COVID-19 Learning Losses in the Western Balkans: The Case of Bosnia and Herzegovina, Kosovo, and Serbia
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ABOUT THE AUTHORS
Angie Paola Montenegro Alvarado was a student of the Erasmus Mundus Masters Program in Public Policy at the Department of Public Policy at Central European University during the 2021-2022 Academic Year. Gabija Šiaulytytė and Sophy Ny were students in the one-year Master of Arts in Public Policy program at the Department of Public Policy at Central European University during the 2021-2022 Academic Year.

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DEPARTMENT OF PUBLIC POLICY
CENTRAL EUROPEAN UNIVERSITY
Quellenstraße 51
A-1100 Wien, Austria
dpp@ceu.edu
https://dpp.ceu.edu

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Executive summary

This policy brief introduces the learning losses that occurred in the three Western Balkan countries: Bosnia and Herzegovina, Kosovo, and Serbia, during the COVID-19 pandemic. Since March 2020, the schools in all three countries were closed and moved to online learning. The online learning period varied from country to country, depending on the age of pupils and overall countries' decisions when managing the pandemic. Still, notably, the learning losses occurred in all countries. The extent of the learning losses is still unknown. However, the desk research and interviews allowed us to collect the currently available data. So far, collected evidence revealed that teachers did not have enough digital skills in all three countries, there was a lack of e-learning platforms, and the existing curriculum was not suitable for the new way of learning. In addition to that, online education requires good internet connectivity, available ICT devices in every household, parents' time, and digital skills from all – teachers, parents, and students. All these requirements were not met, and many challenges arose. Online learning puts the students', teachers', and parents' well-being at stake. It significantly affected the most vulnerable groups – students with disabilities, students belonging to minority groups (e.g. Roma students), or those from low-income families. Scholars discuss the short and long-term learning losses, and everybody agrees that students' academic skills deteriorate during online learning, they learn less due to shortened class time, and their mental well-being is at risk.

Introduction

In December 2019, the first case of COVID-19 was detected in Wuhan, the city of China. At that moment, nobody believed that the virus would spread through every border in the world and impact
everyone’s life. However, by March 2020, schools were closed, and online learning was introduced. According to the UNICEF report, 91% of students worldwide were affected by online learning by early April, and many countries introduced comprehensive school closure measures (Nugroho et al., 2020). Two years passed when governments were forced to implement various measures to mitigate the learning losses caused by the pandemic, and the whole world is still facing issues when doing that. The best recipe to do so is unknown; however, the first and foremost finding should be made explicit – online learning is causing learning losses and widening the inequality gap between students.

Even though “learning losses” have no unified definition in the literature, some scholars have already tried to operationalize the term. It is the “difference between how much students know versus how much they would have known in the absence of school shutdowns” (Moscoviz & Evans, 2022, 3). It includes forgotten learning which means that students are losing the skills they already had before the pandemic, and foregone learning, which defines the learning that did not occur (Moscoviz & Evans, 2022). Other scholars analyzing the learning losses also mentioned the lost academic and communication skills and the missed opportunities to gain new ones (Moscoviz & Evans, 2022). In the experimental study concerning the learning losses caused by the COVID-19 in the Netherlands scholars listed the main learning losses being the drop in the coursework, increased dispersion of test scores, and shortened studying time (Engzell et al., 2021). UNICEF, UNESCO, and the World Bank report evaluated the losses in the Middle East and North Africa and associated the learning losses with the lack of access, worsened engagement, and lack of an enabling environment that includes teacher development and data systems (UNICEF et al., 2021). In other words, students cannot achieve the same results of learning while these three aspects are not ensured.
It is expected that significant losses will occur in both the short and long term. The World Bank identified three possible scenarios for the loss of learning, which are (The World Bank, UNESCO, and UNICEF 2021):

1. Average learning levels for all students will drop
2. The inequality gap is widening, and the highly distributed different learning achievements. That means that while some students can still have high grades and absorb the knowledge, others' achievements are very low.
3. Significant increase of students that has very low-level achievement due to dropouts

It is still unclear what these scenarios will look like in the long term. There is available data on how countries worldwide addressed the learning losses during the closures and reopening of schools. In the May-June 2020 survey conducted by UNESCO-UNICEF-World Bank, it was reported that most schools are adjusting their calendars and introducing specific remedial programs (69% of schools around the world) (Nugroho et al., 2020). 63% of schools changed the scope of contents to be covered; 27% of schools recruited new teachers, and 25% increased the class time. Unfortunately, a smaller percentage of schools included the vulnerable groups in school reopening plans. 32% of schools had targeted campaigns encouraging the vulnerable groups to get back to school, and only 15% opened schools sooner in areas with more vulnerable groups (Nugroho et al., 2020).

Selection of countries

Bosnia and Herzegovina (BiH) was selected as one of the three countries in the Western Balkans due to its unique education system. It has many education laws due to numerous jurisdiction levels. Thus, policies on the school closures during the COVID-19 pandemic depended on the entities and cantons. In addition to that, a considerable number of children were affected by the move to online
learning. Lastly, available contacts that could facilitate the ongoing research on learning losses were an additional but essential factor when selecting the countries.

BiH adopted some policy changes to minimize the containment risks in schools due to the COVID-19 pandemic in 2019-2020. Primary schools remained open (only in some cantons (UNICEF Bosnia and Herzegovina and UNESCO Bosnia and Herzegovina, 2020)) with some hygiene measures in places such as cleaning surfaces and ventilation of rooms. In addition to that, in particular entities, the testing of children was in place. Secondary schools also made hygiene measurements mandatory, but physical education was canceled in the spring of 2020. (Jansen et al., 2021; Kovacevic, 2020) Studies on the effects of pandemics on learning outcomes revealed that 500,000 children and youth in BiH were affected by government measures. 9,700 primary and secondary school children had no access to e-learning (Planinčić, 2021). In addition to that, 1.5% of teachers had no internet access, and educational and financial resources were tight (Planinčić, 2021).

Kosovo was selected because of the long period in which schools were closed. In addition to that, the lack of research on Kosovo so far allowed us to see it as an information gap that could be filled. Also, as in the BiH case, available contacts played an important role. The government in Kosovo set the quarantine measurements on March 13th in two cities (Vitia and Klina) and later expanded these around the country; measures included preschools and school closure as one of the first restrictions starting in March 2020. (RFE/RL's Balkan Service, 2021) In Kosovo, the evaluated impact on the PISA scores revealed that the country was highly affected by the schools moving to online learning. Over 78% of 15-year-olds in Kosovo are functionally illiterate (performing below Level 2 of proficiency in PISA), and the country's reading score is below its 2015 level (Kovács Cerović et al., 2021). In addition, the mental well-being of children and their families could have
also been affected by reclusion and financial uncertainty (World Bank Group, 2020). The schools were closed until September of 2020, even though 70% of the teachers were vaccinated, and the measures taken by the government have been strongly criticized.

Serbia was selected in this study because of the variety of government policy responses regarding the instruction for schooling, the noticeable digital preparedness of distance learning, the availability of data, and in-country connections. In Serbia, schools started to close in mid-March 2020, and all classes were conducted online and broadcast through national channels (Kovács Cerović et al., 2021). 97% of teachers had access to the internet at the beginning of the pandemic, and 85% had digital devices for online classes (Kovács Cerović et al., 2021). Further, teachers in Serbia have digital competence skills included in their curriculum and assessment of student performance (World Bank Group, 2020). However, it is vital to explore more the learning losses and possible impacts of government measures during the pandemic and to see the differences between governments’ decisions in the three selected countries.

