The Impact of the Pandemic on Educational Outcomes in Azerbaijan

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In 2020, Azerbaijan began to implement restrictions to prevent the spread of the COVID-19 pandemic. One of the areas most affected by these restrictions was the education system. Poland and Azerbaijan, for example, [closed](#) school institutions for a longer period than any other country in Eastern Europe and the South Caucasus: Azerbaijan closed school institutions during COVID-19 for 205 school days during which time teachers taught classes online.

The official figures show that distance learning has had a negative impact on student outcomes. The average score for entrance exam participants was 245 in 2019, dropping to 231 in 2020 and 222 in 2021 (all these years have not taken into account the fifth group and the Russian sector).[1] Yet the average score on entrance exams dropped by nearly 10% in 2021 compared to 2019. Government officials, however, have [said](#) that the decline in educational outcomes during the pandemic is a global trend. How much of this statement is true?

In this article, I will be comparing the changes in learning outcomes in Azerbaijan to other countries as a result of measures taken during the pandemic. In addition, I intend to explore steps taken by the government with regard to online learning during the pandemic and the effectiveness of these steps on learning outcomes.

Results in Azerbaijan have deteriorated

One of the most relevant indicators in terms of assessing the impact of the pandemic on education systems in different countries is the Program for International Student Assessment

(PISA). The PISA assessment measures 15-year-old students' capabilities in reading, mathematics, and science every three years.

PISA 2022 [results](#) were released in late 2023. The assessment involved 7.912 students from 178 schools across Baku, including from both the Azerbaijani and Russian divisions. The 2022 assessment has an aspect that distinguishes Azerbaijan from other countries: Out of 81 countries participating in the PISA survey, only students from China and Azerbaijan living in the same city [took part](#) in the assessment. Researcher Rashad Aliyev, in his article published on the BRI website in connection with the 2022 PISA results, called the narrow sample a " sample manipulation," [noting that](#)

the purpose of this sample manipulation is to artificially exaggerate the results of the survey in Azerbaijan. For example, thanks to the manipulation, the country's 2018 results were, although only slightly, higher than those of Kazakhstan. In 2009 Azerbaijan lagged far behind Kazakhstan. However, in the 2022 study, the concentrated Baku sample did not improve the country's metrics because Azerbaijan again lagged behind Kazakhstan as well as Georgia, which had higher scores than Azerbaijan in two out of three subject areas. Nevertheless, pro-governmental media and education experts deceptively approached the already manipulated data, stating that Azerbaijan ranks ahead of Georgia and Uzbekistan, outperforming regional countries and ranking 3rd among CIS countries.

Because the exam results in most regions were lower than in Baku according to the State Examination Center, it can be said that conducting the PISA assessment throughout the country would have made Azerbaijan's results in the assessment weaker.

Many countries have experienced a drop in their results compared to the previous assessment (2018). However, the drop in Azerbaijan's results is higher than those of other

countries. Let's take a look at Azerbaijan's results in all three subject areas.

In 2018, Azerbaijani students achieved an average score of 420 in mathematics. That result dropped by 5,5% to 397 in 2022. Over the same period, all the countries participating in the assessment experienced an average dip in scores of 11 points. Overall, Azerbaijan is one of the 15 countries that lag furthest behind in mathematics compared to the pre-pandemic assessment among the 81 countries that participated in the assessment.

In 2018, Azerbaijani students achieved an average score of 389 for reading, yet this figure in 2022 fell 6% to 365. The average score for reading in all countries participating in the assessment fell by just 9 points over the same period — only about one third of Azerbaijan's decrease. With a 24-point drop, Azerbaijan is among the bottom 10 countries in reading scores compared to 2018.

In 2018, Azerbaijani students achieved an average score of 398 for science, yet this figure in 2022 fell 5% to 380. The average score for science among all countries participating in the assessment fell by only 11 points over the same period. This puts Azerbaijan in the bottom five countries in terms of decreases in science scores compared to 2018.

Thus, the results released in the three subject areas show that among the countries covered by the PISA assessment, Azerbaijan is one of those that suffered the largest decrease in their performance compared to pre-pandemic results. In this regard, although government officials assess the drop in educational outcomes during the pandemic as part of a global trend, the fact that Azerbaijan experienced some of the largest drops in PISA results shows that the pandemic had a broader effect on Azerbaijan's education system compared to other countries. This shows the poor effectiveness of the steps taken by the government in relation to online education.

Coverage of education in Azerbaijan during the pandemic

During the period when schools in Azerbaijan remained closed due to the pandemic, the Ministry of Education created an online learning platform. In a briefing Education Minister Emin Amrullayev gave almost a year after the pandemic first started, he [said that](#)the number of students registered on the online learning platform was 1.442.000. Given that the total number of students for the 2020-2021 academic year was 1.569.000, this means that only 92% of all students registered for the platform even at a time when the number of registrations for the online learning platform was the highest. Eight percent of the students (about 127.000) did not use the platform. Likewise, not all teachers registered on the online educational platform. In early 2021, it was announced that 85% of Azerbaijani teachers, 150.000, registered on the online education platform. That is, along with 127.000 students, about 22.000 teachers did not use the online educational platform.

