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Adapting to the situation caused by the coronavirus COVID-19 pandemic in schools with children mostly from disadvantageous background

Abstract

The coronavirus COVID-19 pandemic has changed the world, people's everyday life, and has also had an impact on schools. The aim of our paper is to show how primary schools have coped with the transition to digital learning where the proportion of disadvantaged and cumulatively disadvantaged students is between 50% and 80%.

The schools included in the study are the institutions of the education district of South Borsod, one in Borsod-Abaúj-Zemplén County. We anticipate that due to the low number of items in the sample (a total of 6 schools), the survey can be considered representative of the education district and it cannot with regard to the county or the country. The research covers a two-month period from the start of the crisis, i.e. the closure of schools.

The research started with an online questionnaire, which provided information on what tools and competencies students and teachers have for the transition to digital learning, and then in a structured interview, we wanted to find out whether it caused difficulties and what they thought the advantages and disadvantages of the coercive solution were. From the answers given by the heads of the institutions in the interviews, we learnt about the level at which they were able to tackle the shift to digital learning in the institutions, how they were able to organize distance learning, and what assistance they provided to their colleagues, students and parents during this crisis. The findings of the research are enriched by the fact that we had the opportunity to conduct unstructured, telephone interviews with students and parents about their experiences of online learning.

The findings of the research show that the teachers of disadvantaged schools dealt successfully with this difficulty in these particular circumstances. Their competencies and the equipment available enabled them to implement online teaching of proper quality, but despite their preparedness, it also

became clear that they also encountered other problems and factors for which it proved impossible to prepare when the coronavirus began to spread. At the same time, an important part of our finding is that all "participants" (teachers-students-parents) have made significant progress in using digital tools and platforms, which is likely to have an impact on education and hopefully it will launch innovations or reforms.

Introduction

At the end of 2019, a new coronavirus (SARS-CoV-2) began to spread posing an unprecedented threat all over the world and causing a disease called COVID-19. The government adopted various restrictive measures to slow the spread of the infection, including closing schools. Thus, online learning and digital pedagogy, which defines its methodological framework, have become of crucial importance. However, schools across the country were at different levels of digitalization when due to the pandemic the government introduced distance learning as a form of education.

Schools were temporarily closed and the transition to digital learning became the only viable way to continue the term. The institutions adapted to the situation at record speed, developed survival strategies, perhaps we could say they escaped forward. Teachers were under incredible pressure and tried to do their best to find a way to complete the rest of the school year effectively. Schools had to continue operating, students had to be provided with learning opportunities, and teachers had to adapt to the unexpected situation, which, however, the education system, teachers, children and, of course, parents weren't, could not be prepared for. There was no solution available that would have formed an integral whole with the methodological practices of traditional education. The step that would have taught the students to use communication tools and digital platforms for collaboration in addition to developing their information literacy and digital competence was left out (Bánkeszi-Szepesi 2018). Teachers soon realized that digital technology is only suitable for developing students if students are familiar with and proficient in the digital environment, and all this means fun and engaging experience for them (Lengyelné Molnár 2016). Teachers also had to keep in mind that the goal of using tools is not to replace teachers (Vári 1977), i.e., the emphasis is on the methodology and balance associated with use of tools, not on the use of tools itself. The existing, institutionalized culture was not ready for this form and the accelerated pace of knowledge acquisition provided by teachers (Benedek 2008). Students had to adapt to the new form of communication with each other and their teachers. Learning routines changed, the sharp boundary between children and adults got blurred, and the traditional school was replaced by a virtual environment (Bojesen 2016).

There are hardly any teachers in Hungary who have not completed any course on the use of digital devices in the classroom and there are hardly any students who do not know how to use the devices in certain classes. However, no one was prepared, could not be prepared to organize or participate in continuous online classroom learning as this did not have to appear as a mandatory requirement in the teaching culture of our teachers so far. Despite this, teachers adapted all their educational strategies and pedagogical culture to the situation and changed them in a matter of days. Within a few days they built up a system in which their students found their place and as a result, education could continue.

Schools solved the task in different ways. There were some schools which made a smooth transition to digital learning, but there were also some, and perhaps these institutions make up the majority, whose initial impetus subsided after a while and which tried to find new ways to maintain efficiency. The main explanation for this change is that the students' family circumstances and the lack of the necessary technological conditions did not make it possible to organise work efficiently and make progress at the right pace. However, we also experienced that in addition to teachers' efforts and the presence or absence of the available technical tools, teachers needed to develop new strategies to maintain student interest and help parents thrust into their new role of supporting their children's online learning.

