

REMOTE LEARNING (E-LEARNING) IN THE REPUBLIC OF NORTH MACEDONIA: CHALLENGES AND FUTURE STEPS



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Author: Natalija Shikova

Professional collaborator: Iskra Belcheva- Ristovska

Editor: Neda Maleska- Sachmaroska

Translation: Gordan Tanaskov

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1. INTRODUCTION

Covid-19 brought a new reality to the world. In trying to cope with the so-called "invisible enemy" the countries have different approaches, but in view of the abrupt and overall impact on the economy, the education is also one of the sectors that was mostly affected. In order to prevent the pandemic from spreading, most governments around the world have temporarily shut down educational institutions at all levels. The consequences of the forced interruption of the teaching process are far-reaching, and this measure had direct impact on 60% of the world population, that is, on the population covered by the educational process¹.

The transition from classroom to e-learning (or electronic teaching) is not an easy task, because, in addition to relevant technical infrastructure and a certain level of knowledge of digital skills, the implementation of the learning process also requires great support from the family. This situation created extreme stress not only for the teachers, who were pushed into a new and unexpected task, but also for the students because they had to switch from daily school activities and the way they were used to socialize among themselves to teaching assignments received electronically. Many parents found themselves under tremendous pressure in trying to help their children adjust to the rapid change as quickly and as painlessly as possible.

The electronic teaching is not easy. It requires significant organizational energy and creativity that must be at a high level in order to attract the attention of the students (who, in many cases, have even greater digital literacy skills compared to their teachers). As expected, the electronic teaching aspects are different for students of different educational levels because they have a different level of independence in attending the e-learning class.

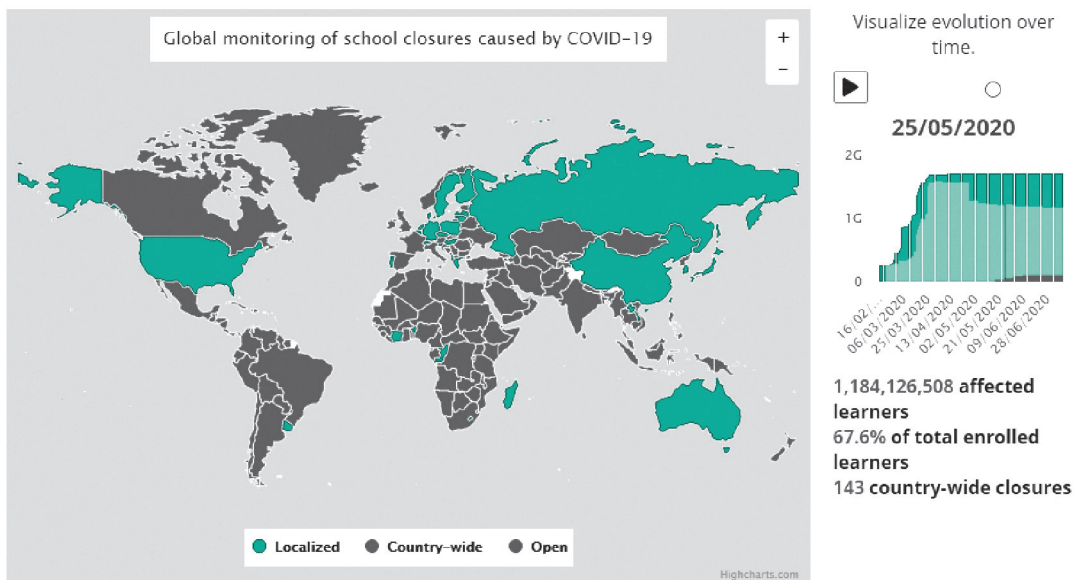
In addition, the overall blockade of the society made the technology in the educational process to be considered as a *conditio sine qua non*, that is, as an indispensable and essential activity, and is no longer perceived as a luxury in itself. Very often, and this is especially the case in the poorer countries, there is unfounded assumption that all students and teachers have individual access to broadband Internet and to latest computer hardware, while the reality is that there are families who rely on only one smartphone. The access

¹ <https://en.unesco.org/covid19/educationresponse/>

to Internet is one of the main issues, hence in this crisis the students from poorer families are the ones that are mostly affected. They loose much more from the learning process during the weeks spent outside the school premises, compared to their peers who have a better social position. The "digital gap" exists and must be adequately addressed, so many countries around the world are airing their education programs on television for free in order to reach those who are not connected to the Internet.

The current situation shows that there is no unified national approach to tackling this global challenge. Organizationally, many things depend on a pre-established infrastructure for implementing e-learning, that is, IT structure, skills and digitalization of the educational process. The national policies also depend on the educational models that are used, that is, the response to the crisis is different between countries that have a centralized education system, compared to those where the schools enjoy greater autonomy in the preparation and implementation of the teaching process.

Picture 1. National approaches to the global pandemic challenges



Source: UNESCO

Since it is becoming more and more obvious that the organizational challenges around the educational process will last for a longer period of time, it is necessary to be ready to face them, that is, to design and implement an approach that will be most appropriate to the existing, national educational model. In an attempt to contribute to the creation of measures that would address the challenges, we have prepared this analysis on how remote learning was implemented in the Republic of North Macedonia, what challenges we faced and what are the future steps we propose to be implemented.

The analysis includes several segments:

1. Analysis of the legal framework of the Republic of North Macedonia for implementing remote learning during the emergency situation due to the COVID-19 pandemics.
2. The findings obtained through a survey of parents with children involved in the educational process in order to obtain their views and attitudes.²
3. Findings and responses from teachers and administrative staff in elementary and secondary schools so they can provide their professional views,³ focus-groups consisted of individuals directly involved in the implementation of the remote learning.
4. Comparative analysis of experiences proven to be efficient in the implementation of remote learning.

The analysis covers the implementation of the measures implemented for remote teaching in the period March - June 2020. It summarizes the knowledge and generalizes it in order to draw valid and applicable lessons from it, but it also includes specific recommendations that directly concern all the stakeholders involved in the educational process in our country. The main objective is to contribute towards devising approach, and application thereof, that would be appropriate for efficient implementation of the educational process in the future, if due to this or a similar crisis situations, remote learning is something that must be implemented, but also modernization of the education in that direction, in order to meet the contemporary challenges.

² The survey was conducted in July 2020 on a sample of 700 people from the entire national population, 300 of which were parents of children involved in the educational process and were able to respond to the survey.

³ The survey was implemented during June and July 2020 and covered around 300 teachers and administrative staff in 33 schools nationwide.

2. LEGAL FRAMEWORK FOR IMPLEMENTATION OF REMOTE LEARNING IN THE REPUBLIC OF NORTH MACEDONIA

The education in the Republic of North Macedonia is arranged with three systemic laws: Law on Elementary Education, Law on Secondary education and the Law on Higher Education.⁴ Additionally, there is Law on Teachers and Professional Associates in the Elementary and Secondary Schools in the area of elementary and secondary education⁵ as well as a number of bylaws (rulebooks, guidelines and similar), such as: Rulebook on the manner and scope of work tasks within the business hours of the teachers and professional associates during a 40-hour working week; Rulebook on the organization and manner or implementation of the additional and optional teaching in the elementary schools, etc.). This framework does not envisage remote learning, that is, it does not recognize it as a model valid for learning.

The COVID-19 pandemics brought a new reality, so the Macedonian government addressed this void by adopting Ordinances with legal effect during the state of emergency.

The intention of the ordinances is to overcome the shortcomings identified in the national education system, that is, they are an attempt to respond to the current challenges. In a situation of pandemic and physical interruption of the teaching process, three of the Government ordinances referred to elementary education, three to secondary education and four to the area of higher education, but they mainly cover technical aspects and regulate very little the actual educational process. Most of the ordinances

⁴ Law on Elementary Education (Official Gazette No. 161/2019), available at: http://www.mon.gov.mk/images/Zakon_za_osnovnoto_obrazovanie_br_161-2019.pdf; Law on Secondary education (Official Gazette of the Republic of Macedonia No. 44/1995, 24/1996, 34/1996, 35/1997, 82/1999,29/2002, 40/2003, 42/2003, 67/2004, 55/2005, 113/2005, 35/2006, 30/2007, 49/2007, 81/2008, 92/2008,33/2010, 116/2010, 156/2010, 18/2011, 42/2011, 51/2011, 6/2012, 100/2012, 24/2013, 41/2014,116/2014, 135/2014, 10/2015, 98/2015, 145/2015, 30/2016, 127/2016, 67/2017 and 64/108) available at: <http://mon.gov.mk/stored/document/zakon-za-sredno-obrazovanie-precisten.pdf>; Law on Higher Education (Official Gazette No. 82/2018), available at: http://www.mon.gov.mk/images/documents/zakoni/ZAKON_VISOKOTO_OBRAZOVANIE-final.pdf

⁵ Law on Teachers and Professional Associates in the Elementary and Secondary Schools (Official Gazette No. 161/2019), available at: http://www.mon.gov.mk/images/Zakon_za_nastavnice_i_str.sorab_161-2019.pdf

focus on the administrative aspects, such as the extension of the employment relation of teachers or administrative staff in the schools, election of governing bodies, etc., and they barely include a developed plan for organization and for specific implementation of the remote learning. Additionally, there are no publicly available rulebooks, guidelines, or any instructions for organizing remote learning, nor rulebooks on how to do the assessment. The only document in that direction is the Protocol for acting in public and private higher education institutions, that is, in their constituent units during the exams. The Protocol sets out measures for taking exams in the premises of the higher education institutions (both public and private) intended to ensure protection against COVID-19⁶. As for elementary and secondary education, the EDUINO website (National Learning Platform which, at the time of making this analysis, is not fully functional)⁷ includes only guidelines on how to organize digital activities, presented through a two-minute video prepared by the Macedonian Center for Civic Education. There are certain video tutorials and open resources on the website intended for the educational staff, but they are scarce and insufficient, and generally refer to educational programs delivered in Macedonian language.⁸

This analysis also shows how the remote learning was regulated in the Republic of North Macedonia in the current pandemic situation. Our intention is to point out the gaps in the process so that acts can be adopted as soon as possible that would amend and supplement the existing legal framework on all levels of education, with the ultimate objective of establishment of quality remote learning and ensuring its continuity.

Elementary education

After the cancellation of the teaching process, which happened on 13 March 2020, and after the declaration of state of emergency, an Ordinance with legal effect was adopted which determined that the teaching will take place through remote learning, that is, learning from home, using electronic communication means that ensure delivery of the teaching process without physical presence of the participants in the teaching process – using means that enable mutual, two-way communication.

The Ordinance established the following means of electronic communication: video conferencing platforms, e-mail and other electronic data exchange systems. The elementary schools had the discretion to decide which of these means they will use. Therefore, any school was given the opportunity to choose whether to use video conferencing platforms

⁶ http://www.mon.gov.mk/images/documents/protokoli/Protokol_visoko.pdf

⁷ <http://www.eduino.gov.mk/al/index.html>

⁸ The EDUINO platform aims to grow into a collective platform where the students, teachers and parents will create, review and publish new resources and materials, and thus the country plans to build its first national library of digital educational materials.

and whether to conduct live teaching, or the "teaching" will be done by e-mail, that is, the students will receive the teaching assignments by e-mail or other means of electronic communication, without actually having teaching hours. The Ordinance stipulates that the teacher can assess the student by questioning, testing, but can also use other forms of determining and assessing the knowledge through electronic means of communication.