**Methodology**

The report was written using two main methods – interviews and desk research. Since the desk research revealed that the material available in the English language on the educational experience in the three countries is highly limited, additional measures were taken. There were 6 expert interviews in Bosnia and Herzegovina, 3 in Kosovo, and 3 in Serbia. In addition to that, 2 interviews with the parents were conducted in Bosnia and Herzegovina.¹

¹ To maintain the anonymity of the interviewees, they are coded with letters and a number (e.g., E1), where each interviewee is assigned a unique number, and the letter stands for the occupation of the interviewee (E for expert, P for parent).
Bosnia and Herzegovina

Education system of Bosnia and Herzegovina

Before examining the nature of learning losses in the education sector, it is essential to present the key features of the education system in Bosnia and Herzegovina (BiH). The country consists of two entities: the Federation of BiH and the Republika Srpska and the Brčko District as a separate administrative unit (Spahić et al., 2022).

The BiH Constitution defines the education sector, the constitutions of the entities, cantons, and the Statute of Brčko District of BiH that govern legal competencies in education (Eurydice, 2017). Due to numerous jurisdiction levels, each administrative unit has a separate education law and a separate budget (Spahić et al., 2022).

The education system itself is highly decentralized with 15 governing authorities, namely - the Ministry of Education and Culture of Republika Srpska, the Ministry of Scientific and Technological Development, Higher Education and Information Society of Republika Srpska, ten cantonal ministries of education in the Federation of Bosnia and Herzegovina (FBiH) and the Department for Education of Brčko District of BiH Government. Furthermore, two ministries have a coordinating role - the Federal Ministry for Education and Science coordinates the ten cantonal ministries in FBiH, and the Ministry of Civil Affairs of BiH is entrusted for state-level coordination (UNICEF Bosnia and Herzegovina and UNESCO Bosnia and Herzegovina (Joint Report), 2020).

Due to its complexities and decentralization, the policies adopted during the COVID-19 pandemic highly differ from region to region in terms of the adopted measures, used e-learning platforms, and available support programs for teachers and students.

There are four broad education stages – preschool, primary school, secondary school, and higher education. This report focuses on primary and secondary education systems. Primary education is
compulsory and has three cycles: 1st to 3rd grade, 4th to 6th grade, and 7th to 9th grade (Eurydice, 2017). Secondary education is available to everyone but is not compulsory. The duration is four years.

**Education and COVID-19**

From March 12th, all kindergartens, elementary and high schools were closed in Bosnia and Herzegovina. All education authorities introduced e-learning in primary and secondary schools in 2020, and all students finished their school year online (Joint Report, 2020). 1695 primary school students (0.6%) interrupted their attendance. Interrupted means that students previously participated in education but were not able to continue that due to the COVID-19 pandemic. In secondary schools, the percentage was lower (393 students or 0.3 percent of the population) (Joint Report, 2020).

Primary schools until the 4th grade reopened on September 1st, 2020, in the Republika Srpska entity and the Sarajevo and Gorazde cantons in the Federation entity. The governments acknowledged that while distant learning raises many challenges for all families, it significantly affects families with younger children (E1). Other entities kept the schools in online learning mode (Dervisbegovic, 2020). The criteria for moving back to face-to-face learning in most of the cantons were the existing epidemiological situation, including the number of newly infected persons, COVID-19 trends among the school staff and students, as well as the vaccination rates of the population (Spahić et al., 2022).

According to the Joint Report (2020), taking the education aspect during the pandemic, around 500,000 children were somehow affected by schools' closures starting from mid-March during the first wave of the pandemic in Bosnia and Herzegovina (Joint Report, 2020). Most affected are children with disabilities, people belonging to minority groups (e.g., Roma people), and low-
income families who did not have access to online learning. As an education expert mentioned in the interview, we hardly could objectively measure the learning losses that were caused due to pandemics in any numbers yet; however, we are talking “about the learning catastrophe, not the learning loss or the learning crisis” (E1).

In interviews with the school authorities (E2), they expressed the concern that Ministries did not propose an adequate response to the COVID-19 pandemic in the education sector, and the primary source of support was the non-governmental organizations (NGO) sector rather than the government itself.

**Main challenges of online learning**

The first problem that the families faced due to the introduced online learning was the issues with the internet. Many families did not have internet access, or it was too slow for studying and working from home. According to the World Bank, before the pandemic, in 2019, there were 69.9% of individuals using the internet (% of the population) in BiH (World Bank, 2022). At the household level, 72% of households had access to the internet at home (Knoema, 2019). Thus, trying to ensure access to education for everyone, the government of BiH supported free internet supply and made agreements with significant telecom companies, which also engaged with international donors when tackling this issue (Joint Report, 2020). The printed study material was distributed through education mediators to the most disadvantaged students who had no access (E1). Education mediators were the people who facilitated the learning process during COVID-19 and helped the schools to ensure access to the most vulnerable groups.

The lack of access to the internet and the absence of a unified e-learning platform for all cantons posed many challenges. Moreover, shortening the class length from 45 min to 30 min was another factor that negatively affected the quality of education (E1, Spahić et al., 2022). Theoretically,
counting only the class-based education, students who would usually have on average 18.75 hours of classes per week now lost 6.25 hours of studying. If we also consider the time of the class introduction that the teacher does and all reminders of what was discussed in the last class, the class time to learn the new material is too short (E1). The decision to shorten the class duration was made due to the low attention span of students. Education Officer said that students could not focus for so long; however, even when students got back to school, classes still lasted only 30 minutes (E1). That also posed a challenge to parents since the shortened classes disrupted their work time (E1).

**E-platforms for education and communication.** Due to the decentralized education system, the response to COVID-19 has also varied depending on the administrative unit. After the government decided that schools needed to move online, legal challenges in all administrative units arose. (Joint Report, 2020) At the beginning of 2020, online learning was a novelty, so 7 out of 12 units reported adjusting their laws to the e-learning processes (Joint Report, 2020). For instance, the establishment and monitoring of e-learning required certain immediate legal ad-hoc decisions and instructions. In addition to that, the issues with the grading of students and the conduction of examinations were considered in the context of the necessary legal changes (Joint Report, 2020). Children used various online platforms for education during the pandemic (Joint Report, 2020). As shown in the figure below, the most popular means of communication were Viber, Facebook, various Web platforms (such as e-Nastave, e-Skola, skole. sum), and Google Classroom. In addition, there were different e-learning platforms where students could check the information about their classes, including e-Nastava in Republika Srpska and e-Škola in Herzegovina-Neretva Canton, Skole. Una-Sana Canton had their newly developed platform used by a smaller number of students (Joint Report, 2020). Some schools used recently supplied platforms from BiH
universities, but these were not adopted universally across the country (E1). Using various platforms was difficult due to teachers' and students' lack of digital competencies. Education experts mentioned that when they asked which learning platforms schools were using during online learning, the majority (almost 50%) said Viber and Whatsapp. However, both platforms are not adopted to have smooth and clear e-learning for children (E1). On both of these platforms, students cannot watch the pre-recorded lessons, conveniently check the homework, and upload their works. Both platforms are more adapted to communication rather than education.

Figure 1. Networks used during the pandemic in BiH

![Graph showing the use of software/social network platforms during the pandemic in BiH.](chart.png)

Source: Joint Report (2020)

After the first four days of schools' closure, on March 16th, TV classes were also used to increase the number of students who could join classes. The classes were first provided to the students from 1st to 9th grade. On March 23rd, pre-recorded classes were also introduced for high school students. However, they had to access them via online platforms (such as Youtube and television
portals on the internet), not by the television itself (China-CEE Institute, 2020a; Spahić et al., 2022). The figure below indicates that 7 administrative units used the TV classes during the COVID-19 pandemic. In certain cantons, TV broadcasting was used only for the lower elementary (Level 1) students (Tuzla, Una-Sana, and West Herzegovina cantons), while in others, it was available for upper elementary and secondary school students (Posvaina, Canton 10). The teachers were filmed in advance and then broadcast to the students via National Television. However, not all teachers had the necessary skills or training, so the teaching quality was affected (Step by Step & proMENTE, 2020).