Not all students who registered for the online learning platform actively used the platform. Amrullayev noted in his briefing in 2021 that students actively using the platform numbered 1.170.000. By active user, he meant, and we also mean, people who entered the platform at least once in the past week. Amrullayev did not separately reveal the number of active users by teachers and students. The figures, however, show that only 68 per cent of teachers and students—1.719.000 people—actively participated in online education during the pandemic, while about 550.000 students and teachers did not and thus likely did not engage in educational activities at all.

Student engagement in online learning in the regions was even lower. According to Amrullayev, 74-75% of students from Baku, Ganja and other major cities took part in online classes at least once in the past week (from the date of his briefing), the highest rate in the country. If we consider that the

Absheron Peninsula is home to about 40 per cent of Azerbaijan's total student population, this means that out of 1.569.000 students, about 627.000 are enrolled in schools in the Absheron Peninsula and 942.000 from other regions across the country. The 75%engagement in online classes in the Absheron Peninsula means that out of 627.000 students in the region, some 470.000 were able to attend online classes. On the other hand, one third of the students enrolled in schools in the regions failed to receive continuous online education during COVID-19-related school closures.

Given that the results of exams in most regions according to the the State Examination Centre are lower than in Baku, conducting the PISA assessments throughout the country instead of just in Baku likely would have given Azerbaijan weaker scores in the assessment.

Reasons for the lack of online education

One of the main reasons why a large share of the students in Azerbaijan did not receive online education is insufficient physical infrastructure. Sixty-six out of every 100 Azerbaijani homes in 2020 and 71 in 2021 had internet access (via a modem). However, about 30% of homes in the country lacked internet connectivity at the time of the pandemic. All told, 85% of households across the nation had internet access in those years. However, the proportion of home computers during the pandemic was lower, only 75%. This means that a significant fraction of students using an online learning platform joined classes via mobile phone rather than computer. Not all learners from families with a computer could join an online learning platform via that computer. This is because, for example, more than one student or family member at home might have needed to use the computer at any given time.

In addition to the availability of devices with access to the internet and computers, the speed of the network also impacted participation in the online education platform. Between 2020

and 2021, for example, only 80% of the population was connected to the 3G network. This 80% figure was lower in the regions and higher in Baku. In addition, during the pandemic (in 2021), fiber-optic internet was only available to some 225.000 homes, i.e., to every tenth home. In 2021, 35% of fixed broadband subscribers were connected to the internet at speeds between 256 Kbps and 2Mbps, 38% between 2 Mbps and 10 Mbps and 27% at speeds of more than 10 Mbps.

All these figures show that the existence of problems with the quality and coverage of the internet in the country was a serious obstacle to many schoolchildren's participation in online education. However, problems with the internet speed and coverage existed before. Although access to the quality internet has remained on the government's agenda for many years, especially in the regions, no significant steps have been taken to expand access.

In previous years, the government set multiple targets to develop ICT infrastructure. For example, when 2013 was made the Year of ICT in Azerbaijan, it was announced that "all schools will be provided with internet by year-end." But only 76% of schools had access to the internet through the end of 2022. Along with internet access, the government failed to fulfill its promise of providing students with computers. The Development Concept titled *Azerbaijan 2020: The View to the Future* adopted in late 2012, said that all students will have individual access to computers by the end of 2020. However, the data released by the SSC shows that in 2020 the number of computers available per student in schools was 18. In other words, the government had not reached its targets of providing all schools with internet and all students with computers. Had more students had access to internet and computers, the country overall would have performed better on its PISA assessment, even if the assessment included on the participation of Baku students.

In addition to schools, certain targets related to the

development of internet infrastructure throughout the country have not been achieved. For example, the *Strategic Roadmap for the Development of Telecommunications and Information Technologies in the Republic of Azerbaijan*, adopted in 2016, stated that the speed of internet access will be increased from an average speed of 3,6 Mbps to 20 Mbps by 2020. However, the country's internet speed [only reached](#) an average of 5 Mbps by 2020, 4 times lower than the government target.

Even before the devaluation of the manat, Azerbaijan placed on its policy agenda the implementation of the project "Fiber to the Home." This project [envisaged](#) bringing the level of high-speed internet in the country to the level provided in developed countries by 2017. The project was originally planned to be financed by the State Oil Fund, but later the government abandoned it.

The *Online Azerbaijan* project [was launched](#) in 2021. According to that project,the country planned to provide the entire country with access to fiber-optic internet network by the end of 2024. That is 7 years after the original target date. However, if the high-speed internet in the country had been provided on time, the level of internet infrastructure in the country would have increased online educational opportunities during the pandemic period.

Conclusion

PISA calculations show that Azerbaijan experienced more decline in educational outcomes during the pandemic by comparison with most participating countries. One of the main reasons stems from problems with the internet infrastructure in the country. Thus, the government's failure to implement internet-access-expansion projects in a timely manner led to a decline in participation in the country's online education platform) during the pandemic.

[1] In Azerbaijan, all students are required to choose one of five groups for the university entrance exam. Each group has a

specific set of subjects. For example, the subjects within the first group are mathematics, Azerbaijani language, English, physics, and chemistry or computer science. The fifth group is partially talent-based because successful students are accepted to sports academies, conservatoriums and so on. The subjects within the fifth group are mathematics, Azerbaijani language, and a foreign language. Moreover, in Azerbaijani schools there are two sectors: Azerbaijani and Russian. Teaching in the Russian sectors is conducted in Russian.