Ordinance with legal effect was adopted on 5 May 2020 which supplemented and amended the Ordinance adopted on 23 March 2020. It includes additional changes to the Law on Elementary Education, however, these additional changes are not related to the way in which the teaching process is delivered but cover other, formal aspects of the educational process, such as participation fees for competitions, enrolling children in the first grade and similar. This Ordinance reduced the number of mandatory hours (that used to be 180 according to the Law) and introduced acceptable tolerance threshold of minimum 160 to maximum 180 hours for the remote learning process/ learning from home using electronic communication means. These changes pertain only to the 2019/2020 school year.

The most recent Ordinance with legal effect regarding elementary education and changes and amendments to the respective law was adopted on 17 May 2020 and refers to administrative aspects (extension of the labor relation period of the teachers and the administrative staff, etc.). In other words, this Ordinance does not regulate issues that are directly related to delivery of the teaching process.⁹

Secondary education

The Ordinance with legal effect for implementation of the Law on Secondary Education was adopted on 23 March 2020 and follows the same logic as the Ordinance with legal effect for implementation of the Law on Elementary Education. This Ordinance includes definition of a 'mean for electronic communication' and sets out how to resume the teaching process. The secondary schools are also provided with discretion to choose how they are going to resume the teaching process (either with use of electronic platform or with electronic communication) and this Ordinance also sets out the process of assessment, which is the same as the one defined in the Ordinance for elementary education adopted on 13 March 2020.

The Ordinance with legal effect adopted on 5 May 2020 sets the end of the school year to be 10 June 2020 or 19 May 2020 for the students in the final years of secondary education. These students in final years are relieved from the obligation for taking state matura for the 2019/2020 school year, including school matura and final exams, and they

⁹<http://www.mon.gov.mk/index.php/2014-07-24-06-34-40/pravilnici-2/3161-uredba-so-zakonska-sila-za-primena-na-zakonot-za-osnovno-obrazovanie-za-vreme-na-vondredna-sostojba>

are issued with graduation certificate for secondary education (only for that specific school year). The rest of the provisions in this Ordinance are administrative in nature and pertain to the organizational setup and school management (mandate of the management bodies, etc.). Furthermore, the Ordinance with legal effect adopted on 17 May 2020 is about to administrative-technical affairs and does not include provisions that are directly related to delivery of the teaching process.¹⁰

The Ordinance with legal effect adopted on 17 June 2020 is about awarding financial assistance for purchasing school supplies for students enrolled in the public secondary schools, that is, assistance for students from low-income households. This support includes student supplies necessary for the teaching process, such as drawing paper, writing supplies, sports equipment and similar, but it does not pertain to assistance for purchase of ICT (laptop, tablet, computer, IT logistics) required for remote learning. This is one-off assistance, can be used from September 2020 and amounts to 3,000 denars. Given those details, it is clear that this assistance is insufficient and inadequate to meet the new, but now already essential, technical needs for delivery of the electronic teaching process. According to the Ordinance, applying for this financial assistance is done via Internet platform of the Ministry of Education (which, in turn, requires having IT equipment and minimal digital skills).¹¹

Higher education

The Ordinance with legal effect adopted on 23 March 2020 extended the mandate of the higher education institution bodies. This goes for the public scientific institutions and the validity period for the existing accreditations or re-accreditations of the study programs. It establishes remote learning as a manner of delivery of the teaching process and verification of knowledge using electronic communication means. The higher educational institutions or the public scientific institutions have the discretion to choose/ define which means they are going to use. This Ordinance is more detailed compared to those adopted initially covering elementary and secondary education (although the universities enjoy legal autonomy, compared to elementary and secondary schools) and points out that taking exams and colloquia will be done using electronic means of communication, under condition that relevant technical solutions are provided that enable identification and control of the students' work during the exam. The rest of the provisions refer to the mandate of the management persons, the work of the professional services and extension of the accreditations period that continue to be valid for up to one year from the termination of the state of emergency.

¹⁰<http://www.mon.gov.mk/index.php/2014-07-24-06-34-40/pravilnici-2/3166-uredba-so-zakonska-sila-za-primena-na-zakonot-za-srednoto-obrazovanie-za-vreme-na-vonredna-sostojba>

¹¹<http://www.mon.gov.mk/index.php/2014-07-24-06-34-40/pravilnici-2/3297-uredba-so-zakonska-sila-za-dodeluvanje-na-finansiski-poddrshka-na-uchenici-zapishani-vo-javnite-sredni-uchilishta-za-kupuvanje-na-uchilishen-pribor-a-koi-se-od-semejni-domakjinstva-so-nizok-dohod-za-vreme-na-vonredna-sostojba>

The Ordinance with legal effect adopted on 5 May 2020 again regulates the accreditation process (validity of the existing programs and bodies) but it also establishes conditions for enrollment, now on the basis of diploma for completed four-year secondary education finalized in the 2019/2020 school year – all in accordance with the Ordinance with legal effect adopted on 5 May 2020 for implementation of the Law on Secondary Education during a state of emergency.

The Ordinance with legal effect adopted on 22 May 2020 allows physical taking of exams if the higher education institution adheres to appropriate protocols for prevention of the spread of COVID-19. The Ordinance even allows physical presence at classes, the presence of professional services, as well as direct communication for passing and defending of final exams, but only if the protocols are observed and if the necessary protection is provided.

The most recent Ordinance with legal effect from 5 June 2020 establishes the scholarship fee, the fee for enrolment on doctoral studies and for accreditation and re-accreditation of study programs from the third cycle of studies, including procedures for election of management bodies of the higher educational institutions.¹²

¹²<http://www.mon.gov.mk/index.php/2014-07-24-06-34-40/pravilnici-2/3165-uredba-so-zakonska-sila-za-primena-na-zakonot-za-visoko-obrazovanie-za-vreme-na-vonredna-sostojba>

3. DELIVERY OF THE REMOTE LEARNING

ATTITUDES OF THE STUDENTS' PARENTS

Methodology and demographic data

In order to obtain views and opinions from parents of the children included in the education system, a telephone survey was conducted regarding implementation of the remote learning, where the parents were asked to assess its quality and how satisfied they are with this type of teaching, including challenges they face in the realization of this complex process, but also whether they are ready for the upcoming new school year. The survey was conducted in Macedonian and Albanian, on a sample of 700 respondents, of which 300 respondents could actually answer the questions because they have a student in the family, and the survey was conducted nationwide. Most of the respondents (42%) were aged 40–49 years; and most of the respondents were men (53%), mostly Macedonians (66.3% of the respondents were Macedonians, 25% Albanians and 8.7% of other ethnicity). Half of the respondents have completed secondary education (55.7%), while a quarter of them (24.7%) completed high or higher education. The respondents mostly work in a private institution (40% of them), while a quarter of them (25.7%) are employed in a public institution. Dominant part of the respondents (62%) lives in urban environment, that is, in the Skopje region (29.7%). In terms of marital status, almost all respondents (93%) live in a marital union and have children in the education system. Almost half of the respondents (48.5%) have children in elementary school, a third (33.8%) have children in secondary school, and a smaller percentage of the children of the respondents (17.7%) are university students.

The data was collected between 1 and 10 July 2020.

Ascertainments

Time spent in teaching

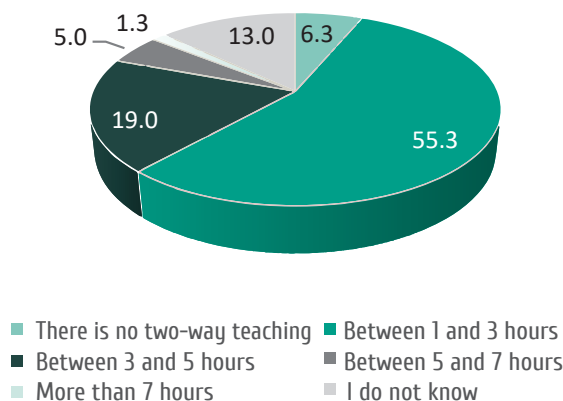
According to majority of the parents, the students spent between 1 and 3 hours a day for their educational obligations (51.3%). A smaller number of students (according to 29.7% of the respondents) dedicated 3 to 5 hours a day to learning. The number of students who spent more than 5 hours in school is small (6.3%), and according to the answers of the respondents some of the students (2%) dedicated even more than 8 hours a day to the teaching, although this was rare.

Within this statistical category, if we consider the distribution of the respondents by settlements, the number of students who attended teaching for more than 3 hours a day is significantly higher among the students from urban areas, while the students from rural areas attended classes mostly between 1 and 3 hours per day

However, the above-mentioned statistics actually show that the perception of the respondent parents in relation to time the schools/ educational institutions really dedicate to practical organization and implementation of the remote learning is correct. Namely, more than half of the respondents (55.3%) say that the school of their children actually organized two-way remote learning lasting only 1 or 3 hours a day. In a smaller number of schools (19%), the teaching lasted between 3 and 5 hours a day, and the number (6.3%) of schools in which there was no remote learning is minor (Table 1).

Table 1

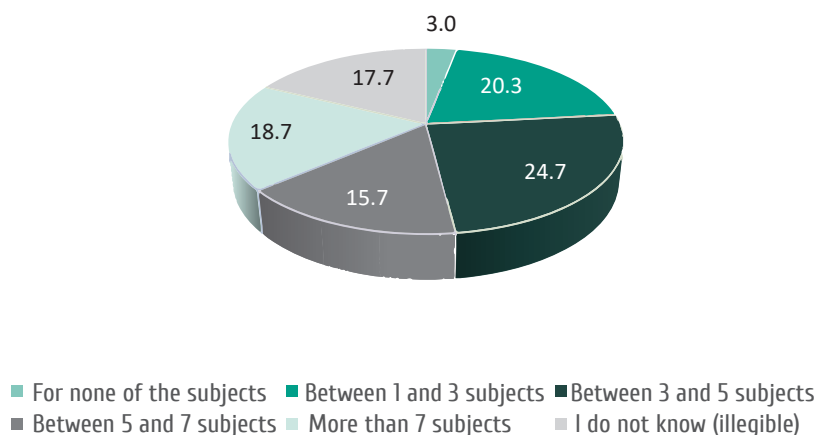
How many hours per day did the school organize online teaching (two-way, with discussion between the teacher and the students)?



On the other hand, the two-way remote learning was not organized for all teaching subjects. According to the respondents, there was teaching for only 1 or at most 3 subjects (20.3%); in quarter of cases the teaching was organized for 3 or 5 subjects (24.7%); and there is small number of cases (15.7%) where remote learning was organized for 5 or 7 subjects. However, there were 3% of cases when two-way remote learning was not organized at all (Table 2).

Table 2

For how many different teaching subject was online (two-way) teaching organized?



In comparison, the number of teaching subjects for which teaching was organized in secondary schools is higher than that in elementary schools. Specifically, for example, the percentage of secondary schools in which 7 or more subjects were taught is 25%, compared to 15.7% in elementary schools.

Technical prerequisites for attending the teaching process

According to the answers of the respondents, in the Republic of North Macedonia the children did have appropriate technical means for delivery of the remote learning. The parents say that the children used a computer (43.2%) in the educational process, a tablet (39.7%), additional devices, etc., and only a small percentage of the children (0.9%) did not use anything, that is, did not attend the remote learning. For the most part, the children had sufficiently available or unlimited Internet (89%). A small part of the children did not have adequate conditions for remote learning – they had poor internet (7%) or they did not have it at all (3%), in other words, their internet was limited. According to the views and opinions of the respondents, the students do have appropriate technical knowledge to smoothly attend the remote learning (93.7%).

