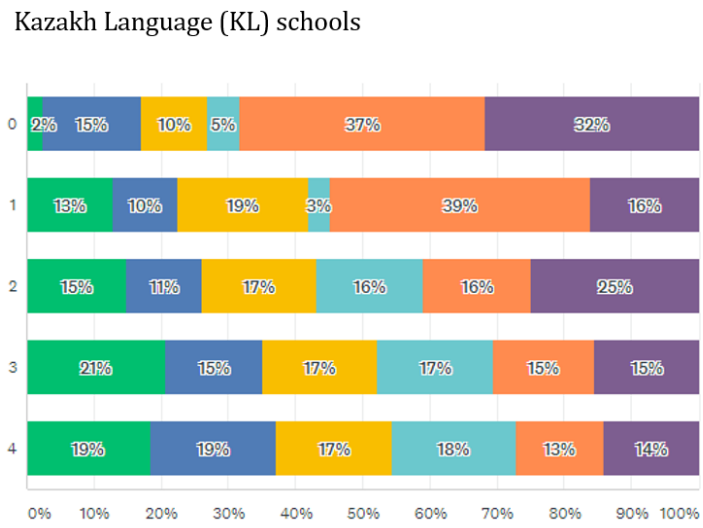
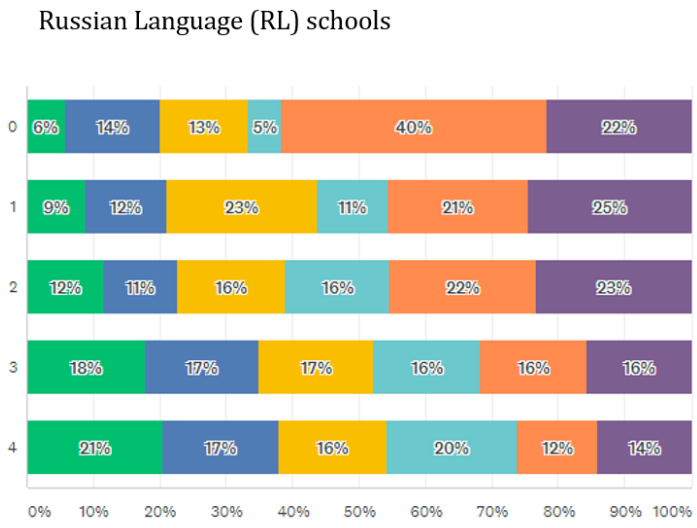


Figure 62. Reasons for the use of online platforms during COVID-19 pandemic. Teachers. RL schools.



Based on the mean value (~4 out of 5) it can be seen that teachers that used combined model, still heavily relied on online platforms for most of the basic tasks. The most popular purpose was providing variety of information to students and additional explanation of the content. The least popular option among all teachers was using online tools for class supervising activities.

- Activities that teachers, because of the COVID-19 pandemic, implemented to the larger and smaller extent than before the pandemic.

For this category survey used an open question that demanded three entries for each case (larger and smaller extent) from teachers without providing any options. After analysing all the entries from both KL and RL teachers via coding it can be reported that during the COVID-19 pandemic, teachers started implementing more written (roughly 80 percent) and oral (roughly 70 percent) tasks, while reducing the amount of homework (approximately 85 percent) and groupwork (roughly 80 percent).

- Please rank the challenges you have experienced in organisation and implementation of teaching process during the COVID-19 pandemic on a scale from 0 to 4, where 0 means smallest challenge and 4 means biggest challenge (regular model schools)

  - *Teachers:*

Figure 63. Teaching process challenges during COVID-19 pandemic. Regular Model. Teachers. KL schools.

Kazakh Language (KL) schools

	0	1	2	3	4	Mean (out of 5)
Organising students into groups	21.9%	17.1%	19.2%	17.8%	24.0%	3.05
Delivering teaching content within shortened duration of classes	23.4%	19.1%	24.1%	17.0%	16.3%	2.84
Communication with students	30.3%	15.5%	21.8%	15.5%	16.9%	2.73
Communication with parents	31.2%	15.9%	23.2%	17.4%	12.3%	2.64
Teaching classes according to new/different schedule	31.4%	22.9%	19.3%	15.0%	11.4%	2.52
Student assessment	35.0%	13.1%	19.0%	14.6%	18.2%	2.68

Figure 64. Teaching process challenges during COVID-19 pandemic. Regular Model. Teachers. RL schools.