In the e-learning environment, the learner "did not only listen to the teacher's presentation" but actively participated in the learning process as well. The degree of self-organized, independent learning was related to how much the teacher uses hypertext, multimedia and interactive teaching materials, and to what extent he or she is able to assert his or her role as a facilitator, supporter and motivator. The teacher must also be the controller of the learning process in the electronic environment, but in contrast to the physical presence learning, a different relationship and communication develops between him or her and the students (Bánszegi 2018).

During the coronavirus crisis, online communication between teachers and students and social media platforms taking advantage of the nature of web 2.0 played a prominent role. Institutions commissioned by the government, most notably the Education Office, published their recommendations for methodology and content on their websites: "A teacher fills a complex set of roles in education. On the one hand, the teacher is a source of information for students, he or she transfers knowledge and develops various competencies; on the other hand, he or she also plays the role of a tutor who supports, motivates and guides students towards independent learning. In a situation where the teacher does not have the opportunity to maintain direct personal contact with the students, his or her latter role becomes more accentuated: he or she has to help students to become independent learners, retrieve and process information."

The sample

Our research involved primary schools in one of the education districts of Borsod-Abaúj-Zemplén County, where the proportion of disadvantaged and multiple disadvantaged students is between 50% and 80%. The explanation for this range is that we focused primarily on how the implementation of online learning adapts to the circumstances when family circumstances do not allow for the transition to fully online work organization, and therefore teachers should also provide paper-based assignments. Schools with fewer than 50% of disadvantaged and multiple disadvantaged students were not considered to be disadvantaged, and in the case of schools with more than 80% of disadvantaged students we supposed that the transition to digital teaching was not implemented or was difficult to implement. We excluded the schools belonging to this group even if we assumed that the school provided digital devices (e.g., tablets) for their students to work from home. In our view, this situation would have raised a different research question.

The survey

The research started with the data entry and closing of an online questionnaire, which provided information on what tools and competencies students and teachers had for the transition to digital teaching, and then in a structured telephone interview, we wanted to find out whether it caused difficulties and what they thought the advantages and disadvantages of the coercive solution were.

The heads of the institutions were asked about how they thought they were able to tackle the shift to digital learning in their institutions, how they were able to organize the work at school, and what assistance they provided to their colleagues, students and parents in the crisis situation. The findings of the research are enriched by the fact that we had the opportunity to conduct unstructured, telephone interviews with students and parents about their experiences of online education.

Analysis of the teachers' entry questionnaires (Appendix 1)

The number of teachers participating in the research is 78 with a significant proportion (55%) of colleagues aged 50 and over. 16 people (20%) are under 35 years of age. Teachers had the qualifications required for education, including 25% with a university degree. 35% of teachers have second and third degrees, respectively. The proportion of teachers with professional examination is 25%. The proportion of men is 15%.

One of the teachers does not have a teacher qualification. When asked whether they received training in digital pedagogy, 100% of the respondents answered that they did, but there were 2 people who also participated in additional non-pedagogical digital training.

We began our examination by exploring the availability of ICT tools in schools for teachers and their experience with it by mapping the digital equipment (Table 1).

Table 1: Availability of digital equipment for teachers

Digital equipment	Available %
desktop computer	33
laptop	100
mobile phone	100
tablet	20
other	1

The two most important values in the table are that all teachers have a laptop and a mobile phone. The laptop is most likely a "product" of equipment provision for disadvantaged schools and EFOP projects in the school district, with the equipment needed to organise an online synchronous video conferencing session (camera and microphone) while a mobile phone is essential for fast, instant communication with students. 87% of respondents have adequate broadband internet or mobile internet access.

The next group of questions referred to the use of information and communication technology (ICT) tools. 80% of teachers have the ICT skills needed to teach online, and 78% of them said in the beginning that they used it confidently. A significantly smaller proportion, i.e. 55% of teachers develops curriculum materials with ICT tools. A high number, 80% of the teachers take advantage of the opportunities provided by digital communication (e.g. Facebook). 78% of teachers use the tools for monitoring and evaluation. The proportion of those who use at least two ICT tools in parallel is high (90%). The answers also show that the majority of teachers (85%) try to use reliable systems (Table 2).

