

## Article

# Combating the Coronavirus Pandemic in Small Schools

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**Abstract:** Due to the COVID-19 pandemic, the issue of distance education in primary schools has become a much-discussed topic. It is therefore no surprise that the issues related to it have come to the forefront of many researchers. There is, however, at least one group that has stayed relatively unnoticed, and it is so-called small schools. Thus, we conducted a qualitative study based on the phenomenological approach, searching for answers to our research question: What has been the experience of the directors of small schools with distance education during the pandemic? Our findings offer an in-depth insight into the life of six schools through the eyes of their directors. Semi-structural interviews with school directors helped us reveal three key factors that, in our opinion, had the greatest influence on the form of distance education. These are (1) the factor of ICT competence of all actors, (2) the factor of organization of educational settings, and (3) the factor of the teaching methods and forms used in education. Furthermore, we conclude the result section with a subchapter that captures the positive aspects of distance education as perceived by the addressed school directors.

**Keywords:** distance education; small schools; pandemic



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## 1. Introduction

There has been a long-standing debate about the implications of ICT (information and communication technology) implementation in education. While considering digital literacy, Poore [1] articulates the basic idea that we must first realize how we will use digital technologies in teaching. He believes this to be a key element in thinking about the development of digital literacy, as well as the question of the development of digital literacy of the teachers themselves and the consequent meaningfulness of the activities for pupils. Calder and Otrell-Cass [2] also speak in a similar vein, claiming that ICT may open up spaces for learning; however, it is necessary to rethink its integration for educational purposes. This also relates to the competencies of the 21st century—collaboration, communication, digital literacy, citizenship, problem-solving, critical thinking, creativity, and productivity—which need to be integrated into the curriculum of pre-service teacher training [3]. The same authors believe that teachers need to learn for themselves how to bring modern technology closer to students so that they all can benefit from it in the educational process. Thus, there is an important assumption that digital literacy will not be taken as a separate area but will be included in the curriculum as its integral part [3].

Due to the COVID-19 pandemic, the issue of distance education in primary schools has become a much-discussed topic. Online education has become an alternative mode to mainstream teaching. The interest in this area has grown exponentially [4]. The effectiveness of online education was one of the first topics to be intensively discussed. Some challenges focused on the interaction between learning actors [5], others on achieving goals and student satisfaction [6] or comparing distance learning with full-time learning in person [7].

Teacher readiness and related ICT competencies also played an important role. Several studies have revealed that some teachers perceive distance education as an opportunity

for development; while for others, especially those without sufficient computer skills, this form of teaching is stressful [8]. The importance of teachers' professional competencies was also stressed by Amram and Davidovitch [9], who stated that experienced teachers, who had richer experience with teaching, were also able to implement a wider repertoire of teaching methods in the online environment than beginning teachers. At the same time, experienced teachers give students more room for self-realization within the online environment, while being able to better identify their individual needs [9]. On the other hand, König, Jäger-Biela, and Glutsch [10] found that most teachers communicated that, in addition to assigning assignments and providing feedback to their students, they had also introduced new teaching content. According to teachers, the main obstacles to the implementation of modern technologies in education, and thus the implementation of distance education, are the lack of resources, time, and support in terms of the development of digital competencies [11]. This claim is supported by Avidov-Ungar and Forkosh-Baruch [12], who found that the settings of the digital era force teachers to re-evaluate their professional identity in relation to technologies, and institutional support plays a crucial role in it.

The relationship between family and school also plays an important role in the distance learning process. Recent studies of parents' experiences with education during the pandemic situation have shown that parents were burdened with school obligations like never before; moreover, they expressed they were asked for much more than they were actually capable of giving [13,14]. The excessive burden on parents has also led to increasing criticism of schools [13] and concerns about the future of their children [14]. Distance education from the parents' point of view was also examined by Lee, Ward, Chang, and Downing [15], who highlighted the level of parental involvement in children's learning in a positive way. Based on their findings, parents and their children engaged in daily activities more regularly and even increased the frequency of hugging and overall physical proximity. Similarly, more than a third of parents noted that their child's behaviour encountered changes during the pandemic.

As already outlined above, the pandemic period can be understood as a driver of the use of ICT in education and the related increase of digital competencies of teachers, students, and parents. Czech schools were closed for the first time in March 2020, and how to ensure teaching there was left to the school management. In the Czech Republic, the current usage of ICT in distance education was mapped in a survey conducted by the Czech School Inspectorate [16]. The results showed that most primary school pupils were somehow involved in online education. In primary schools (ISCED1), compared to higher grades (ISCED2 and ISCED3), teaching was mostly asynchronous (e.g., e-mails with assignments), which led to a large burden on parents. In the autumn of 2020, the situation was more systematically conceptualised. Schools acceded to unified platforms (all teachers in one school used the same platform to communicate with pupils and parents) and provided more online lessons. The effort of the Ministry of Education, Youth, and Sports to educate teachers in the form of webinars also had a positive effect on the whole perspective.