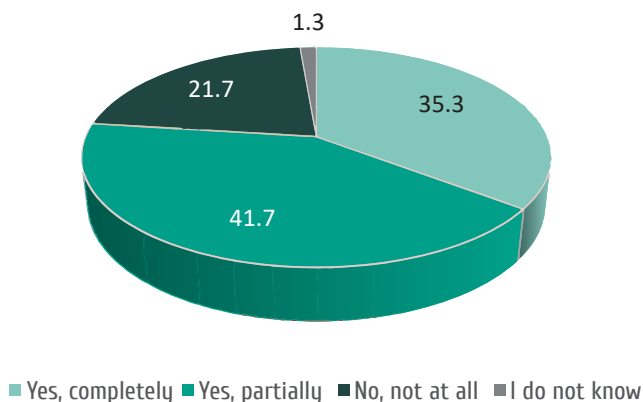
These findings in the survey are different from the public reactions, usually from parents, that were raised during the implementation of the teaching process, in the period March – June 2020, saying that many students do not have means for normal participation in the teaching process. A number of civic organizations became active in efforts to provide computers to vulnerable groups of students (one example is 'Donate a Computer' <https://www.facebook.com/donirajkompjuter/>) but these efforts are insufficient, although they deserve to be commended. On the other hand, the Ministry of education and Science did not publicly present how much equipment is needed, or what Internet is needed, for meeting the needs of the both the students and teachers so that everyone who wanted and may, could help.

Assistance during the learning process

Half of the parents-respondents helped their children with learning. Of those who helped them, 65.2% spent 1 to 3 hours a day learning with the children. This percentage is lower for parents who have children in secondary schools than for parents-respondents who have children in elementary schools, and lowest for parents-respondents who have children who are university students. There is a difference of 7.7% between the gender of the respondents - 46.8% of the male-parents answered that they helped the children, compared to 54.5% of the female-respondents.

Table 3

Do you feel ready (both technically and in know-how for some subjects) to help your children in this type of teaching process?



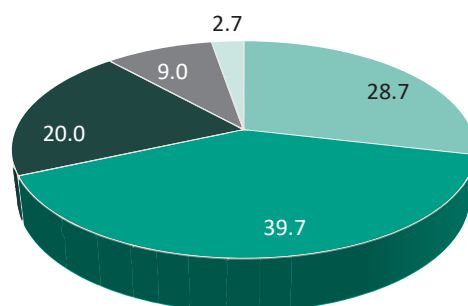
Most of the parents, 77% in total, felt ready (fully and partially) to help their children in the remote learning, and one fifth (21.7%) of the respondent-parents did not feel ready to help their children in this part of the educational process. As expected, the higher the students in the educational process are, the lower the readiness of the parents to provide assistance in the teaching process.

Implementation of remote learning – satisfaction and challenges

Despite the short time spent in learning (see above - *Time spent in teaching*), only 29% of the parents are partially dissatisfied or completely dissatisfied with the teaching process. The other parents-respondents are either fully or partially satisfied with the process of conducting remote learning – a total of 68.4% (Table 4). The respondents from the Polog region are the most satisfied, and the respondents from the Pelagonija region are the least satisfied (79.6% versus 51.5%).

Table 4

How satisfied you are from the online teaching delivered?



■ Completely satisfied
 ■ Partially satisfied
 ■ Partially unsatisfied
 ■ Completely unsatisfied
 ■ I do not know

During the remote learning, the respondents faced certain challenges. Some of them believe that a significant shortcoming of this type of educational process is the insufficient organization, that is, they believe that the Ministry of Education and Science should have structured it much better, and consequently, according to them, the teachers have not been sufficiently prepared to deliver remote classes. The attitude of the respondents is that an additional, unexpected burden fell on them as parents due to the need to help their children in learning, and they themselves were caught by the situation. Some of the parents noticed that the quality of the remote learning was completely inadequate – that

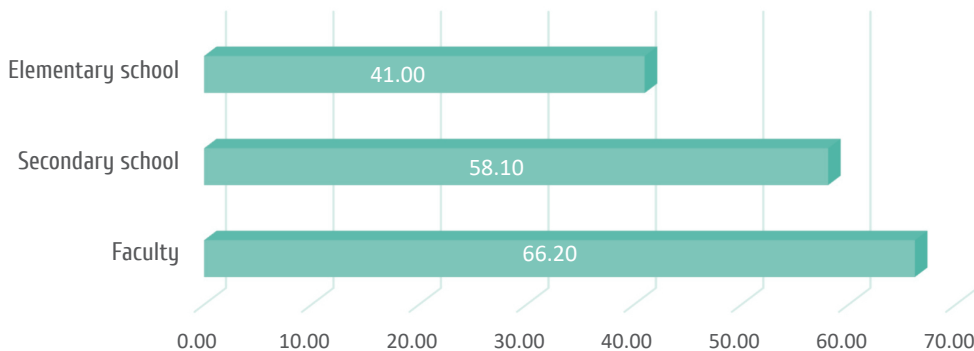
the teaching material was very short, and the students did not pay enough attention to the teaching. Moreover, some of the respondents believe that the assessment was unrealistic, that is, the grades are higher than the real knowledge of the students.

Towards future teaching

The respondents said that, although teaching in school is much better because the authority and expertise of the teachers come to the fore, they still consider themselves to be ready if remote learning would be conducted in the future. In addition, they largely believe that their children are also ready for remote learning, and the percentage of readiness perceived in this way grows in proportion to the level of education. Namely, parents whose children are students believe more than other parents that their children are ready for remote learning (Table 5), but even these 66.2% are far from satisfactory. Regarding information about the next school year, the largest percentage of the respondents (86.3%) answered that they are not informed how the educational process will be taking place.

Table 5

Parents satisfaction from the teaching process implemented in the period March -June 2020, according to the level of education in which their child is involved (in %):



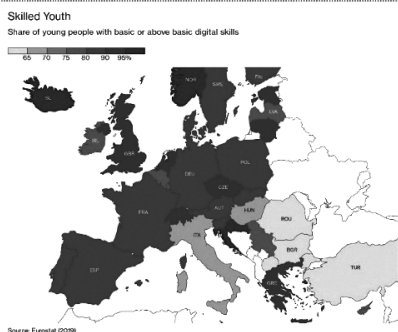
Digital literacy

The digital literacy in the country – the readiness to use ICT in RN Macedonia is measured by the State Statistical Office using several indicators, from which we could take a closer look at the number of people (15–74 years) who ordered or bought products or services via the Internet, as well as what percentage of them telephoned via the Internet/ used video calls (via webcam). The total percentage for the first indicator in the last 12 months is 35.9% for all age groups together, and 64.9% for the second indicator. Because the data on pupils and students is important in the educational context, out of the total number of people who bought products online, less than half (45%) belong to the age group of 15 to 24 years, that is, a low 16% of the total population.

By comparison, the digital skills (measured as a complex index at EU level) are already associated with a the readiness to conduct remote learning across the EU (Picture 2) and they are not at an appropriate level, that is, most of the participants in the process have "basic" or "above basic" digital literacy skills.

Picture 2

Chart of the Day



The coronavirus pandemic has increased the need to work or study remotely and that's bad news for youngsters in Italy, where less than two-thirds of 16- to 24-year-olds have "basic" or "above basic" digital-literacy skills. Croatia, Estonia and The Netherlands lead the rest of the EU with rates above 90%, according to Eurostat data for last year. The lingering fear of a second virus outbreak is likely to exacerbate these inequalities.

Source: Bloomberg, 20.07.2020.

The Corona pandemic has increased the need for remote work and study and this is bad news for young people in Italy, where less than 2/3 of the young people aged 16-24 have "basic" or "above basic" skills in digital literacy. Croatia, Estonia and the Netherlands lead the European Union with over 90% of young people with such skills, according to Eurostat data for the previous year. "The fear of a second wave of virus infections could deepen these differences".

TEACHER ATTITUDES

Methodology

For the purpose of the research, focus groups, interviews and questionnaires were used, and the main objective was to obtain the opinions and attitudes of teachers and staff in charge of the administrative affairs in elementary and secondary schools, and also from those who were directly involved in the implementation of the remote learning. The research was organized in 33 schools, of which 17 elementary and 16 secondary. A third of them were in rural areas (in the countryside) and the rest in urban areas – all located in municipalities in the Northern and Eastern region of the country, including Skopje, as the capital city. Some 300 teachers and administrative staff took part in the opinion survey.

The general conclusion after summarizing the views obtained through the focus groups is that there are no significant differences in the answers of teachers from elementary and secondary education, but there are some differences in the answers of teachers who teach in urban and in rural areas. However, in general, it can be concluded that the opinions of the teachers who participated in the focus groups regarding remote learning, largely coincide.

Attitudes of the teachers and administrative staff in the schools

Most teachers conducted remote learning in only one teaching subject, and a small number of them in more than one subject. This is to be expected when it comes to teacher who teaches one subject. Unfortunately, according to the answers given by the teachers, the teaching usually took place in a form of delivery of materials to the students, with the expectation that they would master the material by themselves, and very rarely the teaching was conducted through "remote lectures" and through additional conversation with the students (as two-way communication). We conclude that this is not in accordance with the adopted Ordinance with legal effect for implementation of the Law on Elementary Education during state of emergency, which in Article 2 explicitly states that the teaching process should be delivered through mutual two-way communication - in reality, the communication was predominantly one-way only: from the teachers to the students.

The teachers who were delivering teaching used a variety of tools, such as the ZOOM, KAHOOT, Microsoft teams and more. With these tools, the teachers were in communication with the students, but they do not think that such communication is on the same level as the communication with the students when they are in school. The teachers also often used social media as a means of communication.

The teaching staff was in communication with the parents, but such communication took place only when necessary. The exception is communication with those parents whose children attend class teaching and who needed more help in mastering the teaching material. It was the involvement of the parents in the educational process, that is, their support to the children, that provoked biggest reactions and dissatisfaction in the public. In terms of the necessity for involvement of parents, the teachers point out that it is especially difficult to work with the younger students – in order to ensure effective teaching process, continuous communication with these students is necessary.

The modern electronic tools enable two-way communication. Therefore, the teachers must be required to deliver the teaching via screen, with simultaneous presence of the students, and not by sending assignments in one direction and expecting that the parents will have the role of teachers.

According to the teachers, most of the students were motivated, but the motivation decreased over time, and especially decreased at the end of the school year. It is interesting to note that in this type of teaching, in certain cases, the weaker students showed greater interest and better results than in the common, traditional teaching.

In terms of assessment, the teachers assessed the students summarily, online, by assessing their homework and by assigning teaching projects. The teachers also did electronic tests, assessed the activity and took into account the past labor. No remote learning was implemented for some teaching subjects, such as music or physical education, so the most recent grades of the students were taken into account in the assessment. According to teachers, the most difficult to organize was the practical teaching, such as the one in physical education, art and music subjects, but no less complex was the teaching of natural sciences such as mathematics, chemistry and physics, especially when it comes to complicated tasks, which were difficult to explain through the existing electronic platforms. The English language, as a teaching subject, also proved to be difficult to organize.