Table 2: Teachers' use of ICT tools

Use of tools	Extent of tool-use %
ICT skills required for online teaching	80
Confident use of an ICT tool required for online teaching	78
Curriculum development with ICT tools	55
Use of a digital communication device	80
Use of ICT systems for monitoring and evaluation	78
Use of multiple parallel ICT services at the same time	90
Use of reliable systems	85

The teachers' responses to students' use of tools are summarized in Table 3, which shows that students have the opportunity to use ICT tools in 84% of teachers' lessons, and they think that 96% of students like using them. It is probably due to the approximately 50% presence of the junior primary school teachers among the respondents that the proportion of students (46% and 65%, respectively) who are able to edit different types of digital files and share data and digital content with their peers is lower.

Table 3: Students' use of ICT tools

Use of tools	Extent of tool-use %
Students regularly use an ICT tool in the lessons	84
Students like using ICT tools	96
Students are able to edit digital files	46
Students are able to share digital files	65

Regarding the transition to digital teaching, it is typical in all schools that school leaders (100%) support ICT-assisted learning. Its effectiveness, whether for students or teachers, is monitored by 88% (Table 4).

Table 4: Teachers' response to the transition to digital learning

The transition to digital learning	The extent of transition %
The smooth transition to digital learning	74
School leaders support ICT-assisted learning	100
School leaders' attention to students …	88
School leaders' attention to teachers …	88

When teachers were asked which program and digital service they used, most of them chose primarily KRÉTA, Messenger, Facebook (closed group) and Skype. In addition, a frequently used tool for exchanging information is Viber and WhatsApp. What was not present in the culture of the majority of respondents, however, is the platforms Google Classroom, ZOOM and Microsoft Teams. This also indicates that personalized, one might say isolated, individualised teaching has come to the fore.

As can be seen from the above data, online learning can be implemented seemingly smoothly as both the competencies of teachers and those of students, with few exceptions, presuppose that online learning can be organised successfully.

Teacher Interviews at the end of the second month after the start of online learning (Appendix 2)

We considered it important to ask two months after the introduction whether the transition to digital learning is difficult and what they consider to be the advantages and disadvantages of the "coercive solution". The respondents included 9 people, 2 male and 7 female teachers. In terms of age, 4 people are over 50 years old, 3 people are between 35 and 50 years old, and 2 people are under 35 years old.

When asked to what extent they managed to switch to online teaching after two months, the 9 interviewees gave the following typical answers:

- *"50% because we don't have online classes. Many students wouldn't even be able to join the lessons held at a given time, I have to think it over what digital content I should use with them due to lack of equipment and load."*

- *"The transition is 100% as this circumstance does not allow for any other solution, except for a few students who continue to receive paper-based education due to their lack of equipment and other IT equipment problems."*

- *"At the moment, we had to resolve a situation and we largely managed to do so, so 90-100%."*

In the next question, we asked about the difficulties of the transition to digital learning, and what the most difficult part of the transition was. Here are some common responses:

As a teacher:

- *"So far, 30% of knowledge transfer has taken place digitally. Now 100% of it needs to be organized. The curriculum had to be redesigned in a short time, and then I felt the need to redesign it again, incorporating the experience gained in the meantime".*

"Initially, it was difficult to find the right, effective communication platforms (who and where I can reach best)."

- *"Using multiple platforms at the same time (Kréta "homework", "message" function, Messenger, Facebook groups and e-mail)."*

- *"Students' lack of equipment and family background problems. The majority of students (almost all) do not have adequate IT tools. They have almost only a mobile phone, only one per family."*

- *"Unfortunately, due to the inadequate equipment of students, there is no personal contact, I do not have the opportunity to hold online classes, so I cannot help there and in the way*

the needs of each student require. Of course, I try to give differentiated tasks, but I cannot provide personal reinforcement and support for them."

- *"The hardest thing is that no matter how much I know and have online curriculum materials and use them in varied ways; even so, there are subjects, I have subjects that are difficult for students to understand completely, or at least as much as I want them to understand them."*

- *"I can't help especially children with learning difficulties in the process of acquiring knowledge immediately when a problem arises."*

- *"Finding the quantity and quality of the content conveyed, (I miss the child's eyes, the feedback from him or her, the love – it's just my personal opinion)."*

- *"The most difficult thing I experience is the lack of personal relationships, regarding both the children and my colleagues."*

- *"I can't take advantage of group learning."*

As head of institution:

- *"Nearly 70% of children in our school are from disadvantaged or multiple disadvantaged backgrounds, and 30% do not have the equipment to participate in online learning. Finding and implementing a solution poses a constant challenge."*