Table 1. TV classes in administrative units (BiH)

<table>
<thead>
<tr>
<th>Administrative units in which TV classes were used</th>
<th>Level of education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posavina Canton</td>
<td>ISCED 1, 2 and 3</td>
</tr>
<tr>
<td>Canton 10</td>
<td>ISCED 1, 2 and 3</td>
</tr>
<tr>
<td>Republika Srpska</td>
<td>ISCED 1, 2</td>
</tr>
<tr>
<td>Sarajevo Canton</td>
<td>ISCED 1, 2</td>
</tr>
<tr>
<td>Tuzla Canton</td>
<td>ISCED 1</td>
</tr>
<tr>
<td>Una-Sana Canton</td>
<td>ISCED 1</td>
</tr>
<tr>
<td>West Herzegovina Canton</td>
<td>ISCED 1</td>
</tr>
</tbody>
</table>

Source: Compiled by the students based on Joint Report (2020)

Even though the digital competencies of teachers, students, and parents can be characterized as low, the pandemic brought one positive aspect. It was unavoidable to move further towards digitalized education. Together with the UN and UNESCO, all ministries took part in a project to create unified standards for the ICT equipment. With the agreed standards in place, all BiH regions were encouraged to renew the old-fashioned computers in classrooms. Furthermore, a new partnership with Microsoft was signed (using the Shape the Future program) and ensured that schools would have the software Office 365 with a substantial discount for teaching and learning (E1). The global initiative with UNICEF and International Telecommunication Union (ITU) for mapping internet connectivity is also taking place in BiH. As the educational expert mentioned,
providing the connectivity to the most disadvantaged is the crucial goal as, in another way, “<…> they would be even further behind and excluded from the society <…> and from making decisions that influence their lives” (E1).

**Access to education.** According to the National Agency for Statistics (China-CEE Institute, 2020a), in 2019, 64.8% of households in BiH had access to computers (including tablets), and 35.2% had no access. 90.6% of households owned a mobile phone device.

According to the UNICEF and UNESCO Joint Report, access to the internet for primary and secondary classes was ensured promptly (Joint Report, 2020). However, due to the lack of ICT in each household, 9764 primary and secondary school children could still not follow online classes even with provided Internet access (Joint Report, 2020). Moreover, data revealed that 35% of young people face difficulties such as lack of devices, bad Internet connection, and lack of appropriate space (Joint Report, 2020). Thus, universal access to education remains a challenge (Joint Report, 2020).

**Inequality and COVID-19.** Inequalities in the education sector appeared in BiH even before the pandemic. The Organisation for Security and Co-operation in Europe (OSCE) released a report called “Two schools under one roof” in BiH, describing the widespread practice of dividing children based on ethnicity (OSCE, 2018). The report stated that there are even separate entrances and physical barriers in some instances for the children from ethnic minority groups, which does not allow students to reach the same levels of education.

Furthermore, Joint Report concerned that the COVID-19 pandemic substantially widened the inequality gap between students and their learning abilities. Hence, leaving some students far behind (Joint Report, 2020).
When the COVID-19 pandemic started, the most affected group were Roma minorities. For instance, out of all children, 6% are Roma students who had no access to ICT and the Internet (Joint Report, 2020). As an educational expert said, “we cannot talk about laptops or smartphones for the Roma family” (E1). However, even when urban centers are more prosperous with more high-income families, it is a mistake to think that all children in the cities have access to e-learning (E1).

**Mental well-being.** Children's mental well-being was negatively affected due to COVID-19 and the introduction of online learning (E1). Not being able to see peers, having difficulties focusing, and facing issues of online platforms raised many concerns for children and their families. In addition to that, disadvantaged students such as those with disabilities, minorities, or students from low-income families were not even able to join online. The data of students who could not access the online education caused by the pandemic in BiH is still not available. However, Education Officer stated that those students who attended classes had additional anxiety due to the constant change of teachers and their learning methods as many teachers were sick and needed a replacement – “it was very hard also for the parents of typical children, but especially hard for parents of children with disabilities.” (E1)

**Challenges for teachers.** 523 teachers (1.4 percent) did not have any ICT devices (mainly from Central Bosnian Canton) (Joint Report, 2020) at the beginning of the COVID-19 pandemic. In addition to that, the assessments of the teachers' competencies (EU Digital Competencies and UNESCO assessment) revealed digital competencies gaps (E1). UNESCO research also revealed that since 80% of teachers are women, they had additional hardships due to the traditional roles assigned to women in the society, such as making food and taking care of the home and children.
As was mentioned, teachers' mental health and overall productivity were significantly affected (E1).

Educational expert mentioned that the teachers constantly said that online learning was ineffective (E1). According to the UN-conducted survey, 83% of teachers in BiH stated that students' accomplishments were weaker during the period of distance learning (UN BiH, 2022). The main reasons that were mentioned were: students' inactivity in the classes when online education was in place (62%), lack of motivation (57%), and poor internet connectivity (47%) (UN BiH, 2022).

This was supported during the interviews. It was said that whenever students got back to school, they [teachers] needed to repeat what was already taught online (E1). Even though it poses many challenges to teachers to move to online learning, vaccination rates in the education sector (as in BiH overall) remained low, with less than 60% of teachers being fully vaccinated to this date. The educational expert mentioned that vaccine hesitancy appears no matter which sector you are looking at (E1).

In six administrative units, the professional development of teachers was organized to improve skills in the digital environment and the quality of online teaching. UNESCO has partnered with various regions of BiH and organized online webinars for teachers. Webinars covered many topics, including setting up a Google Classroom class, keeping emotional well-being, and developing socio-emotional skills (E1). However, the educational officer also noticed that an increasing number of teachers are feeling online fatigue (E1). The interviewee stated that webinars are no more effective than at the pandemic's beginning (E1). People are switching cameras off, not participating actively, having background noises, and not focusing on the topics (E1). Online learning requires keeping attention to the content and not being distracted, which can be an issue even for adults.
Challenges for parents. Parents were forced to stay home during the pandemic and help their children with online learning. 60% of women reported a significant increase in domestic care and emotional work (UNICEF & UNDP in BiH, 2021). In addition to that, this burden was even higher for single parents or parents of children with disabilities (UNICEF & UNDP in BiH, 2021). The educational expert suggested that parents couldn't distinguish between work and being a parent (E1). It is challenging to focus on the job when the parents need to sit with a child, show them how to log in to e-learning, and explain what to do. In addition to that, at the same time, they [parents] need to make food, take care of the home, and be present all the time. Moreover, the issues were also associated with the too heavy homework workload. (E1) The interviewed expert mentioned that they connected with other parents via the WhatsApp platform, and somebody asked, “when do you do homework with your children?” Some parents replied that they sometimes do homework with their children only around 10 PM or even later because there is no time to do that before (E1).

The additional problem was that even when parents were willing to help and had the digital abilities, not all parents had the pedagogical skills (E1), which contributed to the learning losses that students faced and still are facing during the COVID-19 pandemic.