Most of the teachers did not do statistics about the entire process, meaning they are unable to categorize and evaluate their experiences. Opinions are divided on whether the curricula are properly adapted for the age groups of students, so the opinions on the future of remote learning are also divided. According to the teachers, it is most difficult to work with the group of youngest students who are beginners in the educational process – the first graders, followed by the students from the class teaching (from first to fifth

grade), then with the students in the final year of elementary education. It is also difficult to work with first-year secondary school students.

It is most difficult to work remotely with students who are in the so-called "transitional educational periods":

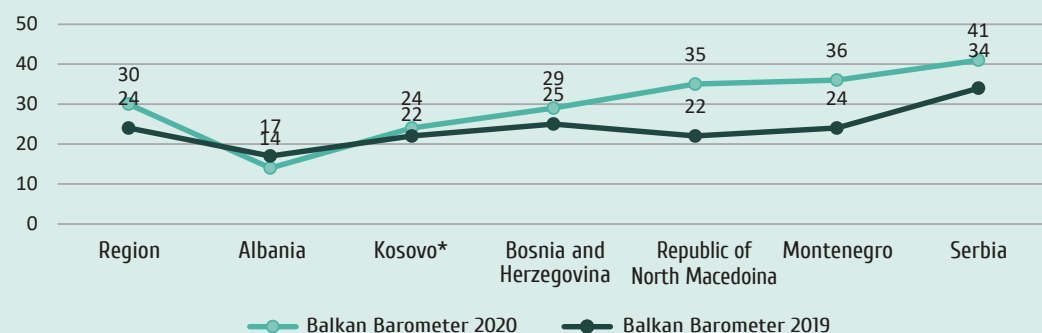
- First graders
- First years of class teaching
- First year of subject teaching (sixth grade)
- First year of secondary education

The conclusion of most teachers is that students are not yet fully prepared for remote learning, but that they can adapt more quickly to the new situation.

The trend of increased use of Internet tools for educational purposes has accelerated in all countries in the Balkans, including N.Macedonia, so we hope that this will contribute to faster and better adaptation to remote learning (Table 6).

Table 6

Have you used the Internet for the following?

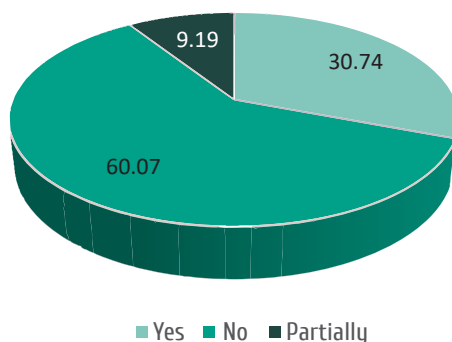


Source: Balkan Barometers, Regional Cooperation Council, June 2020¹³.

Prior to the COVID-19 pandemic crisis, most teachers never delivered remote learning and were not trained for remote learning, so during the crisis they were left to their own devices (Table 7). To delivery of the teaching process, a small number of teachers used the Eduino platform, proposed by the Ministry of Education and Science, and most of them used platforms of their choice, such as ZOOM, KAHOOT, Microsoft team, E-classroom and similar.

Table 7

Is the teaching staff trained for online teaching?

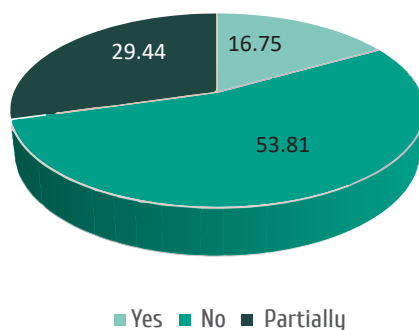


¹³ The information is available at <https://www.rcc.int/balkanbarometer/results/2/public>.

The teachers believe that not all schools have the opportunity to provide teachers with conditions that are compatible for remote learning, and even those schools that had that opportunity, did not provide it to their teachers.

Table 8

Did your institution provide the teachers with relevant conditions for delivery of remote learning?



Hence, most teachers say that they were left to their own devices, to their own technical capacities and their personal means of communication and experience. Teachers also point out that most schools do not benefit from the government measure - "Computer for every child" because most of these computers are either faulty or outdated.

Most visible/ common gaps the teachers faced in the delivery of remote learning:

- Insufficient motivation,
- Irregular activities,
- Irregular flow of feedback information,
- Lack of direct communication with the students,
- Lack of independence in the implementation of the work obligations, and
- Inability to perform objective assessment.

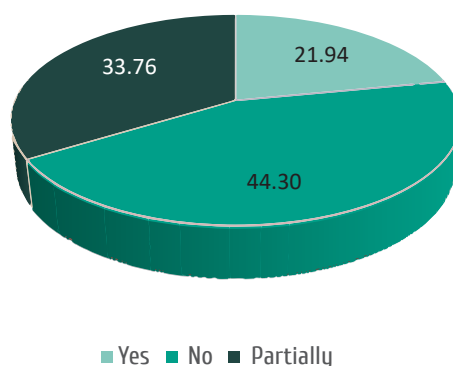
Lack of technical prerequisites for successful delivery of the teaching process:

- Insufficient Internet and unstable connection,
- Insufficient number of computers in the schools,
- The students have no relevant equipment for attending the teaching process,
- Lack of technical support in the process,
- General domestic conditions for following the remote learning.

Most of the teachers think that the Ministry of Education and Science did not help them enough in the implementation of the teaching process, that is, the teachers received only basic guidelines for remote learning (Table 9), namely that the Ministry of Education of Science set up only the centralized Internet and TV platform. Therefore, they consider that the teaching was not adequate enough. Not only were the teachers, parents and students unprepared, but the respondents believe that neither the Ministry of Education and Science (MES), nor the Bureau for Development of Education, nor the municipalities were prepared. The unpreparedness was of both technical and organizational nature (for example: different time slots for delivery of the lessons, especially in the case of families where there are more children-students and they have only one device or one computer to attend the teaching).

Table 9

Did the Ministry of Education and Science helped you in the delivery of the teaching process?



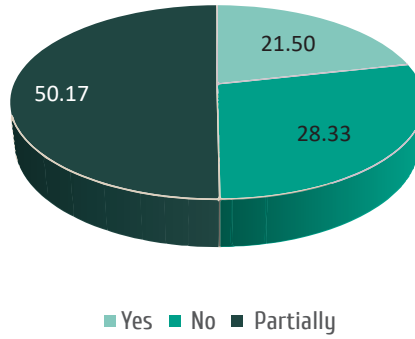
Because they did not have detailed instructions and guidance from the Ministry of Education and Science, some of the teachers independently plan the next school year,¹⁴ and most of them have no information on how to continue the teaching process, neither from the Ministry of Education and Science, nor in organizational terms from the municipalities in which the schools are located.

Teachers believe that the quality of the teaching process was not good enough, that it was necessarily subject to improvisation and that appropriate training and protocols are needed to raise the quality (Table 10). Hence, they feel only partially satisfied with how the remote learning went, and they attribute the "partial satisfaction" to their ability to adapt to new, in this case, unexpected circumstances and inadequate working conditions.

¹⁴ The data is from July 2020, when the survey was implemented.

Table 10

How satisfied you are from the delivery of the teaching process in a situation of social crisis?



4. COMPARATIVE ANALYSIS

In order to acquire comparative experience of how the remote learning was delivered in other European countries, a comparative analysis was conducted. The Republic of Croatia, the Republic of Ireland and the United Kingdom are taken as illustrative examples. Of course, their education policies are only some of the many efforts that are currently ongoing in national education systems around the world,¹⁵ but those models have been specifically chosen for their innovative approach and for showing a wide range of extremely important aspects in creating a coherent and comprehensive approach to remote learning. Since these are diverse experiences, each valuable in its own way and appropriate to the social and economic circumstances of the system in which it is implemented, we enclose a detailed overview of the most useful aspects.

¹⁵ Detailed overview of all remote learning systems can be found on <https://en.unesco.org/covid19/educationresponse/nationalresponses>



REPUBLIC OF CROATIA

The transition towards remote learning in the educational system of the Republic of Croatia for elementary and secondary schools, and also for the higher education, happened overnight. Although the decision of the Government to stop the teaching process in the schools and higher education institutions was adopted on 13 March 2020, it began to be implemented as early as 16 March 2020. The basic provision of the Government decision was that the teaching would have to continue as a remote learning.

To achieve this primary objective technical support was provided for all educational institutions at the national level, which means establishing platforms as a virtual learning environment, but also support in creating the teaching content and developing guidelines for organizing the work of the teachers and students in the remote learning process.

"*School of life*" (*Škola za život*)¹⁶ is the name of an experimental program that is implemented through the Ministry of Science and Education of the Republic of Croatia in 48 elementary and 26 secondary schools. In general, the program includes students from first to fifth grade in elementary schools, while special classes in biology, chemistry and physics are organized for the fifth grade. The experimental program is also implemented in the first level of gymnasium and in the first level of the vocational schools for all teaching subjects in general education. The main educational goal is to test the applicability of the new curricula, the forms and methods of work, as well as the new teaching aids, primarily to strengthen the capacity of the students for problem solving, to gradually increase their satisfaction with the new type of teaching and to motivate them together with their teachers.

The project, presented in numbers, covered 8,419 students, 81 virtual classrooms, 42,724 participants in the virtual classrooms, 386 educational topics, 424 hours of training in the use of platforms, 151 counseling visits, 73 parent meetings, 1,092 hours of live teaching, 927 vocational trainings. The logo of the project was created by students from a graphic school, and the project is supported by the European Social Fund. The project includes the Croatian Agency for Development and Education, the Croatian Academic Network, the National Center for External Evaluation of Education, the European Union Agency for

¹⁶ <https://skolazazivot.hr/>

Mobility and Programs, and the Agency for Vocational Education and Adult Education.¹⁷ The project is also supported by the national mobile operator Tele2, which provides students with free internet for educational content during the remote learning as well as free access to educational content websites of the publishing houses participating in the educational reforms.

The "School of Life" is an extremely well organized and useful website that includes all the elements necessary for delivery of the teaching process, as well as for assessing students. The site is full of educational contents as well as instructions for organizing teaching and assessment through remote learning. It provides an overview of various platforms, indicating how they work and how they can be used, provides advices for teachers, advices for students, video content on how to use the tools, video lessons for elementary and secondary school in all subjects, but also electronic textbooks, e-readings, systematized and organized in a way that is simple to use.¹⁸ Additionally, materials are available for students with hearing impairments,¹⁹ virtual classrooms,²⁰ as well as many examples from schools on how they successfully delivered remote learning.²¹ Part of this project is the so-called "TV classroom", the website of which includes a schedule on which days and at what time specific teaching will take place for elementary and secondary education classes.²²

We emphasize the elements we deem to be most useful.

¹⁷ <https://skolazazivot.hr/o-projektu/projekt-u-brojkama/>

¹⁸ <https://skolazazivot.hr/materijali/>

¹⁹ <https://skolazazivot.hr/obrazovni-sadrzaji/metodicki-prirucnici/metodicki-prirucnici-za-osnovnu-skolu/>

²⁰ <https://skolazazivot.hr/virtualne-ucionice-za-sve/>

²¹ <https://skolazazivot.hr/webinar-informatika-u-razrednoj-nastavi-iskustva-i-primjeri-iz-eksperimentalnih-skola/>

²² <https://skolazazivot.hr/raspored/>

For the teachers

Organizing the teaching process

The remote learning is taking place in extraordinary circumstances and all its advantages should be used. Efforts should also be made in order to minimize a number of disadvantages. This way of learning, which is expected to be short-term, should not be obstacle in the transition towards a higher level of education. In addition to acquisition of new knowledge and skills, the emphasis when learning relevant educational content should be also put on the well-being of the students and on encouraging continuous learning, rather than on the assessment of what has been learned.²³

Teachers' contact with students and parents is important for creating a circle of trust for learning, and in that circle everyone has a role to play. The virtual learning environment should have a clear structure and established values, which, in turn, include respect for work, that is, zero tolerance for inappropriate and unacceptable behavior. Namely, the students should be aware of the responsibility towards themselves and towards their knowledge. The responsibility also lies with the parents, so they should provide the students with continuous support in the process of awareness raising related to responsible and constructive behavior.