The responses show that teachers have continuously adapted their work to the changes in student and teacher competencies in the use of digital tools and that of available online platforms. However, we also see that in schools educating disadvantaged children it caused significant problems that students and families lacked adequate ICT tools and it was still in its infancy stage to decide which online platform is most effective for both parties. There was a teacher teaching students with special educational needs in a combined class who, after a week's trial, could only implement paper-based teaching. It also set limits to it that, although teachers had adequate, relatively good ICT competence, this was not always the case for students and their parents, especially in terms of learning how to use new, unfamiliar platforms. It was also a problem that a significant part of the public online learning materials currently available were not developed for the current, fully online learning mode. Several teachers also indicated that children with learning disabilities or learning difficulties need the presence of a teacher, which is irresolvable in this situation. The responses include a commitment to the teaching profession and the need for daily personal contact with students and colleagues. Among the respondents of the survey there was also a head of institution who reported on the difficulties of implementing online learning at the school level, but in fact his answers matched the concerns expressed in the teachers' responses.

In addition to the worries and concerns, we also asked about the advantages of online education experienced so far, from which we have chosen the following:

Benefits for all students:
- "Personalized differentiation."
- "Children learn to use digital tools; they get familiar with new educational content."
- "Interesting, motivating online tasks, strengthening cooperation between teachers".
- "Learning online also gives students more flexibility, they make better use of the form of learning that suits them: they can submit assignments in the order they perform them, they don't have to stick to the timetable and adapt to other students. At the same time, there were cases when one or two students said they had worked together on Messenger discussing and sharing the task."
- "It teaches children to work independently, they have to complete tasks independently while interpreting texts and solving problems. Online learning gives them a kind of freedom that they have to make use of and learn to handle."
- "I think it has a lot of benefits that allow each student to progress according to their own level of development, at their own pace and schedule, within their own space, time and energy. Online education should be integrated into a certain percentage of lessons, supervised, monitored properly and effectively, keeping up with and taking advantage of technological developments, and in any case using positive experiences."
- "Independence, independent acquisition of knowledge, 'research work' will play a more important role."
- "Both students and parents assume increased responsibility in online learning."
- "Talent management works extremely well."
- "It is most suitable for confirming and revising existing knowledge."
- "I am a special education teacher. Due to my special situation, I cannot provide children with the opportunity to engage in independent learning. However, it works excellently for revision and practice in the case of students with special educational needs."

The benefits for teachers:
- "Taking advantage of the online form of education, organizing the transfer of knowledge in this way".
- "Focus on the parts of the curriculum that can be conveyed online."

- "Excellent digital materials have been shared. An explosive growth of the use of digital tools among teachers."

- "In using the digital tools in our environment for teaching and learning and developing skills. Both students and teachers learn to master and manage digital technology. I also consider it important to really integrate the many digital, already available and newly developed programs, curriculum materials, and instructional videos into teaching and learning by using them appropriately, accurately and effectively."

- "The digital competencies of all actors involved in the teaching and learning process develop. We can get to know new platforms and programs; online learning opens up new opportunities for acquiring and applying knowledge. I experience a high degree of cooperation between teachers on the various portals, we share the existing knowledge and we can get support from each other."

- "It makes us feel peaceful and calm. I need to divide my attention less. There is an opportunity to check only one student's assignment at a time, and then I just have to pay attention to it. In contrast, I need to pay attention to both making corrections to students' performance and students who are present in person in a traditional classroom setting."

- "Students can express themselves more creatively because they need to work much more independently. In contrast, in the classroom setting, I tend to interfere more in the process of performance as well. Of course, I answer questions on the fly in the same way, I give help. In the case of those who do not come up with a solution, I try to find out what the reason for it is."

- "I can get to know students and parents from a completely different side: who is the student/parent who tries to do his/her best despite the technical challenges and obstacles, and who is the student/parent who chooses the easier path despite the appropriate technical conditions, does not take responsibility and tries to avoid doing the task?"

The benefits for parents:

- "Active use of the Kréta system by parents as well."

- "Parents pay more attention to their children's learning."

The responses indicate that teachers are extremely committed to the implementation of successful online education, giving a priority to differentiated teaching and individualised, personalised learning. The answers also suggest that teachers try to find a way and are open to move from traditional pedagogical culture to digital pedagogy. They attach importance to learning and self-development, not only for children, but also for themselves. They pay attention to parents, they are,

however, aware of the fact that in disadvantaged families children have few opportunities to get help from an adult. At the same time, they expected and relied on parents to participate in their children's upbringing and education in cooperation with them.