Monitoring and evaluation. BiH government ensured the tracking of online learning to understand better the online learning process in the schools, including the teaching practices, used teaching content, and identify the possible developments. Schools needed to report weekly to the respective Education or Pedagogical Institute (Joint Report, 2020). There were various types of communication between the schools and the government, including regular meetings and established online monitoring mechanisms (Joint Report, 2020). The only canton that did not take any measures was Tuzla Canton.
BiH will not participate in the PISA 2022 evaluation in learning the learning losses. Education experts mentioned that UNESCO has tried to prove the importance of participating in the large-scale international assessment. However, it was unsuccessful. That means that it will be even harder to assess the learning losses caused by the COVID-19, as this standardized method measured the literacy, math, and science skills of children of various ages.

**Some conclusions**

Educational expert (E1) mentioned that now in the country, there is a common understanding of all the ministries of education that keeping schools open to every student is the most critical factor in avoiding learning losses. So, governments decided to stay onsite with the new waves of pandemics and the Omicron variant, even though it raised the cases of infected people significantly (E1). As stated by the minister, the main reason for this shift in policy was the deteriorating mental well-being of students, and keeping them at home was worsening that (E1).

Even though opening the schools is the priority, according to the educational officer (E1), the COVID-19 pandemic did not generate adequate strategies and solutions for online learning in the future (E2). For instance, the current legal provisions in Sarajevo Canton require online classes for 4 weeks in one school year. However, there is no scientific proof or research on the need for online teaching (Spahić et al., 2022).

Experts mentioned that returning to school could help tackle the existing mental health and socio-emotional development issues in terms of the short-term losses that could be mitigated. However, long-term losses will be much more severe and affect the whole generation. Students now are deprived of functional literacy and critical thinking skills (E1). That means that it will be hard for students to get into the labor market and seek a career in the future. To tackle this, however, is not
easy. Education reform is needed, and the entry point to that could be the improved digital skills and their applications to the everyday learning experiences (E1).

**Kosovo**

The Ministry of Education, Science, Technology, and Innovation of Kosovo took extensive measures to preserve students' health at the beginning of COVID-19, including closing schools in public and private institutions at all levels for several months. From March 12th, with the support of key actors, the government organized distance learning and ensured the hybrid methods continued throughout the 2019 - 2020 period schedule. However, there were many struggles to manage the education field during the pandemic, and they are currently being measured to assess the impact of COVID-19 on schools.

At the beginning of the pandemic, the Government of Kosovo responded rapidly by first implementing hybrid teaching and online teaching (E7). Nevertheless, the opinion of citizens and politicians in Kosovo around the management and the measures of the government to tackle the pandemic was negative and sometimes evaluated as insufficient (Bami, 2022). The discomfort with the pandemic management was more profound among political actors when the government postponed the start of the new school year (Daily News, 2021). Following this, the guidelines for education, eLearning, and hybrid teaching were improved and installed for the school year in 2021. Due to a lack of experience in online teaching, shortage of digital learning platforms, and shortage of digital education materials, students, parents, teachers, and institutions in Kosovo faced enormous challenges in coping with the move to online learning. The closure of schools pushed for educational advances in a short period related to the digitization of education. For this case, the government of Kosovo organized three types of scenarios for teaching. School teaching with shorter classes, having only half of the class onsite (case 1), combined teaching between school
teaching and online teaching (case 2), and fully online teaching (case 3) (E7). This study will present some assessments regarding the nature and extent of learning losses due to COVID-19 in Kosovo.

**Political Context.** In addition to the uncertainties of the pandemic, the citizens of Kosovo were also living in a time of political change. Until early February 2021, Kosovo was without a president when the nationalist party Vetëvendosje with the support of the former president Thaci, formed a coalition government with Albin Kurti as prime minister. On April 4th, 2021, new elections were called. Vjosa Osmani was the winner of the Presidential election, and Albin Kurti took the position of prime minister, even though three political parties boycotted the vote. During this time, anti-vaccine groups' campaigns were presented, while institutional entities promoted mass vaccination. The progress in the percentage of vaccinated was fast driven by the size of the country (E5).

**Challenges in education.** Schools in Kosovo shut down for two months due to COVID-19. The preventive measures taken by the Government of Kosovo affected the lives and education of approximately 450,146 students and 30,528 teachers (Duraku & Hoxha, 2020). There are 1,094 public pre-university educational institutions (44 preschool institutions, 921 primary/lower secondary schools, 123 upper secondary schools, and 6 special schools/resource centers).

The pandemic created new challenges in education. On the one hand, there were challenges such as organizing teaching, managing staff, ensuring the quality of education, and handling the division of students into smaller groups. On the other hand, structural challenges also appeared. These concerned the lack of a central institutional mechanism to deal with the digitalization of education, problems coping with an adaptation of learning environments to pandemic conditions, and demands from marginalized groups for support measures to ensure access (E6).
The education system was not prepared for the COVID-19 pandemic and faced the challenges of organizing learning and ensuring the well-being of students. However, the measures taken by decision-making institutions were rapid and helped assure access to education for most students. The main objectives were to manage distance learning by giving the guidelines for task division, developing online platforms, and proposing different modalities of the learning organization (E7). According to the strategic education plan evaluation for 2011-2016 of the Ministry of Education, Science, Technology, and Innovation, only 40% of registered teachers had the mandatory qualifications for teaching, and only 57% of teachers had attended training in the use of technology. A policy brief by Spitler & Uka (2021) presented the position of 235 teachers regarding the struggles of educating during pandemic time: 20% stated that disinterest from students was a considerable problem, and 57% requested training on the methods of "e-learning."

Regarding access to education, it is estimated that over 90% of families have internet access (E7).

**E-learning platforms.** Some schools were prepared for online classes even before the Ministry of Education issued its instructions. They used applications like Viber and Skype to contact the students. After receiving guidelines from the Ministry, schools started to use Zoom, Microsoft Teams, Google Meet, and Google Classroom. Despite these efforts, there was some rejection by the education population to use online learning platforms, mainly because of digital teaching competence. According to the educational expert (E6), there was no quality coordination between educational institutions regarding the identification of the most important teaching content to be covered, and there was a lack of guidance in terms of support for teachers. Teachers had to deal with students according to the working conditions that they had. Kosovar teachers, in various forms, showed a readiness to increase their digital competencies in teaching and assessment, and
they also had to deal with an increase in the amount of work spent in learning to use various platforms for educational purposes.

**Health uncertainty.** People in Kosovo were not entirely supportive of lockdown restrictions imposed by the Serbian government or the Kosovo government. According to NIPH reports around COVID-19, the schools were not infection-focused, although there was no isolation measure or immunization at the beginning of the pandemic (WHO, 2021). Overall, the chain of the reporting system for students with COVID-19 functioned at the municipality and central levels. Nevertheless, an essential fact that promoted the measures taken regarding schools was the number of deaths that occurred at the beginning of the pandemic, and the main concern was to keep children safe (E7).

Currently, the Ministry of Education determined if more than 5% of students result positive for COVID-19, the schools are obliged to switch to online education. With the spread of the Omicron variant, the number of infections is extremely high among urban school students in January of 2022: more than 8,000 students and school staff have COVID-19, and about 90 schools are teaching online due to increased cases of infection (E7).

However, it is essential to highlight that vaccination was finally accepted by the majority of the population in Kosovo at the end of 2021. At first, during the summer of 2021, there was evidence of a rejection of vaccination. Still, support for vaccination was more positive from the end of September onwards, possibly since more than 90% of teachers are vaccinated with two doses. It is important to emphasize that this rate is higher than the medium rate in the country, which is 53% of the population vaccinated (E7).

