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The role of school-home communication in supporting the development of children's and adolescents' digital skills, and the changes brought by COVID-19

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ABSTRACT

School-home communication is a growing research field in social sciences, particularly in education sciences and communication studies. While previous studies have paid much attention to the importance of school-home interaction in supporting primary academic socialisation and progress of elementary school pupils, the role of teacher-parent communication and collaboration in influencing the development of children's and adolescents' digital skills remains an under-researched area. This paper employed thematic analysis of in-depth interviews with education experts in six European countries, providing an insight into their opinions and views on the problems in communication between homes and schools. The analysis identified main problems in and obstacles to school-home collaboration on children's digital skills development, and the changes the COVID-19 pandemic brought along in this field of education. The paper provides five policy recommendations for enhancing school-home collaboration on digital skills development.

Keywords: *school-home communication, digital skills, children, adolescents, COVID-19.*

INTRODUCTION

The literature from recent decades suggests that school-home collaboration has a positive effect on children's development and academic progress (Archer, 2010; Tomlinson, 2017), being based on effective communication (Desforges & Abouchaar, 2003). While digital skills are increasingly important in children's lives and educational achievement, literature addressing school-home communication in this area is scarce. This study aims to contribute to filling this gap by looking into the obstacles to communicate more purposefully and effectively, especially in the context of the COVID-19 pandemic.

In this study, we understand the concept of digital skills as the set of competences that allow "to use ICTs in ways that help individuals to achieve beneficial, high-quality outcomes in everyday life for themselves and for others, and to reduce potential harm associated with more negative aspects of digital engagement" (Helsper et al., 2021: 9). The use of ICTs also concerns accessing, understanding, evaluating and sharing information and media content in all formats. This paper stems from the international research project "Youth Skills" (ySKILLS) which measures digital skills on four main dimensions: "operational and technical skills, information navigation and processing, communication and interaction, content creation and production" (d'Haenens & Joris, 2021: 4).

A wide variety of terms is used in the literature to describe relationships between homes and schools, including teacher-parent communication (Ankrum, 2016; Palts & Kalmus, 2015), parent involvement (Lee & Bowen, 2006; McDowall et al., 2017), parent engagement (Barr & Saltmarsh, 2014; Barton et al., 2004) and family/parent-school partnerships (Barr & Saltmarsh, 2014; Raftery et al., 2012). All these terms carry different connotations; also, the parties of the collaboration vary in the literature: some authors write about school-home relationships (Desforges & Abouchaar, 2003), whereas others address family-school relationships (Jeynes, 2007) or parent-teacher relationships (Ankrum, 2016; Tomlinson, 2017). In this study, we focus on school-home/family relationships as such a wording does not exclude any types of family arrangements.

Conceptualisations of the modes of school-home communication depend on the theoretical approach applied to learning and teaching in general (Santamaría Graff & Sherman, 2020). The behavioural theory sees parents more as passive recipients of knowledge, whereas sociocultural and critical theories of learning see them, respectively, as contributors to knowledge or as knowledge-makers. In their theoretical model of three modes of family-school relations, Santamaría Graff and Sherman (2020) differentiate between *traditional*, *relational*, and *transformative* modes. The first one grows out of the behaviourist theory and binds any parental involvement to school's recommendations; their obligations are limited to attending parent-teacher conferences or behavioural meetings, and volunteering time or money. The relational mode, based on the sociocultural approach, fosters establishing dialogue with decision makers, such as school management committees and other bodies in less-hierarchical forums. The transformative mode departs from the critical approach and aims to challenge social inequalities that may be prone to disadvantage children from families with migration background or low socioeconomic status.

Due to the dominance of the traditional mode, the school-home relationship has often meant attempts by the school to involve parents in school-centred practices (Newman & Chin, 2003; Santamaría Graff & Sherman, 2020) that promote student performance in academic tests. The differences resulting from ethnic background, parent education, and socioeconomic standing (cf. Redding et al., 2004) remain a collateral issue. The performance-centred engagement strategy includes communicating regularly through written communication and feedback, phone calls, digital communication, or face-to-face meetings, attending school meetings, and assisting the child with schoolwork (Lee & Bowen, 2006; Palts & Kalmus, 2015; Santamaría Graff & Sherman, 2020). Therefore, this type of involvement lets schools initiate the communication process and limits the parents' responsibility to respond to school feedback (Barton et al., 2004).