Our research focused on the pandemic situation in small schools, which were neglected in national surveys (in the period of our survey). A small school is usually understood as an institution that is especially common in rural areas, as it enables the stabilization of learning-group sizes in areas in which birth rates have declined and out-migration has increased; it is also implemented in order to prevent schools from closing [17]. There are several translations for the term small school in the literature. The term small school or rural school often appears regardless of the size of the building (although this is often the case), or we can find the term school with composite classes, or school with multi-age/multigrade classes); in German, it is 'Zwergschule' or 'kleine Grundschule', sometimes specified 'mit Klassen mit mehreren Schulstufen'; in French, it is 'petit école primaire'. It is therefore an internationally known type of school, which is still very marginal in the centre of research. This is pointed out by Hargreaves, Kvalsud, and Galton [18], who state that data from Scotland, England, and Sweden on the academic performance of children in rural

areas challenges education, yet there is little research either on the teaching and learning processes or on how or whether rural schools optimize the resources available to them. Similarly, the lack of empirical studies is reported by Hyry-Beihammer and Hascher [19]. In their work, Bongala, Bobis, Castillo, and Marasigan [20] point out the problem of teaching in small schools, which is caused by the age heterogeneity of classes. They emphasize the need to differentiate the curriculum during education in combination with individual activities of students. All this is in the context of increased demands on the organizational competencies of teachers.

Age heterogeneity and the associated different organization of education, the choice of teaching methods, and forms of work during the ordinary running of small schools all raised the question of how small schools manage distance education. During the pandemic, many studies mapping distance learning in schools were conducted on the national level, but small-class schools remained out of sight of researchers and the state. Our research took place in autumn 2020, at a time when small schools had already overcome the first wave of the pandemic and were at the beginning of the second one.

## 2. Materials and Methods

The main purpose of the research project was to look at distance education in the time of a pandemic as a new phenomenon in education that significantly affected the normal operation of primary schools. The main goal of the research was to describe the phenomenon of distance education in small schools and to identify the decisive factors that may have influenced distance education. By distance education, we mean a combination of online lessons (synchronous) and offline lessons (asynchronous). To concretise the above goal, we formulated a research question: What is the experience of principals of small schools with distance learning during a pandemic?

In view of the main purpose of this research survey and the set goal, the design of qualitative research was chosen. We decided to conduct phenomenological research, which allows to enter the inner world of a respondent and understand the meaning he/she attaches to phenomena [21]. We believe that understanding how the pedagogical staff of small schools perceive and implement education during a pandemic is not only a key to the development of other small schools, but also has a significant role to play in the training of future teachers at faculties of education.

### 2.1. Sample

The research was carried out in small schools. These are an integral part of the educational system. However, due to their specifics, they are, to some extent, different from the approaches in mainstream education [22]. For this reason, this type of school was deliberately chosen.

The method of deliberate selection was chosen for the list of potential respondents so that the sample is as representative as possible. The criteria were the location of small schools in two regions of Czech Republic that are socio-culturally similar and thus may have similar needs in education and could have encountered similar problems. We addressed leading pedagogical staff, school directors, who are responsible for the successful implementation of distance education in the first place. Furthermore, there is another advantage of conducting an interview with principals, since they are always teachers at the same time. Thus, it ensures sufficient feedback on the educational process in its entirety. Subsequently, we conducted an online semi-structural in-depth interview with 6 of them. There was no need to continue addressing other school principals, since the narratives of the already-interviewed principals were repeating and did not contribute new perspectives.

The research survey took place in November and December 2020. A total of six respondents took part in the research survey, principals of small-class schools located within the regions of two cities Hradec Králové and Pardubice in the Czech Republic. In the following paragraphs, we offer closer insight into our sample. At the end of this sub-chapter, we provide readers with brief characteristics of school directors as they are

perceived by researchers (see Table 1). To ensure the anonymity of answers, we use letters A–F while describing each school and its director (for more, see ethical principles).

**Table 1.** Characteristics of school principles.

School Directors	Length of Practice (in Years)
Director A	22
Director B	11
Director C	16
Director D	34
Director E	10
Director F	10

Primary school A is connected with a kindergarten. A total of 48 pupils attend this primary school. It is the largest school in our sample. Teaching is provided by four teachers (three teachers including the school director and one caretaker). First- and second-grade students are joined in one class. The school director has been in the office since 2002. The school curriculum is anchored in the School Educational Program entitled Discovering the World for Life, which is based on the national Framework Educational Program for Primary Education. It was created based on the principles of the so-called Creative Schools and focuses on learning through activities. The school claims to successfully ensure the development of pupils' personalities through various activities. Emphasis is placed especially on an active relationship with nature and its protection. Events connected with the presentation of pupils to the public are mainly directed to the field of physical education, art, and the environment.