It should also be noted that the students need a more diverse type of support in the virtual classroom in comparison to the regular teaching process. By working together with professional associates in the school, specific adaptations necessary for students with special needs, as well as for gifted students, should be taken into account.

Although some schools hold virtual classrooms in real time so that all students attend the video conferencing at the same time, this method of teaching is not recommended because it burdens the network and slows down the work. Namely, it is not necessary for the students to identify themselves visually, because all students and teachers have their own unique electronic identity, which gives a great advantage in organizing and implementing remote learning.

It should be especially emphasized that the contents that the teachers teach and evaluate should be focused on the most important things and should be free from secondary details or information. Secondary details or less important information can distract the student from what is really important, can unnecessarily burden him/ her instead of allowing him/ her to understand the wider educational context.

²³ *If the state of emergency continues, changes in specific laws and bylaws are needed. As a harbinger of such a situation, with primary goal of enabling consistent and systematic implementation of the new assessment methods, the Ministry of Education of the Republic of Croatia amended the "Ordinance on the methods, procedures and elements for assessment of students in elementary and secondary schools".*

Assessment

The assessment is a core element in the process of curricula reforms in the elementary and secondary education, but it is also part of the "Bologna Reform of the Higher Education". Both reform processes put the student at the center of the school process, so the teaching process focuses less on the content taught and more on the planned educational outcomes. The student should be active and learn through individual strategies and ways of learning. This type of evaluation penetrates deep into the foundations of a particular education system and is the most difficult to change in the overall reform process. On the other hand, the way teaching and assessment are done should guide the students how to learn. Therefore, the assessment of achievement of the planned outcomes of such teaching is extremely important in the organization of the remote learning.

The virtual environment is a great place to learn, but when assessing what has been learned, it is desirable to move away from the traditional (standard) assessment methods. Therefore, the rules that have been applied so far in schools, such as plans for testing, setting topics and dates, do not have to be applied in the remote learning, but it is necessary to timely set the schedule for tests or exams, and to give students more intensive tasks in order to balance the workload of the teachers and the workload of the students. In all teaching subjects, both in the classroom and in remote learning, the activity of the students can be assessed through discussions and homework.

In the traditional school lecture, students and teachers have communication in real time, so that the teacher can monitor and supervise what has been learned, that is, can implement "summative assessment". Without additional investments, without special tools, which, by the way, requires a lot of time, all this is not easily feasible in the virtual classrooms. On the other hand, this kind of controlled questioning is often reduced to examination about facts and carrying out routine tasks that are not appropriate for determining the knowledge and skills required to live and work in the 21st century. There is no need for strict control when conducting the assessment, neither in the physical nor in the virtual classroom, because the emphasis is on the quality feedback to the student and how to improve his/ her learning. Hence, in the virtual environment and in the remote learning, a new way of assessment should be applied. In the reform of the teaching process, the learning and assessment are focused on - *how to learn successfully* - that is: why learning is useful, why we enjoy learning, why we want to learn how to solve problems, how to think critically and work in a team. Thus, the change should be towards higher cognitive levels that cannot be assessed (only) through tests of knowledge of a specific content. The teachers should also provide individual feedback to students on whether the student has achieved the expected educational outcomes and how to improve their learning skills. In order to achieve this, it is necessary to monitor the work of students, to encourage their activity and cooperation - both with the teacher and with other students.

Assessment methods and recommendations – traditional approaches

The methods for assessing knowledge in schools in the Republic of Croatia are still predominantly traditional, although progress has been made as a result of the curriculum reform. The teachers have never been in such a state of emergency, so it is difficult to quickly change the way of teaching, the model of teaching, and it is even more difficult to change the methods of assessment. It is therefore not surprising that, although new and innovative assessment methods are available, most teachers are still reluctant to start with them, preferring to adhere to some of the existing, traditional assessment methods and procedures.

The existing virtual methods include oral and written examinations in controlled conditions. There is a problem with the credibility of the answers in remote learning, because it is performed asynchronously. Certain methods and tools can provide a certain level of credibility in a knowledge test implemented remotely, and should be introduced when it comes to exams of great importance (for example at graduation). As some time, equipment and training are required to introduce such tools at the national level, some appropriate methods for testing knowledge and skills based on which the student can be assessed can be introduced for remote learning purposes. Therefore, it is necessary to reduce the number and volume of both oral and written tests, and to use routine tasks for self-evaluation and peer/ classmate assessment. The use and frequency of these examination methods depend on the topic, the teaching unit, and especially on the desired educational goal.

The easiest way to conduct an oral examination is through video conferencing. It is recommended not to conduct such examination for every teaching subject because it will unnecessarily burden both the teachers and the students, as well as the remote learning systems. However, for elementary and secondary school subjects, where the teaching schedule provides for three or four hours per week, the oral examination should be implemented once in the course of the school year, especially if the teacher or student doubts the acquired knowledge or if there are not enough elements to establish the final grade for the student. In the remaining cases, the teacher does not have to conduct an oral exam in remote learning.

In some teaching subjects, such as math, physics, and chemistry, it is common to use written tests, as it involves problem solving and assessment. Some tools can be used, but also the following simple technique: *"These are the tasks, please solve them within a specific time, take photos of the solutions and send them for verification"*. This simple technique is also suitable for students living in places with a weaker Internet connection. If there is concern about the credibility of the answers, because there is a suspicion that the student did not solve the tasks on their own, it is useful for the teachers to know their

students and thus, according to their learning, practice and progress, they will be able to assess the level of learning more easily. After the written test, which significantly affects the grade, it is desirable to organize a short oral interview/ exam so that the teacher can go through his work together with the student and clarify the difficulties or the solutions of the test.

In all evaluation methods, it is necessary to clearly distinguish the essential contents from the less important contents, that is, from the secondary content. Important contents are those that directly support the achievement of the educational goals of the curricula.²⁴

Additionally, the self-evaluation is important. The role of the teachers in guiding and monitoring the students is crucial, especially in the process of self-evaluation. Namely, if we consider the factor of subjectivity (which is a constant challenge in this process), the role of the teacher is to follow the process, to guide the student and to correct it. It is important to emphasize that the self-evaluation makes the students more motivated and more open to learning, and the parents should be also included in it.

Assessment in the higher education

The evaluation in the higher education should include the use of assessment methods related to the learning outcomes of the subject. Because the higher education, especially the university teaching, means achieving higher levels of learning outcomes, it is good to use project and problem assignments, research papers, program development, portfolios, constructions and critical reviews, reflections and analyzes. An appropriate system is, for example, *Moodle*²⁵ which offers a wide range of possibilities and customization options. Many teachers focus on colloquia that are implemented in controlled environment, but without large investments in new technology it is impossible to do them online. These tools are browser-based running in safe mode or on approaches that are about facial recognition, voice recognition or other ergonomic parameters. In any case, some of these colloquia can be replaced by solving assignments taken from the database of assignments so that each student gets his/ her own assignments. The *Learning Management System*

²⁴ Relevant guidelines include general assessment as well as assessment of practical skills. The rulebooks include specific examples for assessment. The assessment instructions are not intended to be comprehensive, they do not pretend to answer all the questions or explain all cases of everyday work. The intention is to have single depository of all acceptable ways of assessment to be used in the changing circumstances, taking into account the technological capabilities and the evaluated level of competencies of the teachers. The recommendations are primarily intended for the elementary and secondary education system, but with minor adjustments they can be also used by the universities and colleges, as well as by the adult education institutions. See more at: <https://skolazavot.hr/upute-za-vrednovanje-i-ocjenjivanje-tijekom-nastave-na-daljini/>

²⁵ <https://moodle.org/>

(LMS)²⁶ and *Moodle* include excellent tools for this type of work. They provide a variety of questioning opportunities, allowing teachers from all areas to tailor the tests to their needs.

The basis of a good test, which is relatively secure from copying, is a large database of questions used to generate tests. If the questions are organized by categories (according to teaching units/ levels of difficulty), the random selection method can be added to the tests with questions from different categories, allowing each student to receive questions that cover the material with approximately equal weight. Generating questions based on random selection and changing the order of the answers over a specific period of time can provide relatively good security and protection against unwanted cheating. Additionally, most of the higher education institutions in the Republic of Croatia have access to a system that does plagiarism check. Therefore, that system should be included in the assessment in order to ensure the academic integrity.

The higher education institutions should pay special attention to art studies and identify under what conditions and how it would be possible to do evaluation during the remote learning time. It is necessary to redistribute the topics and responsibilities of the students in order to ensure a quality way of learning. A similar approach can be also used in the art schools.

In terms of educational content, free online content on the Internet, in the form of free online courses - MOOCs (Massive Open Online Courses),²⁷ can serve as additional material for students.

²⁶ https://www.questionmark.com/?gclid=EAlalQobChMlrK2tgsez6gIVSfIRCh0HdQznEAAYASAAEgKrBfD_BwE

²⁷ <https://www.mooc.org/>

Teacher evaluation and self-evaluation

In the remote learning, it is advisable to do a questionnaire among the students and parents about how successful the teachers are in the whole process. It is helpful to have open-ended questions so that the students and parents can make specific suggestions for improving the teaching process. Regardless of the outcome, it is good to talk to the colleagues so that information can be exchanged. The results can also be discussed with professional associates in order to find solutions and ensure quality of learning and teaching.

Activity of the student

In order for the students to acquire the competencies necessary for the life in the 21st century, they need to be active in the learning process, precisely so that they can develop an awareness of how much they know and what they still need to do to really achieve the objectives set by the teaching process. An active student is the one who takes initiative, who strives for independence, and encourages others to learn. Remote learning can lead to major changes – for example, students who are usually tacit and quiet can become very active and independent because of their digital skills and knowledge, and thus stimulate others.

The activity and the work should be recognized and positively valued; ranging from participating in discussions in the virtual environment, through peer assessment and self-evaluation, to independent research and making suggestions for further learning and research. It is especially important for the students to independently make research and look for resources online, as well as to be able to critically assess the credibility of such sources. Once they have gathered quality information from a variety of sources, they should be able to write an independent paper in a given scope and structure that will include the necessary arguments.

In all teaching subjects, the activity of the students can be assessed through discussions and homework. For each subject, it is possible to make a more complex task in the form of a poster, presentation, project, research paper, critical presentation or task related to a problem, and such work can be evaluated in a way that would clearly show the elements and criteria for evaluation.

For the parents

The role of the parents/ guardians

Given the state of emergency, the parents at this time should be involved in the work of the school more than ever, but also in providing a circle of trust for learning, and this is especially emphasized and necessary for those parents who have children students in elementary school. Given that we are all put in a whole new situation and in a new kind of teaching, it is important that everyone - teachers, students and parents - have an understanding of each other. Although this is difficult, given the circumstances, more is expected from the parents in the course of remote learning because they have direct daily contact with the students (their own children), so their involvement is different compared to a situation when most of the educational process takes place at school. The parent should provide and set the rules for "home school" and allocate time for learning, especially for the elementary school classes (we must be aware that neither children nor parents perceive their home as a school).