School-home communication can be hindered by several barriers, such as families' low socioeconomic status (Hornby & Blackwell, 2018; Lareau & Horvat, 1999) and their limited cultural and social capital (Lareau & Horvat, 1999; Lee & Bowen, 2006). A study on the relationship between social class and school-home relationships by Lareau (1987) shows that differences in cultural, social, and economic capital may influence parental involvement. Lareau's findings demonstrate that parents with lower levels of education who doubt their ability to help children with school tasks may avoid communicating with the school. Moreover, it may be presumed that the less parents are involved, the greater is the chance that creating a dialogue and

strengthening relationships with children's families is time-consuming and challenging for teachers. Empirical research (Macklem, 2014) demonstrates, indeed, that teachers experience difficulties reaching out to some families who may escape school-home communication. Families who tend to avoid communicating with the school quite often live in poor communities, and some may lack the skills to help their children with school tasks (Macklem, 2014).

The socioeconomic differences between families manifest also in children's digital skills and in parents' abilities to support their development. Recent research suggests that digital skills support children's educational achievements and learning outcomes (Haddon et al., 2020). Digital skills are an essential prerequisite for children to engage with the world through the internet and allow them to benefit optimally from various opportunities the internet offers, such as communication and social contact, entertainment and leisure activities, and academic and future professional development, while protecting them from potential harmful outcomes of negative online experiences that they may encounter (Smahel et al., 2020; van Deursen et al., 2016). Yet, the recent International Computer and Information Literacy Study shows that children vary a lot in their digital skills for learning and about one fifth of the 8th-graders were not able to use computers as tools for learning (Fraillon et al., 2020). Nevertheless, as effective school-home communication has a positive effect on children's academic progress, it may also be an important factor in the development of their digital skills.

Development regarding school-home communication via various information and communication technologies (ICTs) over the last twenty years (Lee et al., 2011; Olmstead, 2013) has pros and cons. On the one hand, the use of ICT solutions speeds up information exchange between home and school (Lee et al., 2011; Olmstead, 2013) and has the potential to make communication more regular and efficient; it also fosters parent involvement and school-home partnerships (Olmstead, 2013; Thompson, 2008). On the other hand, the wide use of ICTs creates new challenges to the educational system as well as to individuals. The most common challenges concern privacy, personal data literacies, and issues of digital footprints (Page Jeffery, 2020; Pangrazio & Selwin, 2018). At the psychological level, overly intense digital communication is stressful and may cause work overload due to quite common expectations towards teachers regarding their availability any time when parents need to communicate with them (Thompson, 2008).

This qualitative study, based on the opinions and views of education experts from six European countries, re-examines main problems in and obstacles to school-home communication, identified in previous research, in the context of children's digital skills development to find out what actions the education system, teachers, and parents can take to reach a more fruitful collaboration in this field.

METHOD

The analysis draws on data collected within the project ySKILLS aiming to understand what kind of skills 12- to 17-year-olds need to critically use ICTs for their wellbeing, education, and social life. The project also aims at improving existing knowledge about building resilience against negative impacts of digital media use. Researchers conducted 20 in-depth interviews with experts from the education sector in Estonia, Finland, Germany, Italy, Poland, and Portugal, with the aim of obtaining a deeper understanding of the role of digital skills education, both in formal (e.g., school) and informal learning settings (including home) (Donoso et al., 2020).

The sample included three experts (teachers and headmasters; researchers, lecturers, and professors; education specialists and policy makers) from every country (except Poland and Portugal where four experts were interviewed). The interviewees were selected following the criteria of competencies, length of service, etc. (Table 1; see Beilmann et al., 2020; Donoso et al., 2020 for more details). The study design of the project focused on the institutional side of digital skills development and did not accommodate interviews with parents.