Primary school B is also connected with a kindergarten and has a total of 72 children (36 pupils at the school). All classes are age-heterogenous. There are 1st, 2nd, and 3rd grade students joint in one class and 4th and 5th grade students in the other. Teaching is provided by 4 teachers (including the school director) and two teaching assistants. The school registers four pupils with special educational needs, and one pupil has delayed speech development. The school teaches according to the School Educational Program, which is based on the national Framework Educational Program for Basic Education. The school wishes to be an alternative to existing schools with its individual approach to pupils. In principle, the school is open to all children and parents. During classes, the school is accessible to parents. Every parent has the right to know how his/her child learns, i.e., to know concrete approaches and ways of education.

Primary school C is attended by 23 pupils, who are in two classes (1st class is a combination of 1st, 2nd, and 3rd year; 2nd class involves 4th and 5th year). Education is provided by 3 teachers. The school director has been already in charge for 8 years. There were two pupils with learning disabilities included within classrooms and one pupil with behavioural disabilities. Another three pupils were provided with the 1st level of support measures for learning disabilities or behavioural disorders of a milder nature, and one pupil for extraordinary talents. The school educates according to the School Educational Program, which is based on the Framework Educational Program for Basic Education.

Primary school D is an independent school not connected to any kindergarten. Education is provided by 3 teachers, including the school director and a teaching assistant. Teaching takes place in three classes; the school provides education for 34 children. One class is formed by combining the 2nd and 3rd year, and the 1st year and the 4th year are taught separately in their own classes. There are currently no 5th graders in the school. The school principal has been in charge of the school for 21 years. There are 4 pupils with special educational needs registered in the school, of which one draws from the third level of support measures, with an individual educational plan. The school teaches according to the School Educational Program, which is based on the national Framework Educational

Program for Basic Education. It stands on three pillars: well-being of the environment, healthy learning, and open partnerships.

Primary school E was founded in 2016 by the school director. The school uses a small class system, similar to village schools. This means that mixed age groups are educated here. At present, the school has 26 pupils, who are divided into 2 classes where each class has three grades (a so-called three-grade class). In total, the school has six teachers, two of whom are essentially part-time teachers, and four are main teachers. Nevertheless, there are no full-time teachers in the school. Additionally, there is one teaching assistant in each class. Teaching takes place in blocks, and students learn according to individual educational plans. Pupils are not given marks, and verbal assessment of the formative type leading to self-assessment is used. The teaching process is based on the principle of freedom education and the school makes use of some aids known from Montessori education, elements of step-by-step, integrative thematic teaching, and especially the Jena Plan. Teaching takes place with interdisciplinary overlaps.

Primary school F is a small, family school with an innovative educational program, which was established on the initiative of parents in 2016. The mission of the school is to provide children with basic education through natural learning based on trust and inner motivation. There are mixed-age classes at school, which allow children to learn from each other. Thirty-nine pupils are enrolled in the school, of which 4 are receiving individual education (internationally recognized as home-schooling). Pupils are divided into three classes. First graders have their own class, whereas 2nd and 3rd graders share one class, and 4th and 5th graders the other. The school has 3 class teachers, a part-time English teacher, and a mathematics teacher, who is also the school director. There are also three part-time teaching assistants at the school. The education aims for children to stand on their own two feet, know how to work with freedom and responsibility, and know how to cooperate. Pupils are not given marks, and verbal assessment of the formative type leading to self-assessment is used.

## 2.2. Instrument and Data Analysis

A semi-structured interview was chosen as a research tool. With regard to the chosen research design, the technique of the phenomenological interview was used. The intention was for the respondents to assign the importance of their actions to the wider societal context and the chosen procedure within the framework of adjusting the method of education in their school. It was a series of areas in which the respondent's attitude to the new situation was first addressed, then the focus on experience with educational adjustments (methods, forms, organization of courses, etc.), and finally, a reflection on the implemented steps in a school.

The structure of the questions was based on the need to map a wide range of processes. The first thematic area was devoted to the transition to distance learning, the second was focused on working with modern technologies and the technological background of the school, the third focused on the content of distance education, the fourth on methods and forms of work, the fifth on the evaluation of school results, and the sixth on communication and cooperation among teachers, pupils, and parents. The intersection of all areas was the understanding of the whole situation in the context of the COVID-19 pandemic as a phenomenon that significantly affects the current form of school education.

The obtained data were processed by standard methodological procedures, while the method of interpretive phenomenological analysis (IPA) was chosen [23]. We agree with Shinebourne [24], who assumes that IPA is an approach that is congruent with the existential-phenomenological-logical paradigm.

The interviews were recorded on a dictaphone with the consent of participants and subsequently were subjected to a transcription. Transcribed interviews were coded [25]. First, we approached open coding, which divided the information into subunits. Each unit was assigned a code, using guiding questions as described by Flick [26]. In the next sequence, the categories were created from the codes within the axial coding, thus laying

the foundation for identifying relationships between categories and searching for interlinks. The obtained data were analysed by two members of the author team. In order to unify the interpretation, the first two schools were analysed by both members at the same time. Other schools were analysed individually. To ensure the validity of the interpretations, all conclusions were assessed by two other team members independently. This procedure was chosen deliberately to ensure the highest possible degree of objectivity in the evaluation of the obtained data. Inconsistency and differences in interpretations were then discussed by all team members together.