**Mental health.** Children, their families, and the educators have dealt with psychological pressure because of the isolation, and parents and educators had to deal with financial uncertainty. All the
reports in Kosovo point out that COVID-19 has significant psychological, social, and emotional aspects (E6). The isolation that the community suffered contributed to the widespread deterioration of mental health, reinforcing learning losses in education and deepening the inequality between students. Socialization is a unique component primarily reflected in learning, especially between students in primary school. Children learn from their peers, and they need to communicate with friends even during the pandemic. The emotional state caused by staying at home and the inability to learn under normal conditions significantly impacts their development (OECD, 2020). Berisha (2021) claimed that children felt separated from their teachers and friends during the lockdowns, even though they may have some contact with siblings. Additionally, there was not much online Albanian education content available for children in Kosovo, so they followed online activities in different languages, negatively impacting their language skills due to Albania's lack of educational resources. Extracurricular activities in schools were minimized, too, as Children's participation in such activities with parental support.

**Skills and infrastructure.** As mentioned before, there was no national digital platform for education. Before the pandemic, no digital teaching material had been developed nor a curriculum that would fit into the situation. Some teachers and school principals reported that they have not participated in any training program to use ICT, development, and use online materials (Kosova Center for Distance Education, 2021), which compounded the difficulties of implementing online teaching.

From March 2020, digital teaching materials were published. Distance learning was provided through RTK public television and the MEST on a YouTube channel devoted to students from different levels and categories of education. However, no learning platform at the state level could unify the information provided to students, so several municipalities and schools acted
independently and started to use platforms with partners or on their initiative (for instance, E-School and Butterfly). Nevertheless, educators stated that those platforms did not work appropriately in most cases. Teachers have mainly used Zoom and Google Classroom applications to hold online learning during lockdowns or when they had hybrid classes (E6).

Figure 2. Availability of effective digital educational content from the perspective of school principals


Vulnerable population gaps. The losses in learning are evident, despite the efforts to complete two school years with online and hybrid systems. According to the World Bank (2020), the estimated impact of learning losses starts from the position that over 78% of 15-years old in Kosovo were functionally illiterate (performing below Level 2 of proficiency in PISA). Based on the PISA tests for Kosovo, on average, learning drops by about 9 points in the short term with schools closed and remote teaching in place, assuming that remote teaching is not as effective as onsite teaching. This would mean Kosovo's reading score was pushed below its 2015 level (347
PISA points) because online learning measures may not be as effective as instructions in person at schools.

Additionally, according to the results from the study of the Kosovo Pedagogical Institute (KPI) and the Center for Education of Kosovo (KEC), using the methodology for estimating learning losses used by the World Bank during the pandemic period from March 2020 to August 2021, there are differences in the achievements of students according to their place of residence (village-city), their home learning conditions during the pandemic, as well as the number of family members and the number of children in school. Students located in rural areas have higher learning losses than students in cities, together with students that did not have good conditions for learning at home (like separate learning rooms), students who did not have ICT equipment at home, students who came from multifamily homes (this means houses where more than one family live in), and families that had more than one child in school.

Considering the unequal access to distance learning and the reduced teaching time, students from low-income families and students with special needs are at particular risk. According to the Kosovo Ministry of Education (E7), 10% of the students cannot access the internet. This group has a low-socioeconomic background; this situation is more noticeable in Roma students. The World Bank (2020) showed that the achievement gap between the poorest and richest in Kosovo ranged from 1.5 years of schooling before the pandemic.

76.6% of citizens in Kosovo were internet users; however, the use of the internet that they reported was primarily for entertainment purposes like social media. Regarding the differences between urban centers and rural areas, previous studies presented the tendency of Internet users from rural and low-income families (those families who earn less than 200 euros per month) to use it mainly for entertainment purposes (Fazliu, 2013).
According to Kosova Center for Distance Education (2021), there are also gender gaps. First, despite the dropout rate being only 0.1% in non-compulsory classes, the rate increases to 2% for secondary schools (mainly from vocational schools). More boys than girls drop out of their studies to support their families, seeking low-skills job opportunities (E7).

**Some conclusions**

According to UNICEF (2020), the cost of keeping students out of school is greater than the damage to the economy. To address the impact of the COVID-19 pandemic, Kosovo's government responded rapidly by developing infrastructure for online and hybrid classes, considering the objective of keeping children safe (E7), although the response was not sufficient. The lack of a single education platform and the lack of training in digital tools for teachers was a significant obstacle to combating learning losses.

Students and educators will feel the impact of learning losses in Kosovo in their subsequent grades. They will need to address the contents of the curriculums from previous grades (E6). Educators will need to reorganize the educational contents to fill the learning gaps exacerbated by the pandemic. Meanwhile, the government should be responsible for the precise flexibility of academic programs and the provision of digital gadgets for vulnerable populations (including internet access). Additionally, according to Berisha (2021), the different educational institutions must provide psychosocial support programs and extracurricular programs to serve students who need them because of mental health issues.

In the long term, the impact of COVID will need to be addressed on a more macro level, where public policies will have to close gaps for the vulnerable populations without neglecting the general educational parameters. The government of Kosovo should provide the necessary resources to continue implementing digital knowledge and promoting knowledge management
strategies among educators to encourage good practices (E6), considering that more than half of teachers are willing to learn to teach online (Spitler & Uka, 2021). For this case, the revision of independent educational programs for different schools is recommended, albeit following the general guidelines of the government of Kosovo.

It is necessary to focus on the vulnerable populations since the students who live in villages, have low-income families, and are part of multi-generational housing have more significant gaps and more considerable learning losses (Mehmeti, Boshtrakaj & Mehmeti, 2019). In this sense, given the structural problems they face and the gap in years of schooling between the poorest and the richest in Kosovo, it is necessary to give special attention to the marginalized populations in Kosovo. (The World Bank, 2020).

**Serbia**

**COVID-19 situation**

Serbia has experienced four pandemic waves. On March 6th, 2020, the first case of COVID-19 was recorded in Serbia (OECD, 2021). There have been different Covid-19 waves with peaks and less stressed periods, and each period has its own unique story (E3). During the first wave of the pandemic, the government responded quickly. To prevent the spread of the virus, on March 15th, 2020, the Government of the Republic of Serbia announced a state of emergency, closed all schools across the country, and moved to online learning (Ranjelovic, Karalić, & Đukić, 2020, 205). The Covid-19 Response Team² claimed that the government does not close schools; instead, they relocate the educational system to a more secure level (The Government of the Republic of Serbia, 2020). The education expert (E3) also mentioned that the authorities did not use the term “school

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² The Covid-19 Response Team included the President, the Prime Minister, Finance Minister, Health Minister, Director of the Health Insurance Fund, President of the Serbian Chamber of Commerce, Governor of the National Bank of Serbia, Directors of relevant institutes and clinics, as well as representatives of other relevant entities
closure” because only the physical schools were closed. Despite students' continuous learning, the new teaching model has significantly disrupted education in Serbia, resulting in immediate and long-term consequences.

**Education system of Serbia**

The Ministry of Education, Science, and Technological Development (MoESTD) is responsible for designing and implementing educational policy. Schools and preschool institutions have a high degree of autonomy in planning and implementing educational programs and other educational activities. Primary education and preparatory preschool programs are free and compulsory for 9 years. Secondary education lasts for 2 years and is free; however, it is not mandatory. Primary school starts at the age of 6½ and lasts until 14½ years old, and students are typically 15 when they attend secondary school. For secondary students, they are admitted to schools based on their primary school performance and final test outcomes. In Serbia, primary and secondary school teachers must obtain a master's degree (Eurydice - European Commission, 2022). However, even with having a master's degree, teachers faced many digital challenges when moved to online learning.