Russian Language (RL) schools

	0	1	2	3	4	Mean (out of 5)
Organising students into groups	32.7%	15.1%	18.0%	14.1%	20.0%	2.74
Delivering teaching content within shortened duration of classes	42.2%	18.2%	16.1%	8.3%	15.1%	2.36
Communication with students	47.0%	10.0%	15.5%	12.0%	15.5%	2.39
Communication with parents	45.1%	14.9%	16.4%	9.7%	13.8%	2.32
Teaching classes according to new/different schedule	49.5%	13.0%	13.5%	10.9%	13.0%	2.25
Student assessment	48.0%	13.8%	17.3%	10.2%	10.7%	2.22

It can be stated that for both KL and RL schoolteachers that practiced regular offline classes there were no major challenges. The least challenging aspect being student assessment for both KL and RL schools. The most challenging among presented happened to be organizing student into groups, however, in general, the figures for that aspect are also relatively low.

- Please rank the challenges you have experienced in organisation and implementation of teaching process during the COVID-19 pandemic on a scale from 0 to 4, where 0 means smallest challenge and 4 means biggest challenge. (online and combined schools)

  - *Teachers:*

Figure 65. Teaching process challenges during COVID-19 pandemic. Online/Combined Model. Teachers. KL schools.

Kazakh Language (KL) schools

Answer Choices	0	1	2	3	4	Mean (out of 5)
Technical problems (problems with the functioning of existing technical equipment)	22%	16%	18%	25%	19%	3.02
Lack of infrastructure in the school (technical equipment, internet, etc.)	44%	13%	13%	18%	12%	2.42
Lack of devices that teachers can use at home	38%	13%	15%	19%	14%	2.57
Lack of digital competencies	46%	13%	15%	14%	11%	2.30
Uneven choice of online teaching tools	39%	17%	16%	17%	13%	2.48
Lack of digital competencies of students	26%	16%	26%	17%	14%	2.75
Lack of devices that students can use at home	18%	16%	26%	18%	22%	3.09
Support for students who do not have the opportunity to attend online classes	23%	17%	21%	19%	21%	2.97
Implementation of practical teaching/work-based learning (only for secondary vocational schools)	27%	15%	21%	22%	15%	2.83
Organisation of the final exam (only for primary schools)	36%	13%	20%	20%	11%	2.57
Organisation of final exams, specialist exams or exams for checking professional competence (only for secondary schools)	39%	10%	19%	20%	12%	2.56
Communication with parents	32%	14%	21%	18%	15%	2.71
Communication with students	31%	15%	14%	22%	18%	2.81
Organising students into groups	25%	16%	24%	15%	19%	2.87
Delivering teaching content within shortened duration of classes	24%	18%	22%	18%	17%	2.86
Student assessment	30%	11%	19%	19%	22%	2.93

Figure 66. Teaching process challenges during COVID-19 pandemic. Online/Combined Model. Teachers. RL schools.

Russian Language (RL) schools

Answer Choices	0	1	2	3	4	Mean (out of 5)
Technical problems (problems with the functioning of existing technical equipment)	30%	14%	17%	22%	17%	2.81
Lack of infrastructure in the school (technical equipment, internet, etc.)	57%	15%	12%	9%	8%	1.96
Lack of devices that teachers can use at home	52%	13%	11%	13%	12%	2.20
Lack of digital competencies	54%	17%	12%	10%	7%	1.97
Uneven choice of online teaching tools	45%	14%	15%	13%	12%	2.32
Lack of digital competencies of students	27%	19%	27%	13%	14%	2.69
Lack of devices that students can use at home	32%	20%	19%	14%	16%	2.62
Support for students who do not have the opportunity to attend online classes	33%	17%	21%	14%	15%	2.61
Implementation of practical teaching/work-based learning (only for secondary vocational schools)	40%	17%	17%	11%	15%	2.44
Organisation of the final exam (only for primary schools)	59%	9%	12%	8%	12%	2.06
Organisation of final exams, specialist exams or exams for checking professional competence (only for secondary schools)	51%	12%	12%	10%	14%	2.25
Communication with parents	44%	17%	14%	11%	15%	2.36
Communication with students	41%	15%	16%	12%	16%	2.47
Organising students into groups	26%	13%	20%	17%	23%	2.97
Delivering teaching content within shortened duration of classes	33%	22%	22%	13%	10%	2.44
Student assessment	38%	15%	16%	15%	16%	2.56