### 2.3. Ethical Principles

The ethical level of the research survey was ensured by the voluntary participation of respondents and their consent to the research. All respondents were informed in advance about the purpose of the research survey, the method of data analysis, and the usage of results. As part of the work with the data, and especially its presentation, the findings were strictly anonymized so that it was not possible to identify the examined subjects. To ensure the validity of the findings, independent data processing by the authors of this text was used.

## 3. Results

The results of analyses of interviews with directors of small schools revealed three key factors that, in our opinion, had the greatest influence on the form of distance learning. These are (1) the factor of ICT competence of all actors, (2) the factor of organization of educational settings, and (3) the factor of methods and forms used in education. Furthermore, we conclude this section with a subchapter that captures the positives of distance learning as seen by the addressed school directors.

### 3.1. ICT Competencies

The ICT competencies of the stakeholders seem to us to be one of the factors that had a significant impact on the shape of distance learning of small schools. From the beginning of the new millennium, the general view of education in the field of ICT has been the subject of various European documents (eEurope 2002—An Informatik Society for All. Action plan, 2000, The eLearning Action Plan: Designing tomorrow's education, 2001; Education and Training, 2003; The Europe strategy 2020, 2010) and also Czech documents (The concept of the development of information and communication technologies in education in the period of 2009–2013, 2008; Education strategy policy CR 2020, 2030+), highlighting the ICT competencies of teachers and pupils. But what is the reality in school? Were teachers and pupils really competent enough to handle distance education?

The statements of the principals show that their teachers control the basic work with a computer (document creation, presentation, communication by e-mail). In addition, four schools highlighted that they had an interactive whiteboard and teachers used it on a regular basis. Nevertheless, the COVID-19 situation surprised teachers a lot and found them unprepared, because they were not used to using technology for online communication and teaching. To put it simply, using a computer is something different than teaching with a computer. One director commented: "Computers—nothing new for us—but in the form of communication via Zoom, it was completely new!".

We can state that teachers had to improve a great deal in terms of the use of ICT. The spring lockdown was more of a "trial" for them. The majority of schools looked for a way to educate pupils, because, as they expressed, "we were thrown into it, just like everyone else". In schools where they worked minimally with technology, they had to learn "absolutely everything" in a short time. There was a certain alliance in which the school principal proved to be a "puller" and was available to teachers throughout the day. Director A commented on the situation: "So we actually worked the same way we work with children. If you don't know and can't do it alone, learn how to get advice from someone else".



In the spring, school principals also tried out different applications for communicating with pupils and parents, depending on what was close to them and what they managed. Somewhere, however, they set up the system and unified it for the whole school (i.e., all teachers and assistants used the same platforms). However, the training was short, and it was rather an introduction to the environment. After some time, the school directors reported a mutual exchange of information and cooperation of the teaching staff: “Well, so we all were learning. We were learning from each other, basically on the way”, described School Director B.

Some of the mentioned school principals evaluated the situation during the holidays and prepared training (Teams, Google classroom, Bachelors, Edupage) for the entire teaching staff in September, predicting that the lockdown may repeat. Other teaching teams brushed up the knowledge gained in the spring period. Another helper mentioned was webinars for teachers and school directors, which helped to navigate between various useful programs and websites. One of the schools stated that teachers had been working with shared disks (Google Drive) before schools were closed; thus, after the closure, they started using the GSuit tool in more depth. Director E described his teachers in terms of ICT competencies as follows: “the vast majority of our teachers’ team come from or are from the so-called Z generation. These are simply young people who have already grown up with some technology and the Internet”.

We can identify several elements that played a role in the development of teachers’ ICT competencies: peer support, cooperation, sharing experiences, mutual learning, and the effort to constantly move forward. For example, Director A commented, “we are trying to improve and, as I say, we are learning from each other. What, for example, one finds out, learns, or brings knowledge from a webinar, we actually try to share that knowledge”. There has also been mutual enrichment between different generations of teachers. According to Director D, young teachers “work somehow intuitively, and basically if they have to get acquainted with something, it doesn’t take them long and they can usually explore it by themselves”. Nevertheless, older teachers, with the support of the school management and their colleagues, were able to handle the situation, trained themselves in the use of new programs, and worked with them without any problems.