All interviews were conducted between April and May 2020 in online conferencing systems due to the COVID-19 pandemic. The interviews were designed in a semi-structured fashion to allow for the emergence of unanticipated themes. The length of the interviews varied from 30 minutes to 150 minutes. The interviews were recorded and transcribed. In cases where the interviews were carried out in a language other than English (in Poland, Portugal, and Germany), the transcripts were translated into English.

Table 1. *Expert profiles*

Expert profile	Description
Education expert 1	Someone with ten or more years of experience working in/for the formal education sector. This expert is currently working in the education sector or has recently worked there (no more than two years ago); in other words, he or she is a practitioner. This expert has plenty of knowledge about the use of digital technologies in schools, among children aged 12 and older.
Education expert 2	A person with profound knowledge of educational policy and/or curriculum development with a special focus on ICT and digital technologies, such as a ministry representative, an education policymaker, a researcher, an expert working at an educational agency with a government mandate. The expert has a minimum of five years of experience in the field, not necessarily working in the same organisation.
Educational expert 3	A representative of an organisation, public or private, developing programmes/training/educational materials for formal or informal education around topics related to digital skills, media literacy, digital citizenship, online safety, etc. for students, parents and/or educators. This person has a minimum of five years of experience in the field, not necessarily working in the same organisation.

Table 2. *Themes and questions of thematic analysis*

Overarching themes	Key research questions
Families' motivation to cooperate on ICT issues	Are families and/or parents motivated to cooperate with schools in this field? If so, how?
Patterns of school-home communication in ICT issues	Do teachers and parents/carers discuss ICT education-related issues and to what extent, and do they engage in a dialogue about children's digital skills and literacies? Who initiates these discussions more likely?
Good examples of school-home communication in ICT issues	What are good examples of school and home collaborating on digital skills development?
School-home communication on ICT issues on the policy agenda	To what extent is this kind of cooperation on the public and/or policy agenda? If not very present, what needs to be done to put/keep such cooperation on the public and/or policy agenda?
Newly emerged themes	**Key questions**
Obstacles to school-home communication	What are the main obstacles to school-home communication?
Need for parent education in ICT topics	What kind of parent education is needed to facilitate school-home communication on ICT topics?
Reaching out to parents (whose children would benefit the most from school-home communication)	What kind of obstacles and possibilities experts see in reaching out to more vulnerable families?
Effects of the COVID-19 crisis	How do experts assess the COVID-19 crisis effects on school-home communication?

For conducting thematic analysis, the transcripts were firstly hand-coded deductively by several researchers according to the initial coding scheme agreed by the partners (see Donoso et al., 2020 for details). The initial coding done by all partner countries focused on seeking the overarching themes tied to the research team's key research questions (Table 2). Some overarching themes (e.g., ICT issues on the policy agenda) clearly did not inspire experts and were covered rather superficially in the interviews.

Secondly, the first author of this article hand-coded the transcripts inductively to map emergent themes focusing on topics that recurred in several interviews. This article focuses mostly on the newly emerged themes and questions to explore how education experts see the main obstacles to school-home communication, especially after the COVID-19 outbreak.

RESULTS

In the next sections, we explore how education experts understand school-home communication, its importance, and the main benefits and obstacles to it in the context of digital skills development. The expert interviews addressed the broad spectrum of digital skills in defining a digitally skilled person.

In this part of the interviews, experts highlighted critical and creative skills (e.g., understanding and evaluating information or communication situations). When discussing school-home communication, experts, however, tended to focus on operational and functional skills, including access to and use of digital devices and content.

According to the experts, a more specific focus on students' digital skills is often missing in school-home communication, and even the enforced distance learning during the first wave of the pandemic did not change this sufficiently. About half of the experts indicated that digital skills were not a priority topic in school-home communication, and there was hardly any communication between home and school about children's digital literacies.

> They [have a] dialogue, but only on academic achievements. Digital skills are at the bottom of the list. (Portugal, Professor)

Nearly half of the experts stated that there is little or even "no discussion on this subject" (Poland, Assistant Professor). Three experts did not address this question.

The majority of the experts, nevertheless, generally agreed that having families on board to provide children with good digital skills is paramount. As one of them bluntly said: "the parents' interest in the topic is necessary" (Estonia, Teacher), to have a better digital skills education in general that, in turn, advances children's opportunities to learn and succeed.