According to KL teachers, the most challenging aspects of teaching during the pandemic were technical problems with existing equipment and student assessment. For RL teachers those categories were filled by the same technical problems and organizing students into groups.

Important to note, that according to all teachers, lack of digital competences was the least challenging part of work during the pandemic.

In addition, it is noticeable that on average, teachers did not find teaching during pandemic extremely challenging (on the level between 2 and 3 out of 5).

- Do you develop and use digital materials (digital materials for learning, materials you develop for the purpose of teaching, etc.) in the teaching process?

○ *Teachers:*

Figure 67. Digital materials development and use during COVID-19 pandemic. Teachers. KL schools.

Kazakh Language (KL) schools

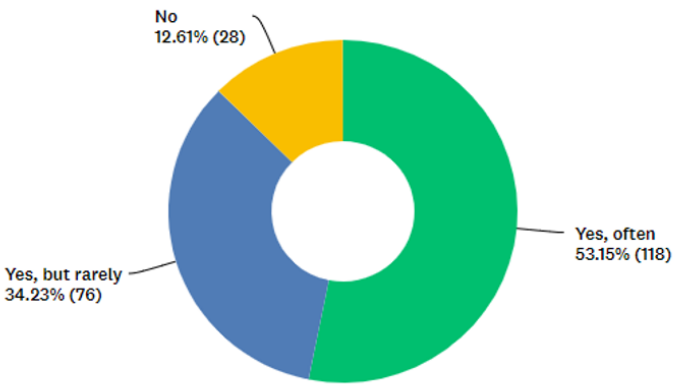
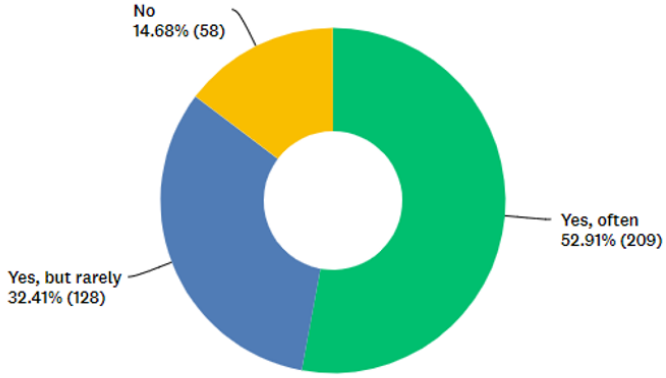


Figure 68. Digital materials development and use during COVID-19 pandemic. Teachers. RL schools.

Russian Language (RL) schools



When it comes to producing digital materials, around half of all teachers report that they very often produce them by themselves. Around third of all teachers admit creating digital materials themselves as a rare occasion.

- Do you exchange digital materials for teaching and learning with other teachers?

○ Teachers:

Figure 69. Digital material exchange between teachers during COVID-19 pandemic. Teachers. KL schools.