While transitioning to digital education, teachers had to face several challenges and obstacles. These include the following:

Negative impact on society:
- "Social segregation, increasing segregation of social groups".

Negative impact on students:
- "Loss of certain benefits of classroom presence education (e.g. lack of experiential learning related to the curriculum; conducting experiments, students' performing experiments; slowing down in socialization processes, etc.),"

Negative impact on students with lower abilities:
- "I can't explain what they don't understand, I can't educate them, I can't set an example, spelling and written language production are pushed into the background, (there is no substitute for human presence, personalized learning tailored to each student's needs, skills and interests)."
- „If we think in terms of a class, it is the slow progress in the curriculum compared to other students."
- "I can't be there with the students. This would be very important in my case as students with learning disabilities require more personal contact."
- "I miss personal contact, instant feedback. In the case of disadvantaged and multiple disadvantaged students, this is also very important in terms of acquiring knowledge and maintaining sufficient motivation".
- "Motivating students is more difficult because although I praise them even more often in writing, the lack of the metacommunication part (tone of voice, gaze and smile) makes its impact felt."
- "It's more impersonal than traditional teaching, and it's not really good in the long run."
- "Most children can't get help from their parents."

Negative impact on helping talented children:
- "Lack of benefits of a tutor's presence."

The majority of respondents considered the lack of contact, personal assistance and personality development to be one of the most important drawbacks as the forms of interaction "student-

teacher, student-student" developed by personal relationships were pushed into the background. Several teachers thought that current textbooks, because they were not interactive, were not suitable for performing tasks online. They believe that there are "difficult" subjects that require more than a digital educational background for students to understand the curriculum. In these subjects, online revision of the learning materials works well, but acquiring new knowledge in this way is difficult, in reality it is not feasible. The problem is that parents are overwhelmed; the students left alone get "lost" in the independent task performance. Parents become frustrated because they cannot help their children, and thus they lose part of their prestige in the eyes of their children. Several of them were worried about the loosening of friendly bonds, the lack of socialization. This reinforces the impersonality of relationships for both teachers and students; a relationship that is essential for children to develop according to accepted social values. It is also obvious that students receive much less experiential positive reinforcement during online learning; however, this is what facilitates positive self-esteem and self-evaluation.

Finally, we asked the respondents whether they had benefited from the situation, what advantage they derived from it. The key responses are as follows:
- "I got acquainted with new educational content, my knowledge of ICT expanded."
- "I delved deeper into making digital materials."
- "I can stay more focused at work (make corrections, give feedback)."
- "I seem to manage my time and energy more effectively."
- "I can spend more time with my family and there is no daily rush or stress as usual, it is definitely an advantage."
- "There is more silence and calm."
- "Elimination of discipline problems."
- "Improved contact with parents."

Although many teachers do not yet see the measurable benefits of online learning, it certainly has benefits, such as learning new content, thoughtful time management, reducing and eliminating everyday stress, and improving relationships with parents. All teachers tried to do their best and bring out the best in their students by capitalizing on their digital competence. Another benefit teachers derived from it is that it provides opportunities for them to acquire new digital knowledge, develop their own digital competencies, which was not part of the individual development plans of several teachers within the framework of school quality assurance. They learnt to convey, practice, and retrieve knowledge in a new way, which basically became one of the means to help them to renew

their teaching methods. We can state that a pedagogical methodological culture which is known but not yet solidly established has become part of the everyday life of teachers. Teachers have also learnt what knowledge can be acquired without their presence, and thus they can also consider what they should focus their energies on during presence education. They feel that in this crisis situation they can focus more on developing skills and conveying inspiring tasks. However, they also think that the traditional school is indispensable as it is an important arena for personal relationships, model creation and teaching and learning in the classical sense. Children, teachers and parents need it. Currently, they assume that the future of education lies in a harmonious proportion of the two – presence and online – education.

Two months later, we asked teachers again how well they had managed to switch to online teaching. Let us consider the responses we obtained (Table 5):

Table 5: Teachers' use of ICT tools after two months

Use of tools	Extent of tool-use %
ICT skills required for online teaching	92
Confident use of an ICT tool required for online teaching	96
Curriculum development with ICT tools	72
Use of a digital communication device	99
Use of ICT systems for monitoring and evaluation	95
Use of multiple parallel ICT services at the same time	100
Use of reliable systems	100

As we can see, after two months, there was a dramatic change in the use of ICT tools by teachers. Compared to the initial 80%, 92% of teachers now said they had the strong ICT skills needed to teach online, and 96% of them said they used it confidently. After two months, 72% of teachers developed curriculum materials with ICT tools compared to the previous 55%. The proportion of teachers who took advantage of the opportunities offered by digital communication was high, 99%. The tools were already used by 95% of teachers for monitoring and evaluation. Without exception (100%), all teachers indicated that they were able to use at least two ICT tools in parallel. The answers also show that all teachers use only a reliable system.