**Education and Covid-19**

To ensure the continuity of education, the MoESTD adopted an Operational Plan to guide the instruction and monitor the effectiveness of online learning. Primary school classes have been broadcast on the Serbian Radio-Television channel (RTS channels 2 and 3) and the RTS Planet channel for secondary school students (Randjelovic, Karalić, & Đukić, 2020, 205). Education experts claimed that TV learning was adopted quickly and effectively (E3; E4). Every day, 3 or 4 pre-recorded videos that lasted for 30 min were broadcasted for each grade based on the schedule (Cerović, Mićić, & Vračar, 2021, 3). In addition to the pre-recorded video, students could access
the materials and additional learning content via the My School Web portal (Moja škola, mojaskola.gov.rs) and RTS My School, a free mobile and tablet application. Students could submit their work via several online platforms, either in files or pictures (Redep, 2021, 33). Besides, teachers and students have been using various online platforms such as Zoom, Microsoft Teams, Google Classroom, and Moodle for communication.

In addition, there was a Viber group called "My school" with almost 120,000 members, where parents and pupils received daily notifications. Furthermore, parents could contact the hotline for additional distance learning support (Redep, 2021, 33). Despite the government's efforts to cope with the pandemic's impact on the education system, 0.7% of primary school students and 1% of secondary school students were still entirely excluded from distance learning (Redep, 2021, 32).

Throughout the first half of the 2020/2021 school year, most instruction used a combined model based on the Center for Positive Development of Children and Youth (CEPORÁ) survey. 72% of teachers mentioned that they used a combined model for teaching; 27% of them taught only in class, while 1% taught entirely online. Once the new academic year started on September 1st, 2021, schools began to reopen following the COVID-19 measures, including wearing face masks and keeping social distancing (Cerović, Mićić & Vračar, 2021, 3).

To ensure a lower number of infections among primary classes, the classrooms were divided into smaller groups (E3; E4). Primary students went back to school, and classes were split into smaller groups for the secondary school students. Each class had no more than 15 students. Students went to school based on the group they were divided into (Randjelovic, 2021, 1). Ultimately, one group went to school on Monday, Wednesday, and Friday, and another group went to school on Tuesday and Thursday, which rotated weekly (BBC News, 2021; E4).
Meanwhile, in some schools, the students were split into two groups: half went to school in the morning and the other half in the afternoon (Popovic-Citic et al., 2021, 7). The class division varied based on the capacity and number of students in each school (E4). It is important to note that the class shifted online for 10 days if 3 students in the class got infected (BBC News, 2021). The study mode was decided weekly and consulted with the Crisis team (Balkan Insight, 2021). The teaching model was not agreed upon at a national level but at a local level, following the three models of traffic light system green, orange, and red (BBC News, 2021). Decentralization is recommended, which the Ministry will not mandate all schools in Serbia to go online but will instead monitor field indicators.

First, the green model is the safe model in which classes are conducted in a regular model. Students will wear masks only when speaking or answering, and vaccinated teachers will not be required to wear a mask until they are within 1.5 meters of the student (BBC News, 2021). So, the students need to wear a mask in the classrooms. Second, the orange model is for 7th and 8th-grade students and high school students. Sometimes, this can be applied to 5th and 6th grades too. One day, they are online, and the other in school. Third, the red model is in a high-risk status. Classes will be held at a distance, and students will be divided into groups. From 5th to 8th grade, students would alternate between online and in-person classes, with high school students going entirely online (Stanković, 2021).

The models were determined according to the cross-sectional data from local governments on vaccinations and infections and reports on school-based prevention measures (Stanković, 2021). Every Tuesday, school principals were required to submit reports on the situation in their schools to the school administration, and the mode of teaching would be decided based on the epidemiological data of the areas (Stanković, 2021). The School Team consisting of experts and
various institutional representatives, would continue to monitor the situation and make decisions weekly (Stanković, 2021). The MoESTD’s Minister stressed that wearing protective masks is required for all employees, students, and third parties during and after his visit to the school. Overall, the government took a stance that schools are essential to open. However, it was mentioned in the interview that the fact that children need to go to school is controversial since sometimes the high number of COVID-19 cases was worrisome for parents and teachers who were afraid to catch the virus (E3).

**Access to Education**

Based on the Usage of Information and Communication Technologies survey, 80.1% of households in Serbia have access to the Internet (Redep, 2021, 15). 99% of primary and secondary school students have access to distance learning (Institute of Psychology & UNICEF 2020, 5). The printed materials are delivered for those who cannot access the online classes. Nevertheless, fewer than 2% of primary and secondary school students require such support. For the 8th-grade students who did not have the conditions to pursue distance learning and take the online mock final exam, internet, and digital devices were provided from donations (Stanković, 2021).

In 2021 it was reported that 97% of teachers have an internet connection, and 85% of them have a computer for online learning (Kovac-Cerović, Vračar, & Mićić, 2021, 5). Even before the pandemic, there was a digital competence framework for teachers in which the use of technology was included in the pedagogy (Begicevic, 2020, 30). For the support of teachers, there were large-scale international and national conferences on digital education, gathering thousands of teachers (E3). In those events, they could share their knowledge and experience (E3). Also, teachers gained assistance from their peers through networking, mutual support, and school administration. Together with the Institute for Improvement in Education (EIE), the digital mentors were
employed. Each school in Serbia was able to contact them through a ticketing system and ask questions, such as how to use the Google Classroom (E3). In addition, the EIE also created Viber chat to share information more efficiently (E3).

Table 2 illustrates the numbers of the students who followed the classes via television channels, online platforms, and other digital tools, or those that were not covered at all are presented. While the majority of primary school students joined via television channels (95%), secondary school students mainly joined via online platforms (99.4%). During the interviews, it was reaffirmed that for little children to use the online learning platforms was harder and mainly depended on how the parents were able and prepared to help their children in online learning given their time and digital skills constraints (E3). Also, compared to primary and secondary school students, a much smaller number of pupils attending schools with disabilities followed televised or online classes (Institute of Psychology and UNICEF, 2021, 15). Over 70% of them did not engage in televised learning, and nearly half did not communicate with teachers using online platforms or digital technologies. The lack of family support for distant learning was the most commonly reported barrier in schools for disabled students, approximately 30%. Technical reasons followed it: lack of internet connectivity and inadequate gadgets with a similar frequency, i.e., around 20%. (Institute of Psychology and UNICEF, 2021, 15). Significantly, there is no difference between girls and boys accessing online platforms and using technology (UNDP & UNICEF, 2020, 29).
Table 2. Distance Learning Coverage by education levels and modalities

<table>
<thead>
<tr>
<th>Distance learning coverage by education levels and modalities</th>
<th>Primary schools</th>
<th>Secondary schools</th>
<th>Schools for students with disabilities</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Following classes via television channels</td>
<td>475,334 (95%)</td>
<td>153,341 (63,9%)</td>
<td>1421 (26,7%)</td>
<td>631,096 (84,5%)</td>
</tr>
<tr>
<td>Participation in online platforms and interactive lessons via digital tools</td>
<td>424,483 (84,7%)</td>
<td>238,473 (99,4%)</td>
<td>2953 (54,4%)</td>
<td>665,909 (89,2%)</td>
</tr>
<tr>
<td>Participation in alternative forms of distance learning</td>
<td>8211 (1,6%)</td>
<td>3280 (1,7%)</td>
<td>1515 (28,4%)</td>
<td>13,546 (1,8%)</td>
</tr>
<tr>
<td>Students not covered by distance learning</td>
<td>3621 (0,7%)</td>
<td>3142 (1%)</td>
<td>374 (7%)</td>
<td>7137 (1%)</td>
</tr>
</tbody>
</table>

Source: Institute of Psychology and UNICEF (2020)

Main challenges of online learning

Due to the COVID-19 pandemic, classroom-based learning was replaced by distance learning without systematic preparation. The Union of Education Workers of Serbia (USPRS) president told Radio Free Europe that between 10% and 30% of students had COVID-19 virus based on November 2021 statistics, making class schedules challenging to arrange (Vuckovic, 2022). Although distance learning can be managed, teachers, students, and parents have experienced many difficulties. Noticeably, the main challenges were the technical and technological facilities available to teachers, students, and schools and the competencies among teachers, students, and their parents (Institute of Psychology and UNICEF, 2021, 17).