Kazakh Language (KL) schools

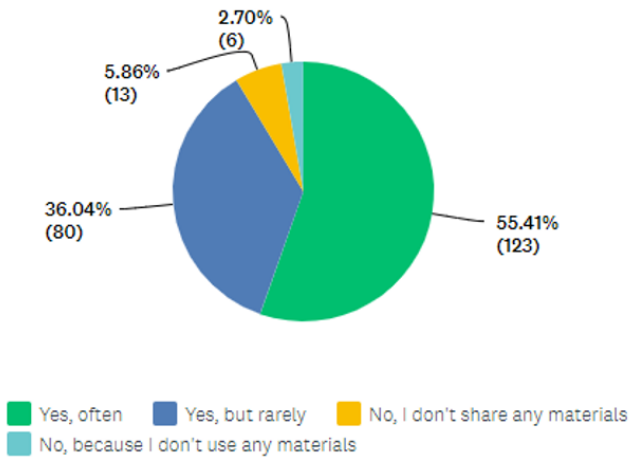
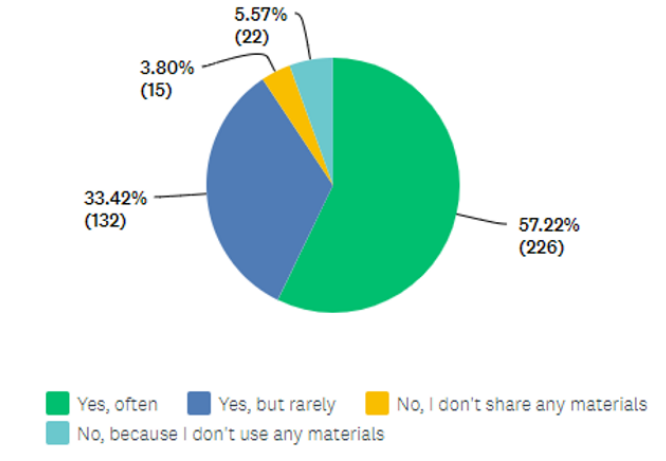


Figure 70. Digital material exchange between teachers during COVID-19 pandemic. Teachers. RL schools.

Russian Language (RL) schools



More than half of all teachers (~56 percent) share and exchange digital materials between each other very often. More than a third (~35 percent) do that as a rare occasion. Roughly 5 percent of teachers do not consider sharing their digital materials.

- How teachers cooperated with parents to provide learning support to students during the COVID-19 pandemic (only teachers)

222 of 302 teachers (around 74 percent) of KL teachers confirmed that they contacted parents on a regular basis amid the pandemic. The most common mentions included messengers (WhatsApp) and videoconferencing (Zoom). However, some rare entries also mentioned personal visits.

395 out of total 496 (around 80 percent) RL teachers reported that they regularly cooperated with their students' parents during the pandemic. Most of them mentioned messengers (mostly WhatsApp) as their main source of connection with parents. Other popular options involved Zoom conferences, phone calls and emails.

In general, majority of both KL and RL teachers consider communication with parents during the pandemic as a very effective and important way to support student learning.

- Implementation of practical teaching and work-based learning (only teachers/only vocational)

115 KL teachers answered the question about the practical teaching during the pandemic. 16 percent of them denied implementing practical classes in the mentioned period, most of the other responses involved words as "online" and "zoom".

200 RL teachers responded to the same question and 15 percent of them negated teaching practical classes amid the pandemic. 2 percent mentioned having offline lessons, while the vast majority reported having online learning.

When it comes to work-based learning, it should be noted that 12% (24 KL and 77 RL) teachers said that their institution offers dual education profiles. 20% of those (3 KL and 17 RL) teachers reported online learning when it came to work-based learning. Also, 5% (5 RL) of those teachers mentioned that they allow their student to practice work-based learning in person. Others either did not specify or denied having work-based learning amid the pandemic.

3.4. Monitoring and evaluation of teaching and learning during the COVID-19 pandemic

The following section contains results on monitoring and assessment during COVID-19 pandemic, mostly focusing on the ways those tasks changed because of it.

3.4.1. Quality monitoring

- Has the usual way of monitoring the quality of teaching process changed in the context of COVID-19 pandemic and how directors monitor the quality of the teaching process and teachers' activities?

39 out of total 62 (63%) KL principals answered positively towards the change of usual way of monitoring and almost all of them mentioned that for that purpose they used the same platform that teachers used for teaching purposes (e.g., Zoom, WhatsApp).

On the other hand, 68 out of 93 (73%) RL principals answered the same question and about 11 percent of them denied the change in monitoring process. Others mentioned using various online platforms and digital ways of monitoring as the main change in the usual state of things.

In total, around 70 percent of principals agreed that usual ways of monitoring changed due to the pandemic.

3.4.2. Assessment

- Has the usual way of assessing student achievement changed during the COVID-19 pandemic?