For the overall picture, we consider it necessary to mention the ICT competencies of other actors, i.e., pupils and parents. It was also a completely new, unusual situation for them. In the spring, offline teaching prevailed. However, at the beginning of September, school principals suspected that schools could be closed again. Thus, they also started preparing first graders for online lessons. Director D described the situation with first graders as follows: “so my teacher, who is good in this area, took my first graders and taught them the very first steps . . . they [first graders] were able to click on the links, they were able to close apps . . . like I have to say, that during that one lesson they learned quite a bit about the steps”. Pupils of higher grades were also prepared for online lessons. One of the principals commented on the situation: “We have a lot of parents who can’t understand that the children are independent and that they can do a lot”. If there was a problem, the principals also trained parents to handle basic functions such as joining class and logging into any systems.

It can therefore be stated that there has been a generally positive shift in competencies in terms of working with information and communication technologies. All actors in distance education have been involved in some way. The first lockdown showed strengths and weaknesses in the use of technology and leaving schools alone to address it. During the summer holidays, the mentioned schools were already more systematically preparing for the possibility of the second wave of COVID-19. The fact that this was a systematic preparation is proved by the planned teacher training activities.

### *3.2. Organization of Educational Settings*

The experience of small schools with the transition to distance learning within a few days in spring 2020 was very much reflected in school practices and the organization of

teaching in autumn 2020. We can say that spring teaching surprised everyone and was not systematically grasped from the point of view of the teaching organization. “Children have some kind of a mind-map of the curriculum that they should master in a given year, and we try to guide them so that they learn as much as possible on their own, so that they can progress on that map. And there you could see that some of the children took a holiday”, explained principal E. The teaching organization in spring 2020 could again be described as finding ways: “first we worked with the pupils through job assignments via websites where parents met our requirements and worked with children at home. Afterwards, they sent us these tasks scanned or as pictures through various applications such as Whatsapp, Viber, etc. On the way, we learned how to communicate with children through these applications and we found out that nothing really works the way we want it to. So, we kept looking”, said one of the directors.

In the autumn, schools already had better material equipment, making a survey that families would need to rent some devices at the beginning of the school year: “... we lent Chromebooks to those who didn’t have appropriate equipment—we had selected families ahead where they might need help. So, we lent some families some devices”. If there were any connection problems, the principals dealt with it individually: “... and then we have two children, so they can’t connect online. More or less, they do not have a capacity—like within a family. Dad got sick there and grandma is there. So, it [online] just can’t happen there. And another family, they were more or less moving from one place to another, they had a hard time, so they were comfortable assigning assignments via e-mail, working out and communicating with the teacher via e-mail and telephone”. The director of another school admitted that they lent everything they had to families: “... what we had in terms of digital technology here at school, I gave it to the teachers to arrange teaching and then I gave it to all the children. So, I have nothing left here at school”.

As for the distribution of subjects in the weekly schedule, the schools adjusted the schedule based on the spring experience. The main subjects (Czech language, mathematics, humans and the world, English) were included in online teaching. The art subjects (music, PE, art, etc.) were put outside the regular schedule and, for example, only voluntary tasks were given from these areas. The timetable did not correspond to full-time teaching of schools, the pupils had about half of the lessons. In general, the number of online classes ranged from 1 h per day (first graders) to 15 h per week (fifth grade) depending on the age of the pupils (Table 2).

**Table 2.** Number of online lessons.

School A	No Information
School B	Approximately 50% compared to full-time teaching, depending on the grade
School C	1st grade: 1 h per day 2nd and 3rd grade: 2–3 h per day 4th and 5th grade: 3 h per day
School D	5–15 h per week, depending on the grade
School E	1st three-grade class—6–8 h a week 2nd three-grade class—8–10 h a week
School F	1 h per day and following 2–3 h of individual work supported by consultation hours with a teacher

The duration of a day online is described by Principal D as follows: “The fourth, fifth grade taught three hours online at a time. We were set to teach from eight to nine. At eight, a teacher joined, eliminated technical problems, talked to children, did the social and technical side of things. It usually took those 10–15 min to collect them all. This is another thing that the teacher was hunting students somewhere in bed. That was the 10–15 min. At a quarter to nine, classes usually began, which usually lasted half an hour and it was definitely not a repetition of the assigned work, but normally we drove on.



Then they actually had a quarter of an hour to do some convalescence and rest, and then another lesson started". The interviews showed that the teaching did not take place in the classic 45 min, as the teachers took into account the non-standard situation and adjusted the time allowance.

Capturing the need for a certain plan or schedule, checking its functionality, and strengthening communication with pupils were best captured by the statement of practices in School E, in which they strengthened online compulsory lessons with pupils and added online reflection with each pupil. Each week, the student had a half-hour reflection with the teacher. The subsequent learning activities of pupils and teaching activities of teachers were dependent on such reflection: "based on the children's reflection, the teacher drew up a schedule with seminars for the next week, and the children signed up for them themselves, because they planned them as a part of their weekly plan. The system worked much better because children had a firm plan for the next week and then had to somehow defend how it worked at the end of the week".