There were significant changes in the ways in which teachers used digital technologies, but due to the fact that a considerable proportion of students did not have access to digital tools, they could not or had to cope differently.

Interviews with heads of institutions (Appendix 3)

The transition to online education also posed unprecedented challenges for heads of institution, which, as we assumed, became more prevalent in institutions educating disadvantaged children. This assumption was confirmed by the interviews made with heads of institutions.

The heads of institutions assessed students 'access to digital technologies when launching online teaching. Teachers were asked to find out what opportunities students have to engage in online learning, whether they have a phone, a smartphone, a tablet, a laptop, or a desktop computer. It was also important to know whether, if the tool is available, the student will use it on their own or need to share it with their siblings or parents, and whether the device will have adequate internet speed and access. The survey revealed that 42% of the students did not have a device to implement comfortable learning, i.e. the telephone was the only device for these students, which was also shared by family members.

One week was a period of testing the Kréta platform, but due to the slow operation of the platform, teachers tried to find new opportunities. Several schools considered using Google Classroom, but as most parents did not have an email address, and they had difficulty managing the platform, virtually any online platform, Facebook closed groups came to the fore.

The heads of institutions stated that most teachers basically followed the textbook when assigning tasks. In the beginning, they gave priority to the following platforms to access the most commonly used digital curriculum resources: the Smart books of the National Public Education Portal, which were considered to be extremely well complied ones, Smart Box, Learning Apps, Zanza TV, the materials of MOZAIK Publishing House and other platforms useful for producing educational materials (crossword puzzles, word clouds, infographics editors, etc.).

The responses also revealed that about 20% of the students had to be provided with paper-based tasks, the delivery of which to the students also required careful organization, especially with regard to the district school. In the case of the latter, the minibuses of the municipalities helped to take the textbooks home, and later, also with their help, the paper-based tasks were taken up and handed over in the municipal building. The high rate of paper-based curriculum delivery also meant that online teaching was only partially implemented in these institutions, in contrast, for example, to urban schools, where teachers were able to teach online and engage all students.

From the beginning of the second week, education companies offered free educational resources such as LippoZoo, Simple System, iDoctum, Wordwall, Vodafone, PACSI, TANTAKI, Qulto Education and Palace of Miracles, etc. in great numbers. At that time, the heads of institutions already felt the need to give positive reinforcement to the teachers, also pointing out what is worth keeping in mind

with regard to the development of children in the future. According to the heads of institutions, individualised differentiation became more and more important, but it also became clear that there was not enough capacity for that. It became a common phenomenon for teachers to address either the weaker students or the 'average ability' ones or the talented ones with the tasks. Based on this, the heads of institutions encouraged their colleagues to:

- plan the lesson for 30 minutes,
- make sure that children don't sit in front of the ICT device for more than five hours a day,
- pay increased attention to talent development and catching up.

By the third week, it was already clear that due to the high proportion of disadvantaged students, progress according to the syllabus would not be sustainable. In these families, parents were not prepared to deal with their children, and supervising their children's learning began to slip out of their hands. At the same time, there was another group of parents, who did not let their children work independently, they obviously helped their work continuously, and moreover, they performed the task instead of them. Schools made requests to parents, of which the following thoughts were most dominant:

- "Parents should help provide collaborative feedback on teachers' work."
- "They should support their child's school work as a partner."
- "They should be empathetic and patient with their children."

The Klebelsberg Centre provided ongoing guidance on online teaching. These included, among other things, the presentation of the legal regulation on the processing of students' personal data, which was closely related to making recordings of online lessons, transmitting, sharing and recording them.

Student responses

We asked children about how they experienced the change, how they organized out-of-school learning. Some typical ideas include:

- "I am sent the assignments in a booklet every week. I go to the municipality and bring it home."
- "It was difficult to do the tasks on the phone, and then I got a Tablet."
- "I feel that I've improved a bit because I read and write more and that's how I understand things. My spelling has also improved because I have to pay attention to how I write. But learning at school is better because if the teacher tells it to me, I'll remember it better."
- "Our teacher told us a tale on Facebook. It was very good."