Regarding solving the parental involvement difficulties, four experts suggested that countries must incorporate school-home collaboration into the public policy agenda, while a couple of them found it to be a private matter, and in their view, schools are the primary agents for smoothing the existing socioeconomic differences among children. Therefore, increasing parents' responsibility in developing children's digital skills would not help.

Obstacles to school-home communication and collaboration on children's digital skills

The scenario of giving more responsibility to parents may eventually result in increasing socioeconomic differences, because of parents' varying ability to relate to their children's activities and willingness to collaborate with school. That, in turn, complicates schools' efforts to reach those parents whose children would benefit the most from tight school-home communication.

Nine experts suggested that the initiative to communicate on digital skills comes rather from school than from parents. Often, these initiatives relate to parents' digital skills and aim to raise their awareness of children's online lives. In different countries, schools allegedly invest a lot of effort into developing partnerships and organising dedicated projects and events to discuss or to promote children's or parents' digital skills. The parents decide whether to engage in and contribute to the school-provided initiatives and projects.

According to experts, the lack of communication between home and school is not specific to digital skills; rather, it may be part of a more general pattern of busy lifestyles, or disinterest and disengagement that characterise some parents' attitudes.

> In families with close links to education this is not a problem. They find ways and possibilities to always bring their children forward, also with regard to digitalisation. But educationally disadvantaged families are often not at all interested in their children, let alone in finding ways of somehow enabling them to acquire digital skills. (Germany, Teacher)

Four experts, furthermore, believe that parents with less digital skills often feel unequipped to participate in communication on this aspect of education. While many of such parents know that "digital skills are necessary for the future of their kids" to be employable (Italy, Teacher), they, arguably, do not comprehend the mechanisms of new technologies and the scope of digital skills and "you can't teach or be interested in something that you don't know" (Italy, Teacher).

Another issue lies in the family's role in developing a wide range of children's skills, among which digital skills may often remain marginal; and, according to the experts, due to parents' own poor digital or supervising skills. Less-skilled parents, according to experts, lack the knowledge of what skills their children should need to develop. Therefore, parents often do not imagine that

they can expect the school to teach specific digital skills to their children.

> I think the role of families is unfortunately very small. If the parents themselves don't know how to deal with digital problems or how to behave on the internet, then they can't teach their own children. (Estonia, Teacher)

Experts from Finland and Estonia, however, stressed that as parents' knowledge of new technologies and their own digital skills are improving, they also become more knowledgeable communication partners to schools.

> I believe some parents are woefully unequipped to actually support their kids' digital skills. But in my experience, it's getting better and better. Parents are more interested in what their kids are doing in the digital world. (Finland, Digital Youth Work Planning Officer)

To conclude, experts saw the main obstacles to school-home communication on digital matters as being related to parents' resources and their digital or supervising skills. Providing digital skills education also to parents is one solution to this problem. As the digital youth work planning officer from Finland emphasised, general conferences and workshops may not have the same impact as smaller specialised programmes in digital education; nevertheless, they help parents to grasp the complexity of the topic.

Breaking communication barriers with innovative approaches

The experts found the problem with providing parents with digital skills, media education, and parenting workshops and training difficult to solve, since the parents most in need of digital education tend to be the hardest to reach. Actively engaged parents who participate in various initiatives are already quite knowledgeable about the benefits of communicating with the school as well as the necessity to educate themselves about digital developments. Contrary, those who would benefit from educational programmes hardly attend these events. According to a German teacher, less educated parents and families with lower socioeconomic status or a migrant background may be mentioned as social groups who need more support.