190(out of 302) KL teachers answered the question, and about 30 percent of them gave negative answer.

190(out of 302) KL teachers answered the question, and about 30 percent of them gave negative answer. Other admitted that pandemic affected their usual way of assessment mentioning formative assessment, the change of the scale and other various aspects (e.g., increased number of criteria).

346(out of 496) RL teachers answered the same question, and around 35 percent negated the change in their assessment scheme due to the pandemic. The remaining part mentioned the use of formative assessment and the change of the scale (e.g., using letters instead of numbers), same as their KL colleagues.

- Do you, during the COVID-19 pandemic, use formative assessment to a greater extent?

- *Teachers:*

Figure 71. Use of formative assessment during COVID-19 pandemic. Teachers. KL schools.

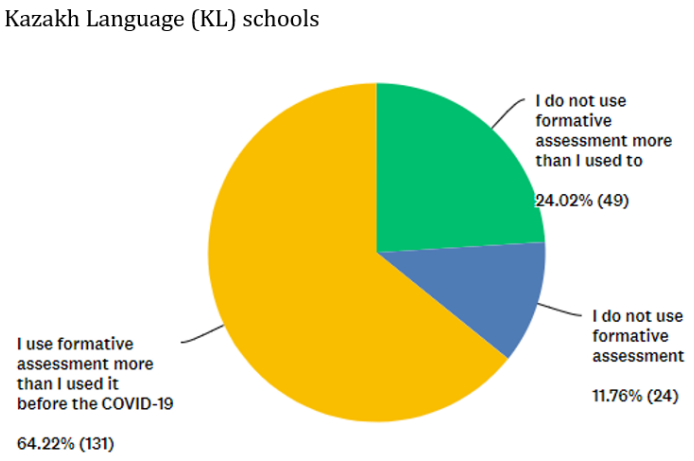
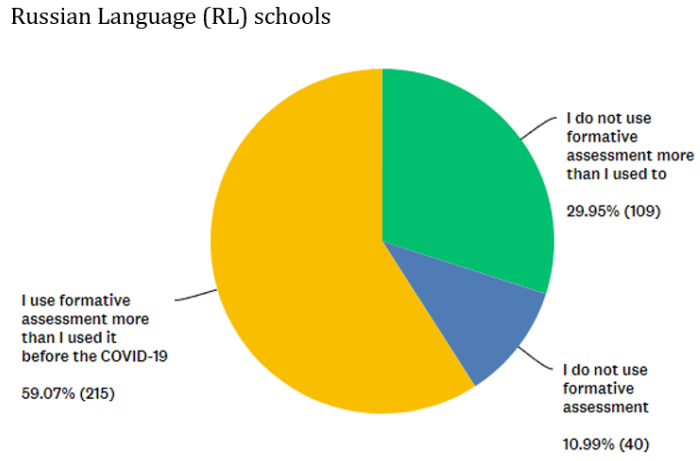


Figure 72. Use of formative assessment during COVID-19 pandemic. Teachers. RL schools.



As it can be seen, the majority of teachers (64 percent among KL and 59 percent among RL) started using formative assessment more often due to the pandemic. Around 11 percent of all teachers use it as the same rate as they did before. The remaining do not use formative assessment at all.

- How teachers keep records of students' attendance and monitor students' progress (only teachers)

183 (302) KL teachers answered the question about how pandemic affected their attendance recording practice. About 7 percent of them said that their way of taking attendance did not change. Among the popular options among the remaining part (93%) were taking attendance through messengers (e.g., WhatsApp) and/or online platforms (e.g., OnlineMektep).

312 (out of 496) RL teachers willed to share their attendance practices and how the pandemic affected them, and nine percent of them denied any effect. Others (91%) agreed, and most common entries involved online platforms such as Zoom and electronic journals (e.g., Kundelik.kz).

Regarding the monitor of student progress, 183 KL and 301 RL teachers shared their experience and majority of their answers involved various types of online platforms that were already mentioned for attendance records.

- Is there a document in the school that regulates/specifies the way of monitoring student progress and criteria of assessment of student achievement in the context of online schooling?