- "Our teacher recorded how to solve the math problem."

- "Teachers can to talk about events better, we can ask them questions many times, they explain it to us so that we can understand it, and we get support and encouragement from them."

- "There are kids who like this online learning better, but I think it's very bad because it would be great to go to school again, I am already missing my teachers! This online learning is not so good because a lot of kids don't have a net and most kids learn better offline, teachers help more, we understand each other better, and we develop a lot there, it's much better there! We may play up sometimes, but it's still good to be there and I am missing my friends."

- "I think it would be important for us to learn at school because there are kids who can learn better offline. You also need friends because I don't think many people like to be alone. Some people don't have a phone, a computer at home, and that's why it would be better for them. I also have subjects that I didn't understand at first in the online class, but it changes over time."

- "I learn easily this way, too, as if we were just sitting at desks at school."

- "I don't think it's good that way, because I can't understand the tasks the way I should. Learning online is harder. We do tasks we haven't even learnt. We either try to do them ourselves or, if it is not going at all, our parents will do it. It's even good, but there are things that even they don't understand. That's why it would be better to be at school."

- "No one explains the material to me, I can't meet my friends, and if I don't know something and my siblings also have a lot to learn, I have to wait for Mom to get home."

- "I have to figure out the main idea of the task myself and so I will be smarter. And I decide when I have a break, in whatever order I can do the homework and use emoji in it."

- "I proceed at a faster pace with the curriculum. There is peace and quiet at home. What makes it better at school is that I can be with my friends and I am not bored. It is more fun to learn with friends and in a group. They explain the material better to me. We do interesting things."

- "I proceed at a faster pace than at school. Could it be perhaps the combination of the two?"

The children responded in rich and varied ways. They appreciated the hard work and efforts their teachers put into teaching them, the fact that they tried to grab their attention and maintain their motivation in an imaginative way. As we found out, the school that had a free device (a laptop, a

Tablet), gave it to the children, but where such a device was not available, the students were given paper-based assignments.

Among the drawbacks, the students mention the lack of teacher presence and support, positive reinforcement, encouragement, and the lack of explanations from a teacher. Some of them miss learning from each other and explanation from their peer. The responses also show that children miss school and they also miss peers, friends and teachers.

It has become clear that the popular and effective ways of acquiring knowledge are extremely different, which teachers need to take advantage of and reconsider after the situation has "normalized".

Parents' responses

It was important for us to find out what opinions the parents expressed, and what experiences they gained in this process. Here are some typical responses:

- "Very hard. We have no tools for this. We asked them to send assignments in their exercise books."
- "In the beginning, we only had a phone. Then we got Tablets from the school, they gave it to each child."
- "We try to do our best, Miss ... they are skilful otherwise ... thank God they know what the situation is and there is a will in them, they know they have a responsibility. But they would like to go to school. Many would think that children are happy about this; it is not like that though. They would prefer to go to school."
- "The kids' learning time was initially all day long, they were performing tasks, watching videos from morning to night."
- "Tamás is in eighth grade now. What will happen to him next year at the new school?
- The thing is very new to me, too and I have a hard time seeing through it. But I've learnt it somehow. "
- Let us just say, I help three children, but with one class…"
- "The teachers are good, they help a lot. Now we really know that this profession requires a lot of strength and perseverance. – I'm just a tiny dot, I'm just tasting it a little bit, but it's a really big deal for 8 hours a day."

The responses show that parents had to overcome a more difficult hurdle than their children. They were not, could not be prepared for online learning, a deficiency that manifested itself not only in the difficulty of managing ICT tools, but in many cases in the lack of tools. Approx. 42% of the stu-

dents did not have adequate equipment, but 83 of the 762 students (and their families), i.e. approx. every tenth child didn't even have a phone. The poverty of families left its mark on students' school progress, showing that jumping the digital divide is extremely difficult and an almost insurmountable drawback for children from poor families.

Parents also expressed concern that in the beginning, they found the large number of tasks assigned to their children by teachers too demanding, but as was mentioned above, the heads of institutions sought to regulate this "excess", which reduced the number of tasks, and resulted in the shortening of the learning time.

We have indicated it before and now we confirm that the majority of parents can't help their child, they are unable to help them. There were parents who thought that online learning was not effective for their children, feeling that they were not making progress. One head of institution indicated in this connection that at the beginning of the second month, some teachers held contact hours for children lagging behind, forming groups of 4 students, mainly in the lower grades, typically in the first grade.