The common denominator for effective teaching, mentioned by all schools, was teaching in smaller groups. It is one of the principles of small schools to have several grades in one class, and yet the number of pupils in one class does not usually exceed 15. Compared to large or ordinary schools where numbers go from 20 to 30 pupils in one class, it is still a low number. Nevertheless, all interviewed school directors agreed on splitting the class into smaller groups in order to sustain the quality of education: "In order for the teaching to be simply of high quality, we set it so that each grade was taught separately and thus we could beautifully put the Czech language and maths at the same time". Five pupils in a group seem to schools to be the ideal number in which it is possible to maintain a high quality.

If we summarize the organization of teaching as another identified factor, we must highlight the material background of schools. All the monitored schools primarily provided pupils with necessary equipment so that the online classes could really happen. The timetable was adjusted on the basis of experience from spring teaching. An important element was the size of the group of pupils. Schools concluded that teaching in smaller groups was more effective, so classes were divided, and the teacher taught the same content repeatedly for different groups. From our point of view, the (self) reflection of pupils' work also contributed to the quality of the education process, especially when it was provided within an online session with a teacher.

### *3.3. Teaching Methods and Forms*

During two semesters of distance education, schools were forced to try out many programs and applications, methods and forms of teaching, and the organization of teaching as such. Through observations, constant searching, and trial and error, schools have finally developed a sophisticated system of what works for them. In this section, we try to point out the common elements that schools have identified to have an impact on their education within this factor. We could call these elements integrating teaching and learning methods, teachers experimenting with ICT, and settings of well-organised online lessons.

The principals made no secret of the fact that the search for methods and forms of work in the online environment was a great challenge for the entire teaching staff. What works in face-to-face classes may not be successful in the online environment. One of the processes that worked for schools was the involvement of such teaching and learning methods that ideally integrate all educational areas and that have an overlap with the practical and family life of the child. As the most common method, the principals mentioned working on projects in which children can also involve parents or grandparents and thus strengthen intergenerational relationships. For example, Director F explained the usefulness of this approach as follows: "Well, I find it really a good recommendation to prepare children for more challenges for such longer-term distance learning projects. Before giving them a set of exercises from a textbook, it is better to think about a project that will really integrate more educational areas, for example, something like the topic of the Velvet Revolution or

something like that, where they can work with their parents, where they will learn a lot from others". The principals pointed out that the projects themselves should ideally be based on the needs of the pupils' interests. Although, as Director E admits, "it cannot be absolutely applied on every subject. I offered children projects that were based on their interests or hobbies. And then when I reflected with them on what they were working on, so I saw that there was some spontaneous learning without my touch, without chasing them and without controlling them during lessons. In fact, by working on something they really enjoy and are interested in, the learning process was done. I saw skills and knowledge which did not come from me". The school directors were very much aware that the project teaching method assumes that children are able to manage their activities and perceive responsibility for their own work. Therefore, many principals recommended that educators lead and support children in self-directed activities, especially outside of distance learning. It was a matter of fact that directors whose school supported children in self-directed activities felt better about pupils' performances and had more faith in children's capability to handle online learning. "And, of course, the huge advantage for us is that the children are led to self-regulated learning. Even the parents could see it and they appreciated it. It was actually at that time, in the spring, in March, when it all started and no one knew, um, everyone was just there. I think we had an advantage. Children in the classical system are used to being told what to do and suddenly, if this is missing, they are lost. Our children were fine", said Director E.

In connection with teaching methods, the ICT competencies of teachers were very often mentioned by school directors. They pointed to the need to constantly experiment with different applications and programs for activating children in teaching. They suggested that teachers should not be satisfied with a few applications, but constantly test new ones that will allow a greater degree of involvement of pupils. Director F expressed: "... teachers should not be really afraid to use methods that would not be of use later on, during full-time teaching. Just try to work with Google maps, work with a street view, work simply with something children can work on with a teacher simultaneously. In fact, being actively engaged in an activity, it is the best. It seems to me that [the children] enjoy that a lot". However, the principals emphasized that the search for new opportunities goes hand in hand with the teacher's competencies, and therefore it is necessary to constantly learn and deepen digital literacy. Director B says: "I would probably appeal to that, to be good at technologies, to have a more complex picture of what is on a market, what programs or applications I can use as a teacher. And like being forged in it. Keep track of what's where, you know ... Being essentially on children's wave".

The school directors also had the same views on the organization and forms of work. As these are primary education schools (ISCED 1), which correspond to the age range of children from 6 to 10, most principals recommended setting the proportion of online teaching and learning and offline learning so that the pupils do not spend much time in front of the screen. "And certainly, distance education shouldn't take more than an hour, an hour and a half a day, especially in the first grade. Now I mean the online tutorial. Because then the children are losing attention and if they have more digital material offline, it is not even appropriate for them to spend more time in front of the computer", explains Director F. The school directors often noted that it was most difficult for parents who felt that the recommended time location for online teaching is not enough. "So, we gave a little enlightenment to parents that it's not about half-past seven, or from eight in the morning to be ready and sit in front of a computer until twelve, because the classic schedule doesn't apply at this moment". Considering the settings of online education and independent pupils' work offline, principals often recommended thinking about what they really want from those children, and that the curriculum is not everything. "The most important thing is for a child to understand what we do and why and, if necessary, to slow down", expressed Director B, and she continued, saying "teachers should reconsider their expectations and realize what they can do in that class and what they can do at home, because I've seen a lot of assignments that I thought, this can't be done". Above that,