○ *Principals:*

39 (out of 62) KL principals answered – 18 percent wrote "No" in response to the question.

65 (out of 90) RL principals answered – 9 percent said "No" in response to the question.

The remaining proportion answered positively.

○ *Teachers:*

176 (out of 302) KL teachers answered – 10 percent said "No", 2 percent said they "do not know".

295 (out of 496) RL teachers answered– 8 percent said "No", 3 percent said either "do not know" or "struggle to answer".

The remaining proportion answered positively.

3.5. Other

The following section reports on different issues that participants wished to be included in the survey and discussed further in relation to their school's response to COVID-19 pandemic.

The most common comments were:

- Integration of different online platforms that teachers use into one online service (proposed by both sides).

- The health risks associated with online/combined models connected with prolonged screen time, e.g., eye strain (proposed by both sides).

- The increased workload for teachers and possible salary increases (proposed by teachers).

- Mental health issues (proposed by teachers).

4. CONCLUSIONS

4.1. Information flow during the COVID-19 pandemic

○ *Principals:*

One of the main sources of information for principals for management of teaching process (even when having doubts) during COVID-19 pandemic was Local/Regional Educational Departments. Almost all of them claim to have been either completely or mostly aware of ways to organize teaching process, and that the information they received on that matter was quite clear.

Most common ways to transfer information amid the pandemic for principals were social networks/messengers and phone calls, in contrast to live communication. Most common problems involved internet speed, digital illiteracy among parents and lack of equipment among students.

Regarding the ways they used to overcome challenges principals suggested using a wider range of platforms for various purposes, e.g., using Instagram lives for parent meetings instead of Zoom conferences, collecting feedback via Google forms.

○ *Teachers:*

Teachers underlined School Administration as the main sources of information for organizing learning process during the pandemic, however when they had doubts, they also referred to their colleagues.

Almost all teachers claim to absolutely or generally informed on how to set up their teaching processes and they rate the clarity of information quite high, albeit slightly less so in KL schools.

The most popular way to transfer information for teachers were social networks\messengers and phone calls in contrast to email and live communication. The challenges and solutions were identical to principals.

4.2. School work organisation

○ *Principals:*

Online and mixed models were the most popular ways to organize schoolwork, hence most of students were taught by the means of online media, according to principals. Most of principals suppose that that majority of their teachers have attended some sort of digital literacy training in the last two years pre-pandemic.

It can be noticed that KL principals experienced more struggle than their RL colleagues regarding school management during the pandemic. The most demanding aspects for KL (vice-) principals was planning and organizing online teaching, while for RL principals it was monitoring of implementation of protective measures.

The most significant challenges for KL principals were organization and planning of school activities, and it was organization of practical teaching/work-based learning for KL vocational school principals.

RL principals think that monitoring of employees and communication with parents were the biggest challenges. It should be noted that in general, KL schools tend to struggle more than RL schools, however, on average all school principals report moderate level of difficulty.

Local self-government funds and school budget were the most popular sources of provision funds for all principals, and some principals reported funding via personal finances and by cutting expenses on other school activities. According to principals, there is no reported significant lack of technical equipment, however Tablets are the most popular option to be considered in short supply.

- *Teachers:*

The most popular model used according to teachers was mixed model. In addition, around 70 percent report that they have attended some sort of digital literacy training pre-pandemic.

4.3. Organisation and implementation of teaching process during the COVID-19 pandemic

- *Principals:*

Zoom was the most popular platform used by principals according to themselves followed by OnlineMektep and Bilimland.kz. KL school principals think that their teachers mostly relied on School Administration, while RL principals think that recommendation from Ministry of Education and Science were the most impactful factor. Around 40 percent of all principals think that Computers/Laptops were the most needed technical equipment among their students.

However, more than 50 percent of KL principals believe that Internet was the resource in shortest supply among students.At the same time, delivering digital materials via digital technologies was the most common way of sharing learning materials according to principals.

- *Teachers:*

Zoom, OnlineMektep, Bilimland were equally the most popular choices among teachers when they needed to choose online platform. They also mostly relied on School Administration, and least on their personal preferences.