There were some parents who thanked the teachers for their work, indicating that they see and understand that their children's success is important to them, and moreover, they now "understand what work is going on at school".

As it turned out, it was not only teachers but also parents who had become more skilful in the use of digital tools. Without becoming aware of it, they acquired digital literacy skills, which meant that there were able to use the Kréta platform better, which is not popular with parents. The question that now arises is when this change would have occurred in disadvantaged schools without the crisis.

Conclusion

The findings of the research show that the teachers of disadvantaged schools dealt with this challenging task as successfully as possible. Their competencies and equipment enabled them to implement online learning at the right level, but at the same time, despite their preparedness, it became clear that they also found themselves facing other problems and factors that were impossible to prepare for when the coronavirus started to spread and that they cannot be accounted for only by disadvantageous family circumstances. At the same time, an important part of our findings is that all "participants" (teachers-students-parents) made significant progress in using digital tools, which is highly likely to have an impact on education, and launch innovations or reforms.

It is worth considering what digital-assisted learning should look like after the coronavirus crisis. The recent period has provided teachers with guidance on how to reconsider their classroom activities, what to offer as independent, online learning, and what to spend valuable contact minutes on.

How to assist their lessons with ICT tools, how to take advantage of the opportunities offered by the World Wide Web and how to monitor and evaluate students. However, they should also pay attention to how they take advantage of group collaboration between students in contact hours. Teachers have already started to plan which online platforms are worth using for face-to-face teaching. This exceptional situation has shown which online resources are the ones that can be used well, are motivating and contribute effectively to knowledge acquisition; in plain language, which have stood the test of time.

The coronavirus crisis has also revealed the lessons that can be learnt from it. ICT needs to become part of the everyday life of students, teachers and parents, bearing in mind that online learning is often more tedious than the traditional one as it requires more self-discipline and concentration from children. The new strategy builds upon new technologies (Lister, Dovey, Giddings, Grant and Kelly, 2009) that need to be accustomed to, exploited, and developed in such a way that the learner can use it for his or her independent knowledge-building activities (Forgó, 2014).

The question may arise as to what effectiveness we can talk about with regard to children who did not have an ICT tool. Teachers, despite their best efforts, were not able to bridge the digital divide for many children, and in this situation, those who were deprived of the opportunity to acquire knowledge fell behind. It is a question how teachers can close the gap in and help students who are lagging behind to catch up after the coronavirus crisis.

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Appendices

Appendix 1 *Questionnaire to assess the availability of ICT equipment in schools for teachers and their ICT competencies*

Your sex (female/male)

Your age

Your Highest level of education (College/BA/BSC / University/MA/MSC / Other)

Do you have a pedagogical qualification? (Yes/No)

Did you receive any digital pedagogical training during your studies? (Yes/No)

Have you ever participated in digital pedagogical training in addition to your studies? (Yes/ No)

What digital devices do you have? (a desktop computer, laptop, mobile phone, tablet, other)

Do they have enough digital devices in the household? (Yes/No)

Are the devices provided with the equipment (camera, microphone) required for online synchronous video conferencing? (Yes/No)

Your own use of ICT tools:

I have basic ICT skills

I use ICT tools confidently in my teaching

I use ICT to create digital learning materials (presentation, animation, website, digital worksheet, etc.)

I use digital communication tools to support learning (email, blog, Facebook, Skype, Moodle, etc.)

I use ICT systems for monitoring and evaluation

I use several parallel ICT services at the same time

I only use reliable systems

Student device use

Students regularly use ICT tools in my lessons

Students like using ICT tools (e.g. a computer, digital camera, mobile phone, etc.) to perform various tasks

Students are able to edit different digital files (e.g. texts, images) according to their ideas

Students are able to share data, information, and various digital files with others

Issues related to the transition to digital teaching

The transition to digital teaching did not cause a problem

School leaders support and encourage ICT-assisted learning in the current situation

School leaders monitor the extent and effectiveness of students' use of ICT tools for learning

School leaders monitor the extent and effectiveness of teachers' use of ICT tools for learning

The programs / digital services I use:

Appendix 2 Questionnaire on the transition of teachers to online teaching

Questions:

- To what extent did you, as a teacher, manage to switch to online teaching?
- What is the most difficult thing for you in the transition?
- What do you think the biggest benefit of online teaching is?
- What do you think the main setback of online teaching is?