> Here, ghettoization is very strong. […] I think this is a problem that makes all areas of education and training difficult, not just digitalisation… There is also hardly any communication with parents. When we have parent-teacher conferences or parent evenings, only a few families come. The others just stay away. […] Some don't know enough German. Others have social problems. (Germany, Teacher)

A German university lecturer, drawing on a personal experience with media classes for families with a migration background, stressed that "whoever goes there are the highly interested, committed families and parents where everything is great anyway"; however, "the target group that we actually want to address doesn't show up" (Germany, Lecturer). Thus, instead of school-based gatherings, parent-to-parent mentoring in a more informal setting would provide a good alternative. The German expert brings 'parent talk' in Bavaria as a good example of an event in an open and friendly environment where to discuss children's online lives and experiences. Such discussions are led by media mentors who "are trained parents who then come into an exchange on such a low-threshold level" (Germany, Lecturer). On these occasions, people can engage in a natural exchange of ideas instead of listening to expert talks.

> It's not the external expert who comes and tells you at home how things should be done and how you should educate your children, but you have an exchange. These are often within circles of friends and acquaintances who already know each other. And you also know from studies that parents are most likely to listen to other parents. (Germany, Lecturer)

Furthermore, parent-to-parent mentoring can be better accessible to parents from ethnic minorities with media use practices specific to different cultures, which are more familiar to someone from the circle of parents.

> You can reach the foreign families better because there are also media mentors of Turkish origin, and this culture can be picked up in a completely different way. (Germany, Lecturer)

Based on the experts' insights we conclude that for advancing digital skills education of children with less opportunities, special efforts with some flexibility and innovative aspects are needed to engage their parents.

Motivation versus resources

Overall, the experts were quite optimistic about parents' motivation to collaborate with schools to ensure better skills and better studying and job opportunities for their children. Only one expert from Poland as well as from Italy disagreed. Collaboration difficulties, however, should not be reduced to motivation-dependence, as one Finnish expert emphasised. Families are overwhelmed with different responsibilities, and

many parents simply lack time and energy to actively contribute to a dialogue about digital skills and children's development.

> […] we should be very careful when thinking about what kind of extra effort the parents should make for their children. Parents can be very tired after a working day, we shouldn't blame them, if they are not interested in participating in the events. […] it's also very important for us to understand, when you are raising a child, there are like 2,000 things that are important, like art education, sports, healthy food and so on. (Finland, Policy Maker)

In the same vein, an Italian expert mentioned research conducted by Centro Internazionale Studi Famiglia and a national report about the family situation in Italy every second year. Based on a nationally representative sample of about 4,000 parents interviewed by phone, the study shows that parents predominantly agree with the statement that digital education is important for their children. However, "when you try to measure what they really do about this, more than 90% of the parents do nothing" (Italy, Professor). He explained the contradiction between parents' words and actions first and foremost with time constraints combined with parents' belief that their children are more competent in digital environments than they are.

> First of all, they […] have little time to spend with their children. […] Both parents are usually out from morning till evening. When they come back home, there is no will, no motivation to stay with their children, discussing what they did in the afternoon, what they did with the media. […] The second one is that usually they don't think they are able to do this. They think that their children are more skilled than they are about digital education. (Italy, Professor)

Controversial views on digital technologies

When it comes to the pros and cons of using ICT devices at school, school-home communication often seems to revolve around the allowance or ban of smartphones. Four experts indicated that some parents associate children's frequent use of smartphones with behaviour they see at home – an extensive phone use that they cannot handle. Thus, supporting school's restrictions on how students use their smartphones seems reasonable to parents. This, however, creates a conundrum: on the one hand, parents demand smart devices to be forbidden in schools; on the other hand, they want the schools to provide their children with the best possible digital skills.

> It probably happens in most countries, but sometimes the parents go to school [to complain], because the teacher wants to use the children's cell phones during the class to do a browsing activity or something similar. […] However, it was the parents who created the Instagram account for their young son or daughter. So, sometimes they don't understand how contradictory they are. (Portugal, Researcher)

Experts explained that the controversies in parent demands on schools may be motivated by parental fears concerning new technologies, such as children's excessive internet use or access to inappropriate content. Some experts suggested that parents who are not keen users of digital technologies may be sceptical of digital solutions in schools and teaching digital skills. That is why it is important to work not only with children but also with families to help children to develop adequate digital skills.