Teachers also did not report any crucial lack of any technical equipment; however, Internet speed was rated as the most important of any. It can be noted that KL school teachers suffer from that issue more than their RL colleagues. Teachers also report Internet and Computers/Laptops as the scarcest technical equipment among students. More than 50 percent of all teachers believe that less than five percent of their students do not have access to online learning provided through Internet and around 70 percent of all teachers think that less than five percent of their students do not have access to TV education.

Almost 75 percent of KL teachers report that they used online teaching within their regular teaching during the pandemic, while 70 percent of RL teachers declared the same about themselves.

Teachers that used combined model still heavily relied on online platforms for most of the basic tasks. Furthermore, teachers started implementing more written and oral tasks, while reducing the amount of homework and class groupwork. In general, teachers did not find teaching during pandemic extremely challenging.

Around half of all teachers produce digital materials themselves, and more than half of them frequently share and exchange it between other teachers.

In general, majority of teachers consider communication with parents during the pandemic as a very effective and important way to support student learning.

Apparently, most of practical and work-based learning was transferred to online regime as well, however some marginal proportion had regular way of handling things.

4.4. Monitoring and evaluation of teaching and learning during the COVID-19 pandemic

- *Principals:*

More than a half of principals admitted that the quality monitoring has changed during the pandemic, shifting towards more online tools used for that purpose. Around 8 percent of principals answered negative on having a document regulating the monitoring process during the pandemic.

- *Teachers:*

Most teachers admitted the change of assessment process due to the pandemic. Most teachers also started using formative assessment more often due to the pandemic. Almost all the teachers reported changing the way they took attendance and monitored student progress. Almost all the answers involved using online tools for that purposes. Around 5 percent of teachers answered negative on having a document regulating the monitoring process during the pandemic.

4.5. Other

The most common topics to include into the discussion of how the pandemic has affected school education involved:

- Integration of different online platforms that teachers use into one service.
- The health risks of teachers associated with online/combined models connected with prolonged screen time, e.g., eye strain.
- The increased workload for teachers and possible salary increases.
- Mental health issues.

5. RECOMMENDATIONS

5.1. Information flow during the COVID-19 pandemic

The recommendations for this part involve improving the quality of the Internet connection among teachers, support of digital literacy among parents and address the lack of technical equipment among students. All the above should be firstly emphasized in rural areas.

On a policy level that means creating legislative frameworks that confirms the distribution of necessary technology for distance learning, while on a school level there should be controlled implementation of the technologies. The issue of digital literacy among parents should be addressed as a part of digital literacy of general population, which is already a part of Digital Kazakhstan program, however additional emphasis on that aspect is recommended.

5.2. School work organisation

In general, KL schools need more support than RL schools do. Namely, KL schools need to be aided in planning and organizing online teaching and school activities. On a policy level, RL schools could use some support in monitoring of employees and implementation of protective measures. Increase of the school funding for protective measures is advised to avoid budget cutting for other school needs and use of the school principals' personal finances. Also, the question of digital literacy training among teachers should be addressed on both police and school level, since apparently not all of them have received proper training pre-pandemic.

5.3. Organisation and implementation of teaching process during the COVID-19 pandemic

Since delivering material digitally and use of online learning were the most popular ways to organize learning processes, the issues of low Internet speed and scarcity of technical equipment among some students should be resolved on a policy level since it is already a part of Digital Kazakhstan program. Additional support of that aspect is recommended. Also, addressing these issues in rural areas should be prioritized.

On a school level, the creation of digital materials should be less dependent on teachers themselves and be supported by higher instances to reduce the workload on teachers during the pandemic. Also, on a school level communication with parents should be prioritized as essential to success of distance learning.

5.4. Monitoring and evaluation of teaching and learning during the COVID-19 pandemic

On a policy level, supporting online platforms for monitoring the quality of teaching process should be considered since most of principals shifted towards online regime. The same can be advised for monitoring attendance and student progress. Lastly, on a school level, the use of formative assessment for the purpose of teaching and learning as well as ensuring the existence of regulating document for all of the measures mentioned above should be prioritized in all schools.

5.5. Other

The main recommendation here addresses teachers, namely increased support for their physical and mental health on both policy and school levels.

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