Based on the Institute for Quality Evaluation (2021) survey, the challenges for distance learning are the lack of digital devices, limited access to the internet connection and peers, and the lack of support from the parents (Pfunaucniskup WordPress, 2020, 212). The USPRS president mentioned that many Serbian children could not attend online lessons due to a lack of Internet connectivity. Though some students have access to the internet, their parents cannot buy laptops or computers for their children (Stankovic, 2021). Another challenge is the technical and technological
competencies among teachers, students, and their parents. Additionally, the survey highlighted that the lack of two-way communication between students and teachers is a challenge for distance learning and undermines the quality of distance learning.

Table 3 outlines the reasons why students did not watch televised or online classes. As shown in the table, the most common cause for non-participation was lack of internet connection – this was mentioned in 40% of cases of the total student population and each of the vulnerable categories. No adequate design was noted in 23.6-28.7% of the cases, closely followed by no family support for distance learning (21.3-26.8%).

**Table 3. Frequency of different reasons why students did not follow online classes**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Total number of students not following TV/online classes for a reason concerned</th>
<th>Roma students</th>
<th>Students with disabilities</th>
<th>Students from other vulnerable groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>No internet access</td>
<td>7615 (40.7%)</td>
<td>4865 (40.2%)</td>
<td>1393 (39.7%)</td>
<td>1824 (41.9%)</td>
</tr>
<tr>
<td>No adequate device</td>
<td>4922 (26.3%)</td>
<td>3112 (25.7%)</td>
<td>826 (24.6%)</td>
<td>1249 (28.7%)</td>
</tr>
<tr>
<td>No family support for distance learning</td>
<td>4497 (24%)</td>
<td>3249 (26.8%)</td>
<td>746 (21.3%)</td>
<td>951 (21.9%)</td>
</tr>
<tr>
<td>Other</td>
<td>1692 (9%)</td>
<td>889 (7.3%)</td>
<td>542 (15.5%)</td>
<td>326 (7.5%)</td>
</tr>
</tbody>
</table>

Source: Institute of Psychology and UNICEF (2020)

**Challenges for Students**

The COVID-19 pandemic and the modification in teaching methods have substantially impacted changes in student behavior patterns. This includes a lack of direct social engagement and excessive use of digital devices and the Internet (Popović-Ćitić et al., 2022, 13). Consequently, teachers reported that 58% of the students have low commitment to fulfill school obligations and low participation in-class activities (Popović-Ćitić et al., 2022, 6). Similarly, most parents reported
that 66% of students aged 7 to 17 lost motivation, and 18% lacked a proper environment to learn at home (UNICEF, 2021, 51). More significantly, distance learning made it hard for students to focus on the studying process. UNICEF’s study indicated that more than 40% of children have trouble focusing (UNICEF, 2021, 17). While studying online, students are nervous and irritable. A study by the Institute of Psychology and UNICEF (2021) also indicated that most students experience feelings of anxiety, withdrawal, loneliness, and being overwhelmed. Increases in nervousness and irritability were most common among children: 42% of children aged 7–12 had these at least once, and 44% of those aged 13–17 had them. 18% of students increase social exclusion (Popović-Ćitić et al., 2022, 13). To illustrate, during the school closure in 2020, a 12-year-old boy wrote a letter in one survey that:

"Dear friend from another country, it looks like you will be starting distance education; I have already gone through it. It was not terrible, each week became more challenging, each task more demanding, each homework more and more extensive, with the worst that the curriculum got increasingly difficult, without a teacher to explain it appropriately (...). Sometimes you will maybe feel empty, alone, stupid, even depressed, but do not let this prevent you from moving on, do not let it prevent you from enjoying your life, even if it is hard. Maybe this isn't really encouraging, but you have to know that you are not alone."
(Cerović, Mićić, & Vračar 2021, 1)

**Challenges for teachers**

Globally, the Covid-19 pandemic exacerbated global fear, worry, and mental health issues. Teachers have taken a double hit. Primary school teachers mentioned that they still lack digital skills, technical support, and time to develop distance learning materials (Ranjelovic, 2021, 34).
Another thing is the lack of collaboration with parents makes it harder to prevent risky behavior during the COVID-19 and post-COVID periods.

Teachers need to prepare a lot more for distance learning, creating more burdens for them. They further claimed that the new teacher model increases administrative tasks. An education expert argued that, for younger teachers, it is easier for them to shift to online learning (E4). Additionally, teachers have difficulty assessing and evaluating students' performance and progress even though Serbia offers a digital competency curriculum for instructors and tests their capacity to use digital technologies for student evaluation before the pandemic (World Bank Group, 2020, 15). However, 43% of teachers mentioned that it is challenging for them to teach online, and 45% find it hard to evaluate the teaching process (Popović-Ćitić et al., 2022, 8). Additionally, around half of the teachers stated that they feel exhausted during and after teaching online. They also added that their work has more pressure and stress (Popović-Ćitić et al., 2022, 10).

Even though it seems challenging, the 2021 CEPORA report highlighted that half of the teachers are still happy and motivated as they get involved in their work more than before the pandemic. They manage to cope with increased workload and stress while maintaining a high energy level.

**Challenges for parents**

Due to the pandemic, the economic burden on the families increased. Parents play a crucial role in supporting their children's education with the new teaching model, as most curriculum activities occur at home without instructor oversight. However, parents lack knowledge and digital competencies for providing learning support to children. As an illustration, one of the parents told BBC Serbia that mathematics, physics, and chemistry are the most difficult subjects that are difficult for hard to explain to their children (Stanković, 2021). If they do not have money to support them for private lessons, their children's grades will be wrong. One more thing, because
of online learning and remote work, adults may have more absences from work to spend on taking care of children.

Moreover, parents cannot support their children's learning because of time constraints. Parents reported spending two hours daily on their children’s education, children aged 7 to 12, and approximately one hour daily assisting their children aged 13 to 17 (UNDP and UN Serbia, 2021, 20). 36% of the parents found it hard to parent during the school closure, and 58% said it was difficult to fulfill their parental responsibilities (UNICEF, 2021, 15). Parents who need to work from home cannot entirely focus on their work as they need to spend some time with their children (China-CEE Institute, 2020b, 2). In addition to that, securing enough devices for children was an additional problem when parents needed to share their laptops with their children (E3). In the third wave of research, 29% of parents report a decline in their mental health (UNICEF, 2021, 16).