The role of the parent is to encourage the child to perform all the tasks independently and to encourage him/ her to address the teacher for any questions. It is the parents' responsibility to help the child, but not to do the work for him/ her. While it is understandable that the parents should try to get better results, the parental help should not be about writing homework or putting pressure on the students and teachers to get better grades. It is normal for the parents to want to help, but they must not do so to the detriment of the development of responsibility and independence in children. Inadequate assistance will reduce children's chances of coping independently in the lifelong learning process and in the everyday problem solving. The parents are the ones who have to raise their children and educate them not to cheat, not to copy and to appreciate the work and labor - both their own and that of others. They should encourage the children to learn, research and organize their time well, but also help them learn how to learn.



**UNITED KINGDOM OF GREAT BRITAIN AND
NORTHERN IRELAND**

In the UK, the remote learning takes place only for certain age groups: the existing educational institutions accept the return of the preschool age children (up to six years old) and the education system as a whole remains closed to all other age groups, with the exception of children of the so called "*most essential workers*" and for children from vulnerable categories who can not attend classes at home on their own. The youngest ones are given priority because they are at the beginning of the educational process and have yet to master the basics such as counting, reading and writing, but also to learn to socialize with their new schoolmates. The priority for returning to school also includes those groups of students who are in a transitional phase, for example those who are transitioning from elementary to secondary education because it is necessary to prepare them well for the challenges of the next educational level.

An electronic educational platform is provided for other groups of students (hereinafter: Platform) which includes practical instructions for implementing remote learning for teachers, school principals, parents, guardians and students. The Platform data is updated regularly to include new additional resources and the latest information and developments.²⁸ In an effort to assist the parents, whose educational role in the new circumstances is gaining importance, the educational process at national level also promotes a series of 180 online lessons for elementary school students.

However, it should be noted that the challenge levels and the ways to overcome that challenge vary across individual schools in the UK, so it is clear that the schools need flexibility to plan and deliver a remote learning that will be tailored to their specific circumstances. For example, remote education for the youngest children usually requires more involvement from the parents who, in turn, face a number of different pressures at this time. Most of the successful examples of remote learning come from schools that already have a certain infrastructure and appropriate technology, however, it should be taken into account that many schools and households do not have the same level/opportunities for Internet access, so the Platform offers examples of effective practice or it only suggests how to deliver education for different categories of students.

²⁸ <https://www.gov.uk/government/publications/coronavirus-covid-19-online-education-resources>

In all this process, the well-being of the students comes first. Therefore, support is provided for parents, support for students (suitable for different ages), time management assistance and a wide range of educational materials that can be used either as teaching resources or as shared examples of successful remote learning. In addition, The Government created a dedicated portal that provides technological support and training for the use of remote learning and the BBC - the national broadcaster - is involved in the whole process. From the very beginning of the remote learning, the primary problem of social differences has been recognized. It has been established that there is a so-called "digital poverty", meaning that the students in some schools have neither laptops nor computers.

We emphasize the elements we deem to be most useful.

For the parents

Support to the learning process during the Corona virus

While staying at home due to the pandemic, the parents and guardians are certainly concerned about their children's development and the consequences of the interrupted educational process or the interrupted kindergarten services. No one expects parents to be teachers or to carry out activities that normally involve school and kindergarten. However, parents and guardians need to do their utmost to help children and support their learning, and at the same time deal with other responsibilities and challenges. There are guidelines with appropriate tips for continuing the educational process from home, adapted for certain age groups, especially for parents of children who are at the age between 2 and 4 years, for parents of elementary school children, for parents of secondary school children and for parents of children with special educational needs, or children with disabilities (it is recognized that each age group has its own specifics). The instructions mainly include examples of how to organize the time in a most efficient manner, and for the younger children how to master the basic life skills, and still keep the playful everyday life. For example, the youngest children can be helped to learn through everyday things and the things that parents do with them through everyday conversations, number or letter games, joint reading, involvement in the everyday household activities. Innovative ideas and interesting websites (such as *Hungry Little Minds*)²⁹ are suggested. In any case, the recommendation is not to set aside a strict time for planning of complex activities dedicated only to learning, but it is recommended that the activities be embedded in everyday life and carried out through play. The parents are those that know their children best, so long-term planned activities should be avoided. Instead, a mixed composition of shorter activities should be practiced as it is well known that the children respond better to

²⁹ <https://hungrylittleminds.campaign.gov.uk/>

them. This avoids a situation where the children will get bored or frustrated, that is, it is necessary for the children to remain active and interested in learning through the things they enjoy.

Additionally, online educational resources are provided that cover a variety of topics for different age groups. Attention is paid to the security of the Internet content and how to access it and to talk to children about it. It is proposed to set up parental control and supervision over the use of websites and applications on all devices used by children. In any case, it is necessary to reduce the time spent in front of the screen because the digital devices are not the only way to learn. It is necessary to use books and other printed material provided by the school or what the children have at home.

The parents of the children in the transitional group (those who are going from elementary to secondary school) are quite practically advised how to help them make that change easier – how to work with the child, how to give feedback about his/ her own work or, in turn, they are shown ways how to check the learning progress. In addition to the homework that children receive from the school, it is also possible to use educational programs available on the national public service broadcaster BBC,³⁰ or through the OAK, the National Academy.³¹ Since the beginning of COVID-19, a free hotline has been provided with support and advices for parents about learning from home. If some parents are not able to provide the child with the use of a digital device for the school tasks, they can contact a specific school that will provide such a device or allow the student to work in a different format and still not lose from teaching.

Maintaining the mental health and the well-being

Change of routine and staying home can be difficult for some children. It is especially important to preserve the well-being of children. There are guidelines prepared with the support of public health institutions that show how the parents should take care of their own mental health, but also the health of their children. It is necessary to maintain a daily routine in which the children will feel more comfortable (for example, waking up at the same time, sleeping at the same time, eating at the same time, etc.). Additionally, there are tips for practicing outdoor activities and games that do not put children's health at risk. The importance of socialization is especially emphasized, because just like adults, it is important for children to achieve and maintain communication with their peers. Therefore, it is suggested to establish a video call with other children or a conversation with a wider circle of relatives, a call through which they can share experiences and activities.

³⁰ <https://www.bbc.co.uk/bitesize>

³¹ <https://www.thenational.academy/>

The children should not be burdened with news and other information about the pandemic, but of course they should be given time to talk openly about their feelings. Talking to the youngest children about the new situation is certainly a big challenge because, on the one hand, the parents would not want to further disturb them, and on the other hand, they should find a way not to ignore their persistent curiosity. The most important thing is for children to feel safe and convinced that this condition is transient.

For the schools

The primary responsibility of the school is to provide care and support for students in their social, personal and academic development. The schools must be in continuous contact with the students, and especially with the vulnerable categories of students. Direct examinations should be postponed and a new grading system should be established in order to reflect the student activity. The school should take into account the group, collective, average grades at the level of a specific class, based on the results/ grades obtained after conducting individual examinations. The schools then rank the students individually within each teaching subject and in each specific class. The information is sent to the examination boards so they can standardize the grades across the schools and to ensure that no school is too strict or too lenient, that is, to ensure a fair grading. There is also an appeal mechanism in place if there is opinion that this process is unfair.

Resources

Until the usual, normal educational process is restored a list of free resources for online training has been made for implementation of home education, especially for mathematics, online science, English, as well as special educational programs for people with disabilities and special needs. These resources are just suggestions and they are not intended to replace the curriculum of the school, but rather to help the schools enrich their existing resources. The additional resources that are available are evaluated by experts and are guaranteed to offer high educational quality. They are adapted to the needs of the students, and are technically adaptable so they can be used by the parents as well. The list of additional resources is not final, that is, it is constantly updated. The teachers and parents/ guardians should make sure that the activities included in the resources suggested are appropriate and safe for the student's age and that they can be carried out safely in the home environment.

Funding and technical assistance

In view of the current social situation, the UK has provided financial support for remote education, but also for childcare in a broader sense, including adequate technical support

for the entire educational process. Financing was provided for the extraordinary costs of the schools is, opportunity for improvement of digital skills with free courses online, as well as basic technical assistance - Internet access, use of digital devices, support in the implementation of remote learning. There is also assistance coming from the local authorities through free digital devices and free Internet access, preparation of special templates for applying for assistance, delivery of the devices (*laptops and tablets for teachers, children and youth*) and the like. There is also a special education department that provides support for students from socially disadvantaged families who have no access to digital devices or have no Internet access, and the local authorities are responsible for ordering and distributing laptops and tablets. Only local authorities, including institutions and other relevant organizations that supervise schools, and institutions in the area of social protection can apply for this type of state aid, but not schools, parents and students. A working system of organization and control has been established, and laptops and tablets are delivered within 5 working days from the day of the order. This process also includes additional categorization which is made according to priority, that is, preference is given to persons from most vulnerable social categories. The laptops and tablets are delivered directly to the schools or local authorities listed in the application, and they further distribute and deliver.

For the teachers

Information is provided – strategies and practices – necessary for teachers in the implementation of the educational process in the so-called “home environment”. Strategies and practices have been developed by the Ministry of Education in partnership with the education sector.

Teaching resources

The above-mentioned Platform includes resources that should help teachers – a general list of resources for online education, covering a variety of topics categorized by age groups. The proposed resources include:

*Bitesize Daily*³² – a program developed by the BBC for students in grades 1 to 10, offering new educational classes every day. It was created in collaboration with teachers and educational experts, and its videos and interactive activities include elaboration of elementary and special topics from the school curricula. The content is available for free – on TV, online and via the BBC’s iPlayer.

³² <https://www.bbc.co.uk/bitesize/dailylessons>

*OAK – National Academy*³³ - Teachers also at their disposal the resources from OAK, which is the national academy created by school teachers across England in response to the closure of schools. This free resource for teachers provides the equivalent of three hours per day for elementary school students and four hours per day for secondary school students, for a variety of teaching content and topics. The lessons are created through exercises and combinations of videos, quizzes and worksheets. The schools, if they want to use it as part of their remote education curricula, can download the full package of "OAK School",³⁴ which provides tutorials and videos for sharing. The package is available for elementary, secondary and specialized schools, and includes a full curriculum until the end of the spring semester.

Planning of the teaching process

Guidelines for planning strategies for conducting remote learning with practical tips have been developed. This is an opportunity for the schools to learn from each other, as well as to develop their own approaches to providing remote education. Hence, many examples of teaching practices are already available, and they are constantly updated for all levels of education and for all educational groups. A special challenge is to harmonize the teaching process between the students who go to school continuously from the very beginning of the pandemic, and those who are just beginning to return to school and those who are still at home. That is why a coherent curriculum is needed in order to deliver lessons for the students both at home and at school, while maintaining social distance and safety for all staff and students. Of course, it is also necessary to support the staff in planning the phased reintroduction of the teaching process, as well as in identifying gaps in the students' knowledge. In this process, the teachers are provided with technical assistance, such as providing virtual lessons and live streaming, as well as suggestions for communicating with parents, guardians and students in order to ensure comprehensiveness of the educational process.