some directors admitted that even they as teachers had excessive preparation for lessons, which caused pressure on them and the children. Over time, they slowed down and found some tricks to capture and keep pupils' attention (such as having a backup in some fun activities or activities for those who work quicker). Thus, time allocation for online and offline education is not everything. It has to be accompanied by adjusting the content of a curriculum and not insisting that everything must be done.

To sum it up, the responses somehow divided school directors into two groups. One group represents directors who claimed to use almost the same methods of work regardless of distance learning or face-to-face learning in schools. On the other hand, there was a group of directors who had to look for different teaching methods from what they applied normally in schools. Nevertheless, all directors were in principle in line with adjusting the proportion of online and offline lessons. Moreover, they strongly suggested considering carefully what curriculum is really important to address in online education.

### 3.4. Pros of Distance Education

The schools were suddenly closed and almost no one was ready for it. Schools have been imposed with various regulations without proper support from the state. They had to overcome many obstacles and solve many problems on their own. At such a time, one could not imagine that distance education could be beneficial in any way. In the end, neither of our interviews aimed to identify the positive aspects. Nevertheless, all the addressed principals somehow touched the question of the usefulness of distance education, and they named aspects that helped them rethink their approach to this type of education. We think that it is worth mentioning, since in this time of articulating negative impacts of the distance life on our lives, we should also look for what has enriched us. This section contains common denominators, which could be titled as follows: (1) deepening digital competencies of teachers, (2) deepening digital competencies of pupils, and (3) implementing new processes.

"We have greatly improved the quality of digital literacy at school", commented Principal A. All school directors admitted that their teachers were constantly confronted with new programs and applications that they had to learn to use. The extent of support in the form of different trainings and webinars varied. Some teachers were used to using the technique at least on a user basis, while for others, the technique was a largely unknown area. Director E was passionate about the case of an older teacher who started using computer technology for the first time during distance education: "So, it was sometimes hard, because she was surprised that there was a camera on the laptop, now you may imagine how hard. But as the time has been passing, she has been learning a lot". Another surprising fact for schools was the desire of educators to discover new applications and programs. School directors noticed that the initial rejective attitude towards technology in general transformed into teachers' curiosity regarding how far they could get.

Most schools described a major shift in the deepening of pupils' ICT competencies. Director F compared the situation in spring 2020 with autumn 2020 as follows: "But, of course, they made huge progress already in spring, because they naturally became interested in it [ICT] on their own. They just got into it and started calling for having the chance to create their projects on a computer, for example". Another director expressed her amazement at how children handle technology, even though they did not want to burden them with it at all. Actually, many small school principals believed that ICT was not so important in primary education and pursued an "ICT should come later" policy. However, the children themselves surprised both the principals and the teachers, and the pedagogical team often realized that they underestimated the children's abilities. "What I'm very excited about how they master the Bachelors [software in primary schools] wonderfully, even though we originally thought that we wouldn't actually give it to the third-graders. And they mastered it! . . . I must say that the technology has enhanced them. On the one hand, it enhanced us, and on the other hand, it enhanced children".

The last positive aspect we present here can be called the implementation of new processes. Half of the interviewed principals noted that distance education allowed them to make the changes that they had been thinking about for a long time but were not able to implement. Among such implementations were the elimination of paper-form textbooks, digitalization of study materials, organization of online meetings instead of face-to-face meetings, and having strategies in case of unusual educational situations. “We made a promise this year, when the coronavirus came, that it is a unique chance to open windows for a very heavy wind to run through our school and finally make all the changes that have not been made so far . . . So, we have sensed an opportunity and completely abolished textbooks in our school”, explained School Director B. The majority of schools were forced to digitalize study materials for pupils. It appeared to be handy, especially for one school, which had been thinking about it for a long time. Moreover, this school created a system where each child has his/her own folder, and this folder is accessible to all teachers and assistants in order to see the progress of a child in all areas. Another positive change relates to organizational issues within a pedagogical team. Director D compared online meetings versus face-to-face meetings at school: “We have learned how to use Teams for lessons and for our meetings. We had quite a lot of online meetings during the distance education, which is much more than what we can handle when we are in school. So, what we found out is that maybe it will be better for us that we will continue organizing them anyway. At least once in a while. Because it was a problem for us to meet as a whole team. That’s because we all commute and have different timetables”. Last but not least, school directors appreciated that this time gave them an opportunity to get ready for untypical educational situations such as long-term illness of a child or cases of emergency similar to the pandemic. Director E commented: “Well, of course, if a child is ill for a long time, we have these tools ready, and it actually helped us prepare for this. So basically, I wouldn’t even be afraid when another wave comes. I know we are ready”.