“<…> and just anecdotes from a friend, you know that she enters the room of her son and he's like sleeping, you know, but there is a phone next to him, and she's saying, don't you have like a physics class or something? He says yeah, I'm on it, you know, you see, and then there is on his phone, there is Teams or something, I don't know what is going on. And he said, Yeah, I'm just, you know, it's here and there just, you know, refresh the page or something like that, you know, and this is frustrating, especially for parents with, you know, higher ambitions and you know, for that they're witnessing actually how this is impacting the learning of their children.” (E2)

**Equity and Distance Learning**

Vulnerable students are categorized into three main groups: Roma students, students with disabilities, and other vulnerable students (low socioeconomic status, migrants, refugees, and others). The most vulnerable group named from the various sources, including interviews, is Roma
students. For vulnerable students, there is an alternative form of support (Institute of Psychology and UNICEF, 2020, 10). In primary school, 83% of Roma students need more support in addition to distance learning (Institute of Psychology and UNICEF, 2020, 8). Nevertheless, only 27% of them get the support, whereas the other 17% do not have access to distance learning in any form. For secondary school students, 91% of Roma students were required to access distance learning. Only 74% of them can access it, while 17% attended education through the additional support, and 9% do not have any access at all (Institute of Psychology & UNICEF, 2020, 7). Moreover, refugee students are much affected due to their barriers in language and lack of digital devices, and their parents could not support them much (UNDP & UN, 2020, 30). The results are illustrated in Table 4 below:

Table 4. Students not covered by distance learning, by education levels

<table>
<thead>
<tr>
<th>Students not covered by distance learning by education levels</th>
<th>Primary schools</th>
<th>Secondary schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roma students in need of additional educational support</strong></td>
<td>2478 (17%)</td>
<td>120 (9%)</td>
</tr>
<tr>
<td><strong>Students with disabilities</strong></td>
<td>431 (4%)</td>
<td>48 (3%)</td>
</tr>
<tr>
<td><strong>Students from other vulnerable groups</strong></td>
<td>1008 (6%)</td>
<td>151 (33%)</td>
</tr>
</tbody>
</table>

Source: Compiled by student based on Institute of Psychology and UNICEF (2020).

**Learning Losses**

The educational process plays a significant role in developing distinctive behavioral, social, and emotional difficulties in students (Popović-Đit et al., 2021, 13). The quality of distance learning is different from onsite education. While the MoESTD claims it is the best solution for students, the professional public, parents, and unions argue otherwise (Vuckovic, 2022). Distance learning provides a new learning environment for both students and teachers. A U-Report Survey conducted by UNICEF reported that 36% of students mentioned that online learning has poor quality, and
35% claimed that online learning lacks interaction (U-Report Survey, 2020). 60% of students said they learned less, and 33% mentioned that communication between students and teachers is confusing and burdening (U-Report Survey, 2020). As the education expert mentioned, “we can try to learn outside the school; however, it is not structured or systematic” (E3). This means that even when parents, grandparents, or peers could help the children in distant learning, it is not the same as the teachers could do – “the learning loss it seems is evident” (E3). As the class is shortened to 30 min, it diminishes the quality of learning. The number of teaching hours is an essential factor in learning and maintaining the quality of teaching during a pandemic (World Bank Group, 2020, 6).

In another research conducted by UNICEF in Serbia, 58% of the parents mentioned that the quality of learning is worse for their children during the pandemic (UNICEF, 2021, 51). Sometimes online classes are chaotic and not well-organized and depend on the teachers (Randjelovic, 2021, 18). Additionally, 60% of the parents claimed that the COVID-19 pandemic negatively affected their children's further education (UNICEF, 2021, 17). The World Bank report (2020) indicated that the PISA's reading score would drop from 405 to 397 despite the remote learning. The case of academic dishonesty and the lack of discipline has also risen. 72% of children spend excessive time playing games and social networks (Popovic-Citic et al., 2021, 14). Children spend more time on digital devices in their free time during the pandemic (UNICEF, 2021, 69). Parents claimed that their children experience all aspects of mental changes. (UNICEF 2021, 71). 19% of children aged 7–12 and 23% of children aged 13 to 17 have mental health issues (UNICEF, 2021, 17). Parents also noticed that their learning habits are decreasing, and students are losing the sense of what needs to be done; it is hard for them to keep their attention (E2).
For primary education, 61% of their parents mentioned that distance learning would harm their child's future education (UNICEF, 2021, 61). For secondary education, 35% of their parents believe that the shorter classes impact the quality of education (UNICEF, 2021, 61). At the same time, the same percentage claimed that there was no impact because teachers adopted this new mode of teaching, whereas 8% believed that this method of instruction had a beneficial effect on children's attention.

Learning losses could also be associated with the deterioration of the student's well-being. All the students were affected by the switch to online learning. As the education expert stated, the issue of the emotional and psychological well-being of students needs to be addressed (E3). Even though there was no large-scale governmental response to the psychological needs of the students, UNICEF, together with the Ministry and support from the European Union, is building the resilience of education systems to emergencies, primarily targeted to the marginalized groups (E3). Every school that participates in the piloting project has a school pedagogy and a counselor. In every school, it is now not a teacher of any subject but is the education specialist who provides the psychosocial support. In addition, the psychologist society of Serbia and the Society of Pedagogy of Serbia joined the UNICEF in creating the webinars and materials on how to educate education institutions authorities (E3).

**Some conclusions**

Due to the extensive spread of the COVID-19 virus, the Serbian government decided to close schools throughout the country. This learning disruption resulted in significant learning losses for primary and secondary school students. Despite the government's efforts to implement various teaching modalities, learning is not comparable to in-person classes. The majority of students continue to lag in their studies because they face many difficulties emotionally and academically.
during distance learning. Moreover, the pandemic impacted the parents and the teachers in several ways. An important outcome is the deterioration of mental well-being due to the rise in burden and responsibilities.

Therefore, teachers shall be well-trained with additional skills that will enable them to effectively facilitate and adjust their teaching methodologies to promote interaction and the needs of their students. Psychological support shall be incorporated into the curriculum to enhance students' well-being (UN, 2020). Furthermore, during the epidemic, parents play a critical role in helping to educate and check their children's academic progress. In this scenario, the government should provide sufficient support to parents in using home-based learning methods to lighten their load and ensure effective learning (World Vision International, 2020).

**Conclusion and recommendations**

There was no role model for the management of pandemics in the education sector. The most important lesson for the education system is that teaching does not need to be wholly disrupted even by a pandemic. Some countries did better, which can be explained by the lower inequalities between children and already ensured access and better developed digital skills by both children and teachers (Office for Civil Rights, 2021).

The situation before the pandemic in the three case countries differed from levels of internet connectivity to the standardized PISA scores. Figure 3 below depicts the students' reading, mathematics, and science performance in 2018 before the pandemic. Kosovo scored least in all three reading, mathematics, and science fields, while Serbia was leading among the three analyzed countries. Scores in mathematics were the best of the three fields overall, while in reading, which reflects students' literacy rates, Kosovo had the worst results. None of the three countries reached
the OECD average. In reading and science tests, girls' score was higher than boys in all three countries, while boys performed better in math tests (PISA 2018).

Figure 3. Students' performance in reading, mathematics, and science

Source: Compiled by the students based on PISA (2018)

In terms of the individuals using the Internet, Kosovo had the highest percentage of the population using the internet (89%) before the pandemic in 2018. In Bosnia and Herzegovina, on the other hand, only 70% of the population uses the internet, while in Serbia it was 73%.
The five main recommendations arise from the analysis above, the education situation during COVID-19, and the available data. First, the countries need to be better prepared regarding ICT and Internet access (Ekholm & Fore, 2021; Internet Society, 2017). Second, more emphasis should be put on the teachers' digital skills (Falloon, 2020; Fau & Moreau, 2018). Concerning that, more workshops and assessments need to be provided to ensure that teachers can move to online learning when required. Since the pandemic situation is already better in most countries regarding the new COVID-19 cases, the workshops could be held onsite, not online, to reach better results. Third, and most importantly, the learning gap between students must be narrowed (E1; E2; E3). The inequality gap between those from cities and peripheries and between disabled and minority students is vast, which results in an ever-widening gap when an emergency such as COVID-19 arises. Thus, governments should find ways to narrow the existing inequalities gap between all students. Fourth, the online learning platforms need to be prepared and maintained to ensure that
students have clear communication and online learning platforms and are not confused between many different means of communication (E1; E2; E3). Fifth, it is vital to ensure that students, teachers, and parents have proper access to psychological support (Dawes et al., 2021; Hart & Han, 2021).
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