Internet security

The remote education is a new experience for both teachers and students, so it is important that schools have a strategy that will ensure Internet security (*protection of personal data, protection against malicious content, protection against online radicalization, protection from harmful or harassing content, as well as protection from bullying and abuse via the Internet, etc.*), and a number of tips and instructions were provided in that

³³ <https://www.thenational.academy/>

³⁴ <https://www.thenational.academy/schools-pack>

regard that suggest the necessary coordination with the parents and guardians.³⁵ It is important that any concerns are communicated through clear reporting channels so that appropriate steps can be taken. In this regard, free hotline for contact with professionals is provided.

Continuous communication with parents, guardians and students

As part of the remote learning, it is especially important for the schools, teachers and students to maintain continuous communication. Therefore, live lessons and videoconferencing are important. Teaching from home is different from teaching in the classroom. The teachers should try to find time to talk to the students, parents, or guardians.³⁶ The parents, guardians and students should be assisted in preparing a weekly plan or structure that includes time for education, play, and relaxation, and this plan will reduce the stress and anxiety in the families faced with uncertainty.

³⁵ Thinkuknow provides advice from the National Crime Agency (NCA) on cyber security. The information provides parental support and guidance from leading experts and organizations <https://www.thinkuknow.co.uk/>; Childnet offers a tool that supports parents and caretakers of children of all ages to start discussions about their online life, to set boundaries around the online behavior and the use of technology, and to find out where to get more help and support. The Internet themes provide lists for age-specific online safety lists, tutorials on how to set up parental controls on a number of devices, and lots of practical tips to help kids get the most out of their digital world <https://www.childnet.com/>; such a tool is also London Grid for Learning, <https://www.lgfl.net/>

³⁶ The local authorities should coordinate with schools and provide the teachers with a safe place to work if they are unable to teach from home;



REPUBLIC OF IRELAND

In the Republic of Ireland, the need for effective coordination between the key stakeholders in building and maintaining the remote learning process is particularly emphasized, that is, the roles are equally distributed among schools, teachers, students and parents.

We emphasize the elements we deem to be most useful.

Support for teachers

The educational platform of the Republic of Ireland offers opportunities for professional assistance to teachers in the delivery of educational services. Teams from the *Professional Development Service for Teachers (PDST)*³⁷ have developed many remote learning resources to support schools during the lockdown period due to the pandemic. The resources are available in the following areas: digital technologies; health and well-being; school leadership; literacy; mathematics and geography. The Ministry of Education instructs the school principals and directors to immediately continue the educational process and emphasizes the extremely important role the teachers have in the lives of young people, that is, continued support that is expected, which is vital in the current crisis. Throughout this newly established plan, the Ministry only directs the process by giving educators access to educational materials, as well as IT resources that are regularly updated through Scoilnet.³⁸ The teachers are encouraged to maintain continuous communication with the parents and guardians in order to ensure full support for the students. At this stage, it is especially important to maintain the continuity of education for students from all levels of the educational sector. Additionally, professional development services for teachers are provided through an appropriate team of experts, as well as web content to support the use of digital technology for schools and teachers involved in remote learning. For this purpose, a special website with educational content has been set up, developed by a team for digital technologies, and the electronic platforms and tools have been elaborated and explained in detail.³⁹ By using the online tools available at this page, the teachers can easily adapt the existing curriculum using the available teaching resources and doing

³⁷ <https://www.pdst.ie/>

³⁸ <https://www.scoilnet.ie/>

³⁹ <https://www.pdst.ie/distancelearning>

exercises/ homework for students. The tools are unified, and depending on the technical capacity of the schools, the teachers are allowed to use different strategies for creating online teaching. For example, the students' knowledge can be effectively tested using tools such as: edpuzzle; flipgrid; kahoot; quizlet and wizer.me⁴⁰, and the teachers are required to provide the students with more detailed feedback on where they need to improve in the study process.

This entire process is supported by digital guidelines and tutorials. Each school, according to its needs and capacities, can choose which teaching platform it will use, and at the same time, many electronic libraries are available for free to the school as well.

Support for the parents

The *National Education Psychological Service (NEPS)*⁴¹ provides guidance on how to conduct pandemic teaching, which is being updated on an ongoing basis, and applies equally to parents, young people and teachers. It is available at www.education.ie/covid19, and the Department of Education and Skills provides services and support, that is, it is constantly available in order to ensure continuation of the education. The site includes a catalog of helpful parenting articles that are also published in *The Irish Times*, as part of a series of articles called "Learning from home".⁴² Each text explores practical and effective activities in order to support and enhance the home learning process. Examples include: digital storytelling, ways to encourage creativity in home learning, how to keep children happy and healthy while schools are closed, how to ensure children's well-being, a practical guide to talking to children about their feelings and their worries. In addition to psychological support, materials and resources are provided for practical teaching work, such as: for science and geography, for research and observation of the domestic environment, creating a family digital time capsule, creative adventures during a virtual tour, and the like. Webinars are also available in various areas with additional panels of experts, such as a home learning webinar, creative ways to stay connected, and support for students with special educational needs in the remote learning. The webinars range from fully educational for all levels of education, to specialized ones that offer support to teachers or school principals.

⁴⁰ <https://edpuzzle.com/>; <https://info.flipgrid.com/>; <https://kahoot.com/>; <https://quizlet.com/live>; <https://www.wizer.me/>

⁴¹ <https://www.education.ie/en/Schools-Colleges/Services/National-Educational-Psychological-Service-NEPS-/NEPS-Home-Page.html>

⁴² <https://www.irishtimes.com/news/education/home-tuition-our-guide-to-the-best-teaching-and-learning-resources-online-1.4206766>

Digital resources

The website mentioned includes many platforms for remote learning. Here we provide some examples.

Epic! is an online library offering over 35,000 resources, including books from the *Read to Me* audio edition, opportunity to connect with a select reader and introduction of reading patterns. The library offers interesting texts from National Geographic Kids or from the Guinness Book of Records, meaning it is also suitable for children aged 4-12.⁴³

Britannica, the publisher of multivolume encyclopedias since 1768. They are fully digitized in order to meet the needs of the 21st century, but their content is updated daily with videos, pictures and other teaching aids. The encyclopedias are available in digital formats, designed as electronic products for students of all ages. *Britannica* offers free natural and social science content for all levels of education.⁴⁴

*DK Findout*⁴⁵ is a network resource consisted of encyclopedias for schools, and can be also accessed from home, thus the students are encouraged to find out more about a given topic. The content can be filtered according to the teaching area, and the results of the articles are interactive (for some areas there are quizzes to check the knowledge). The teacher can give the students topics from this resource as well, in addition to making projects or they can refer to specific encyclopedic articles through an essay. This website also includes free textbooks, lesson plans and worksheets for teachers (available at: <https://www.dkfindout.com/uk/teachers/>). Extremely skillfully prepared examples of content that easily instigate the students' curiosity are those about prehistory, the human body, the planets of the solar system - very fun, interactive and accompanied by videos rich in useful and interesting facts. The site also has a special section for parents through which the child is provided with a safe and secure environment for searching, learning and independent research of information. It is designed constructively, as a perfect help when doing homework, it is clear, concise, safe and fully animated. It covers all subjects from the curriculum, presented in a modern way that is very attractive to the student. The site also includes expert articles that explain the curriculum to the parents, so that they can get involved in the educational process.⁴⁶

⁴³ <https://www.getepic.com/>






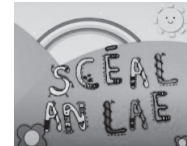
⁴⁴ <https://kids.britannica.com/> additionally through the homepage of Scoilnet (www.scoilnet.ie) or it can be also found here <https://packs.eb.co.uk/hss>





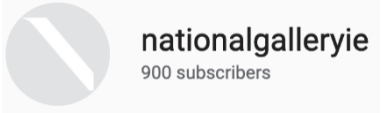

⁴⁵ <https://www.dkfindout.com/uk/>



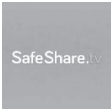



⁴⁶ <https://www.dkfindout.com/uk/parents/>

Table 2. Video platforms overview

	<p><i>YouTube</i> is the most popular video platform globally and has many educational and informative videos, easy to search and share through online platforms, email, and the like.</p>
<p>WatchKnowLearn Free educational videos. Organized.</p>	<p><i>WatchKnowLearn</i> indexed around 50,000 educational videos, placing them in a folder with over 5,000 categories.</p>
<p>TEDEd</p>	<p><i>TED-Ed</i> and <i>TED's youth</i> is an educational initiative, in a certain segment intended specifically for young people. <i>TED-Ed's</i> mission is to encourage and popularize the ideas of teachers and students around the world.</p>
 <p>TeacherTube Teach the World</p>	<p><i>TeacherTube</i> is a free community for sharing instructional videos and content - designed for both teachers and students.</p>
 <p>KHANACADEMY</p>	<p><i>KHAN Academy</i> offers exercises, instructional videos and a personalized learning table that enables the students to learn at their own pace - in and out of the classroom.</p>
	<p><i>Vimeo</i> is an ad-free video platform that hosts thousands of professionally produced videos.</p>
 <p>SchoolTube Watch. Share. Learn.</p>	<p><i>SchoolTube</i> is a website that provides teachers and students access to instructional videos and lesson content.</p>

<i>LANGUAGE AND LITERATURE</i>	
	<p><i>Storyline Online</i> is a repository of stories read by celebrities. Each book includes additional material intended to enhance comprehension, verbal and written skills.</p>
	<p><i>The Literacy Shed</i> is an animated page for encouraging visual literacy, and through it the literature literacy of the elementary school students.</p>
	<p><i>Storyberries</i> - visualized/ animated stories for elementary school teachers.</p>
	<p><i>KidLit</i> KidLit is a collection of videos created in collaboration with authors and illustrators of children books; the videos include reading books by actors, interviews with authors of children books and thematic art exercises in addition to literature literacy.</p>
<i>NATIONAL TREASURE</i>	
	<p>YouTube channel - full of stories, sports and crafts typical for the society and culture of the Republic of Ireland.</p>
	<p>YouTube channel - videos from Irish language textbooks read by Irish authors, publishers and Irish actors.</p>

<i>PHYSICAL EDUCATION</i>	
	<p>Scoilnet / PSDT – the videos are used to support the essential physical education program at all levels. The site is also supported by the Irish Healthy Heart Foundation.</p>
	<p>Scoilnet – videos on physical culture</p>
	<p>GoNoodle – videos for development of the physical culture in schools, related to the "It is good to move often" resource.</p>
<i>VISUAL ARTS</i>	
	<p>I am an Artist – videos for support of all levels of the primary school visual arts curriculum.</p>
	<p>Nationalgalleryie – videos from the National Gallery of the Republic of Ireland exploring and explaining some of the famous national works of art.</p>
<i>SCIENCE</i>	
	<p>CRASH COURSE KIDS – scientific topics with videos for elementary school students; the site includes a wide range of topics, including housing, engineering, space, etc.</p>

	<p>National Geographic Kids has an active website with plenty of interactive, thematically divided resources.</p>
<p>The websites below allow teachers to remove the ads from the videos, as well as to cut them into sections before sending them to the students.</p>	
	<p>http://www.viewpure.com/</p>
	<p>https://safeshare.tv/</p>
	<p>https://www.tubechop.com/</p>
	<p>https://watchkin.com/</p>
<p><i>MEDIA SOURCES</i></p>	
	<p>RTE Home School Hub - "Home school" with classes and activities, but also with final worksheets.</p>

CONCLUSIONS

If we take into account all the segments covered by this analysis, there is no doubt that at the beginning of the COVID-19⁴⁷ crisis the remote learning in the Republic of North Macedonia was organized with many problems, which in turn affected the quality of teaching and the quality of the acquired knowledge. Namely, the shortcomings are mainly in the inadequate legal framework that can not keep up with the modern challenges (basically, the existing legal framework does not provide definition for "remote learning"), then in the lack of infrastructure for remote learning (not all stakeholders have a stable Internet and sufficient number of devices necessary to monitor the teaching process), in the inadequate capacities in the education sector (many teachers are inexperienced and without adequate training for the current situation), in the inadequate technical skills, as well as in the insufficient assistance and organization of the entire process, which is direct responsibility of the relevant national institutions. All this resulted in improper implementation of a real two-way teaching, that is, not enough time was spent in learning, and this resulted in unrealistic assessment, although the teachers say that they are "partially satisfied" with the final result, despite all the noted shortcomings.