#### 4. Discussion and Conclusions

The new way of educating children that affected all actors in the educational process brought with it new challenges. Initially, teachers did not believe that they would teach on a distance basis for almost the whole spring, and today it has already been a whole year (currently Czech pupils of ISCED1 are in full-time teaching in hybrid mode—a week at school, a week at distance education). Only schools with a number of children less than 75 returned to the full-time regime, which are so-called small schools. It was small schools that were the subject of our research, since they were neglected in many studies (including national ones), and at the same time, we think that their experience with distance education could bring a new wind to the organization of the distance teaching and learning processes.

The results of our research have shown that the development of digital literacy of all actors in education plays a key role in effective distance education. The interviews revealed that even younger generations of teachers had to learn new tools and discover new ways of teaching online. Therefore, we support the idea of the above-mentioned authors [1,3] that it is necessary to constantly develop the digital literacy of teachers, meaningfully, with regard to the age of the child that teachers educate. The COVID-19 period also brought some positives to schools. All addressed principals expressed satisfaction that their teachers had significantly increased their competencies in ICT in terms of the use of various applications and online communication tools [27], including those who had initial negative attitudes towards technology. According to the principals, the source of success was sufficient support from the management and the desire of teachers to attract pupils from a distance. Teachers’ ICT skills have also proved crucial for pupils and parents. König, Jäger-Biela, and Glutsch [11] also speak in a similar vein, finding teachers’ digital competencies to be a key factor in the successful implementation of distance learning. The school directors also addressed the needs of parents and highlighted that the pupils’ parents needed training and relatively intensive assistance in using selected communication tools and applications from the very beginning. Such support was mostly provided by school principals and, to a lesser

extent, by the teachers themselves. Thus, we can state that we came to similar conclusions as Lee, Ward, Chang, and Downing (2021) that parents, especially parents of the first graders, were part of the educational process, at least as a technical support. Our findings also correspond to the conclusions of Misirli and Ergulec [13]) and Parczewska [14], who found that parents play an important part in the successful implementation of education during the pandemic, although they felt incompetent to teach their children and expressed concern and anxiety about the new situation.

With distance education, a different organization of the whole educational process came. The schedule, the ratio of online synchronous lessons, and individual offline pupils' work have changed for children, aids and teaching materials have changed, and last but not least, the methods and forms of work have changed. This meant a pedagogical and organizational challenge for all involved. All schools eliminated art courses (i.e., art, music, physical education) from the timetable; however, in many cases, these skills were developed within project activities, which were the most common method of work recommended by school principals. Project-based teaching based on children's interest and offering the interconnection of several subjects in context has once again proven to be an effective teaching method that motivates pupils to learn and leads to pupils' independence and self-directed learning. The school directors often emphasized the need to lead pupils to their own responsibility for learning and promote pupils' self-directed learning. They saw it as a large advantage also during distance learning. Another effective key on which all directors agreed was the necessity to divide pupils into smaller groups. None of the schools normally have more than 15 pupils in the class, and yet they have reduced this number to five for online lessons. Having smaller groups also allowed them to organize lessons in a more comfortable way for teachers. While one group worked online, the other could work offline or have another course. It turned out that, in contrast to the conclusions of Shareeffa [28], who pointed to problems in assigning tasks within groups, in our case, schools did not face this problem in principle. On the contrary, we agree with the conclusions of Smit and Humpert [29], whose research suggests that the use of differentiation in task assignment is the most appropriate way of successful teaching.

The COVID-19 period brought great stress to schools and many challenges that had to be overcome within a short time and without much state support. School principals said they felt alone in many regulations that varied from week to week without a clear vision and mission. Despite the adversity of circumstances, principals identified the positive aspects of distance learning. In addition to the development of teachers' and pupils' ICT competencies already mentioned above, some schools have digitized teaching and studying materials, abolished printed textbooks and replaced them with interactive textbooks, and introduced online teacher meetings. It is therefore clear that principals and teachers have been forced to reflect on some of their practices and methods of work.

The aim of our survey was to delve deeper into the lives of small schools at the beginning of the epidemic situation (March 2020) and in its second wave (October–November 2020). We managed to identify factors that, according to the school principals, had the greatest influence on the form of distance education. We believe that the presented findings can be beneficial for both the professionals and the general public. We see a special application in the area of pre-service teacher training, since we perceive that it is necessary for teachers to be prepared for challenges such as this distance education has been.

We are aware that our findings offer only one perspective on the problematics of small schools, since we addressed just one actor in education. Secondly, we perceive another limitation of our study, which lies in the qualitative methodology itself and does not allow us to generalise our findings to all small schools. These are, therefore, the limitations of our study. In future research, the authors intend to continue in the setting of small classes and see the problematics from the point of view of ordinary teachers, parents, and children in order to gain a comprehensive picture.

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