The review of the legal framework regarding the educational process (laws and bylaws) indicates organizational shortcomings and legal gaps. The existing legal framework does not provide for remote learning, and therefore does not regulate it. Additionally, the legal gaps are not sufficiently addressed even by the Ordinance with legal effect adopted as extraordinary legal mean – it is more technical documents in nature and does not include essential rules/ provisions. The ordinances, understood as a kind of guidelines, are not further elaborated with rulebooks and standards for any educational level. That would ensure quality and controlled delivery of the educational process in a situation of crisis, which obviously requires more specific and more centralized leadership.

These shortcomings must be legally remedied given the uncertain situation regarding the spread of the pandemic, but also because of the high probability that the school year 2020/2021 will continue in a similar or the same way. It is necessary to consider different options and properly articulate them in a legal manner. This is necessary, not only because the system should be ready for such or similar situations in the future, but also to respond to the modern educational needs in which the remote learning is already an integral part

⁴⁷ Specifically in March – June 2020.

of the system (although so far we have not recognized it as an educational option). All this refers to future, potential amendments to the core legislation, as well as to amendments to all bylaws derived from them. In the future laws, the remote learning must be defined as a new system of learning, as a basic, additional or alternative method. This is important, not only to respond to the current crisis, but also to provide impetus and modernize the education process so it can produce staff that will be competitive in the European markets. The modern education and its digitalization should respond to the modern needs of the society and stimulate its development.

The aspect that covers the attitudes of the parents regarding the knowledge that the children have acquired through remote learning is also important in the entire analytical mozaic, but that aspect should be mostly read as a summary of relevant personal/ family experiences, of subjective views on the unexpected and new social situation, aspects that become prominent when compared with the objective data obtained from the teachers after an in-depth analysis. In general, the teaching staff was not prepared for the extraordinary circumstances of the educational process, did not receive timely and adequate institutional assistance, that is, the teaching process was not centralized, but each school was adapting itself to somehow complete the school year. In other words, there was no systematic approach necessary for functioning of the current centralized educational process in Macedonia.

The review of these policies indicates that a centralized model of remote learning is applied in the Republic of Croatia, unlike the other two analyzed models – those of the United Kingdom and the Republic of Ireland. In the Croatian model, the teaching process is organized at the central level using electronic means and via television. Detailed instructions for organizing and delivering classes, for assessment and for self-evaluation of the teaching staff and students have been prepared. All necessary materials are available as separate enclosures, and the process is centrally networked and supported by the relevant competent institutions. The technical support is implemented at the national level, with the full assistance of both the Croatian Radio and Television (national public broadcaster) and the national mobile operators. Such a centralized approach can be an appropriate model for use in our education system.

In the UK, the emphasis is put on overcoming the social differences, as well as on the psychological support necessary during a general situation of uncertainty, with emphasis on the roles of the family/ parents and assistance from the local community. In this new educational situation, the advices are mainly psychological, that is, the educational authorities are primarily instructed how to deal with different age groups of students, by providing appropriate educational materials that can be used as supplement to the basic curriculum that each of the schools deliver independently and within their work obligations. In this sense, the role of the local community in providing technical assistance

and in organizing the entire remote education process is extremely important, something that was generally treated in our country as being of secondary importance.

The model of the Republic of Ireland is full of interesting educational materials, practical examples, textbooks, e-books, quizzes, video teaching materials and electronic platforms applicable in various educational environments. The teaching staff is given the opportunity to choose and adapt the teaching according to their needs. However, all materials are summarized, available from a single network point and technical assistance is provided in the implementation of each of the selected approaches. With good organization, this experience proves feasible in our educational process as well, so we deem that special attention should be given to it, with detailed analysis, in order to review the details and possibilities for its specific application at all levels of education.

RECOMMENDATIONS

In view of the analysis that was conducted, considering the comparative experiences and responses received from the educational staff included in the focus groups, as well as the views and opinions of the respondents regarding the challenges related to the "remote learning in the Republic of N.Macedonia", we provide the following recommendations as steps that will provide improvements.

Legal framework

It is necessary to identify how the remote teaching will be organized and how it will work, and reflect those elements in the legal framework. Thus, the systemic laws governing the education must first recognize the possibility of this type of teaching, and then accept it as a valid method of education.

In addition, the delivery of the remote learning, its organization, as well as the assessment in the remote learning, should all be further elaborated in bylaws that will have the necessary flexibility to regulate situations that are dynamic and often subject to change (as is the case with the digital education).

Therefore, we propose introduction of solutions through framework norms and think that rigid solutions are not appropriate. We propose establishment of standards that are adapted to each level of education, as well as their additional elaboration with bylaws.

Technical preconditions for delivery of remote learning

It is desirable to have a single online learning platform that will be used by all schools. Given that the country is already late in creating such educational platform, we recommend creating a large database of electronic resources, providing access to a variety of electronic materials that teachers can use depending on their specific work plans and programs.

It would be useful for the teachers to have a platform that will be used for sharing experiences and materials in same subjects/ classes.

Following the example of the Republic of Croatia, we propose the use of the "TV classroom" as much as possible, that will follow the programs placed on the common platform.

It is necessary to provide each student with an appropriate device and Internet access in order to be able to engage in the teaching process. Priority should be given to students from vulnerable categories of citizens. The local self-government should be also involved in the process.

As far as teachers are concerned, the schools and other relevant institutions must provide them with conditions for delivering remote learning. The institutions are also required to provide continuous support to the teachers for all possible situations and challenges. We suggest that teachers deliver the classes in their classrooms where they have all the didactic tools, and the school would provide Internet connection and technical assistance.

Additionally and independently of the current crisis, full digitalization of the educational process is needed (e-diary, e-grades, e-homework).

The publication of textbooks in electronic form is a prerequisite for remote learning, so the Ministry of Education and Science must immediately find a way to take possession of the copyrights.

Digital literacy

During the educational process, the students must acquire relevant IT skills. The country does not have enough measures to strengthen the digital literacy of the population, which is necessary not only for participation in the remote learning but also for all professional activities in the 21st century.

The current crisis should be used for active building of digital skills among the students, who will tomorrow become citizens who are digitally prepared in a modern society. We propose to intensify the IT classes and teaching, including computer work and programming, either as new subject or instead of the subjects that have been offered as optional.

Teachers must be urgently trained to use new technologies in the educational process. This does not require a lot of time, is one of the main prerequisites not only for implementing remote learning, but also for modernizing the way of working in general. The digital literacy of the teachers can be strengthened if it is included in the curriculum of the Faculty of Pedagogy, but also with regular trainings for teachers, and even include it as a prerequisite for employment or promotion.

Technical support is also needed for the parents, as a way to improve their digital literacy. This could be achieved through open and free programs for use of digital tools that would be available to all citizens online and on TV.

Delivery of the remote teaching process

It is necessary to prepare relevant recommendations for remote learning intended for the teaching staff and the students (for the respective age groups). The parents of the children included in the elementary education should be acquainted with the overall process and be actively involved in it. This is important because the children up to (approximately) nine years of age are powerless without their parents and they must have support.

The recorded teaching hours and the classes that will be delivered with physical presence or at a distance should follow the same curricula and materials, that is, there should be no problems if the students individually or in groups shift from one way of learning to another. Priority should be given to remote teaching where the teachers would work from schools.

In terms of children with disabilities, separate rulebooks/ guidelines for remote learning are required.

Recommendations are required for introduction of efficient assessment methods.

Curricula

It is especially important in the new school year to repeat the teaching material studied from March to June 2020.

It is necessary to modernize the teaching contents, that is, emphasis should be placed on the development of digital skills among the students, applicable in each teaching subject.

Adapt the curricula, that is, create program that are adaptable to remote learning.

In remote learning, the duration of the teaching hour should be adjusted to the teaching subject and the age of the students.

Create digital curricula for children with special needs – alternative learning options should be also introduced for these children.

Coordination

Given that the educational process in the Republic of North Macedonia is centralized, it is necessary to strengthen the coordination role of the Ministry of Education and Science in a crisis situation, and the Bureau for Development of Education and the local self-government units must be directly involved in the process.

Direct guidance and support for teachers are needed for the remote learning. The guidelines should be formulated as instructions and standards, and appropriate assistance is also required for their implementation.

Timely, serious and effective approach from all relevant institutions is needed. It is necessary to establish a digital infrastructure, electronic devices for each of the parties involved in the process who are not able to obtain those devices by themselves. This can be addressed with public procurement, but also with a call for donations from all companies and public institutions for usable equipment, where priority should be put on students who belong to vulnerable categories. Internet vouchers are a great step, but it would be good if the country can subsidize the entire Internet intended for sharing educational content (which is an example found in some countries).

It is necessary to create a database of lessons and electronic materials that the teachers will be able to exchange and use. It is important to provide access to the many electronic libraries (although many of them already provided free access to their documents during the pandemic).

In the future, it is necessary to introduce a centralized model, a unified (single) learning platform. However, given that the procurement of such a platform is complicated and expensive, it takes time to develop and operationalize it (as it is proposed in the Concept for developing a system of remote education in elementary and secondary schools in the Republic of N.Macedonia).⁴⁸ We suggest, as a first step, that each school chooses its own learning platform from the existing ones. Unlike the platform selection, the materials and resources need to be centrally prepared and systematized, and support should also be provided on central level.

A coordinated effort is needed to train the teaching staff in the use of information technology and to be provided with technical assistance at all times. The teaching staff needs the most support because this group carries the greatest burden of the changes.

Urgent solutions and mobilization are needed under the leadership of the Ministry of Education and Science, so that every child is able to exercise their inalienable right to education. Therefore, we appeal for adoption of short-term measures that will improve the quality of teaching from the beginning of the new school year. Formal strategic documents are not so much needed, but rather specific standards for remote learning and practical guidance for the teachers.

There is a need for greater communication of the professional team of the schools with all the stakeholders in the educational process, especially with the parents, given that not all of them are able to provide the necessary assistance to their children. It is necessary to develop specific guidelines for parents so that they can provide the necessary educational and psychological support. Your approach must undoubtedly include instructions for the students on how to embrace the remote learning, which will be passed on to them by the teachers and parents.

⁴⁸ The document was published in July 2020: <http://mon.gov.mk/content/?id=3262>.

We hope that we will draw positive examples from these recommendations and the experiences presented that can be applied in the future organization of remote learning in our country. The aim is to improve the public policies and the public services for the benefit of the citizens. Therefore, it is important to mobilize all available capacities for serious preparation of the teaching process and its successful organization in the future.



st. "Rajko Zinzifov" no. 44/1 1000 Skopje North Macedonia
tel .: +389 (0) 2 6092-216
info@cup.org.mk
www.cup.org.mk



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