> I think that parents in Poland are not truly open to the digital technologies used by their children. They think about media as necessary tools in the future but at the same time they are very suspicious of them. They think about screen time, parental control, inappropriate content. (Poland, Assistant Professor)

> There is a tendency for families to forbid or limit, for example, by placing filters on the use of the internet, which is inefficient. (Portugal, Teacher)

The German expert stated that limiting smartphone or computer use as a punishment is more characteristic to parents whose preparedness to support the development of digital skills "depends a bit on the social background" (Germany, Teacher). Parents, however, may not realise that their restrictions may undermine efforts in developing children's digital skills and coping strategies in dealing with online risks. Other experts confirmed that parents' views on what should be allowed or encouraged vary to a great extent, and this complicates finding satisfactory solutions for everyone, including decisions on banning smartphones in the classroom.

Effects of the COVID-19 crisis

Inevitably, the COVID-19 crisis has a severe impact on educational systems, including the use of online platforms for distance learning and school-home collaboration. Experts agree that sudden unexpected rearrangements created uncertainties to the schools and to the families alike.

> By the time the present pandemic emerged, we observed that although schools are working in remote mode, many schools,

> teachers, but also parents and students were not prepared to learn in a fully digital way. (Poland, Assistant Professor)

Although it was too early to assess the effects of the COVID-19 crisis on learning outcomes and school-home communication, most of the experts suggested that the distance learning periods might have predominantly positive impact as homes and schools had started to communicate a lot more to make sure that children progress in their academic activities. The situation, however, created challenges for all parties – teachers, parents, and children – and questioned the quality of distance learning and collaboration.

> I think there's a lot of pressure on the issue now. Parents are going through the painful experience of home-schooling, and they're getting more involved with this topic. (Germany, Policy Maker)

> I observe a huge improvement in the forms of building teacher-student, parent-teacher, and parent-student relationships. These have a chance to continue after the pandemic. Parents were surprised by the number of responsibilities that they had to take over. In addition to understanding the material, they had to develop ways to improve the regularity and planning of work by their children. (Poland, Headmaster of a Primary School)

According to experts, the schools and families had to face this crisis together as the parents had to assume many of the teachers' responsibilities, and teachers' choices of preferred digital learning technologies affected not only the children, but their families as well. It was no longer a matter of choice whether one wanted to use technologies for learning or not. Experts also pointed out some positive effects on teachers who might previously have been reluctant to use digital tools.

> I think it has been a crisis that made everybody use technology because that was a forced situation. Technology has been a nice option to have in Estonia for many schools and teachers, but now pretty much everybody was forced to use it. (Estonia, Policy Maker)

> It is positive that teachers will discover new tools. An interesting phenomenon on a large scale is that teachers began to support and learn online themselves. Digital libraries, online repositories, and e-material platforms are experiencing a renaissance. (Poland, Policy Maker)

Teachers and parents, however, may have slightly different views and experiences on whether such an intense use of varied platforms is welcomed. Those experts who were parents themselves found using too many (new) technologies, tools and platforms confusing and counter-productive for the students. For the families, "the first week [of distance learning at home] – as a parent – was a Hell" (Estonia, Researcher). They would have expected the school to coordinate the choice of programs and platforms to avoid experimenting with too many solutions within a short time. Yet, some experts had positive experiences with the guidance in learning to use web services developed for schools.

> Even though they are very digitally savvy compared to some of their peers, you don't learn studying skills by watching YouTube and playing Fortnite. So, for example, [name of the child] has needed a lot of support, so that's why the communication from schools to parents has been more precise than before. […] my kids' school uses Google classroom, so they have been instructing us carefully how to assist the child to log in to Google classroom, books and so on. (Finland, Policy Maker)

Critical situations, however, illuminate potential sources of inequality, as parents are not equally skilled to mentor their children's digital skills. In fact, as the Finnish expert put it – in many families, children are helping their parents with digital devices and applications, not the other way around.

> It's more like that our children, they are teaching their parents how to use Teams and discussion forums. (Finland, Lecturer)

A fifth of the experts acknowledged that rather than smoothing the differences between families, the ongoing crisis had amplified the gaps between children with various family backgrounds. The same proportion said that the most pressing challenge for the education systems was to detect children and youth who are at risk of being left behind and to cater appropriate services and support for them.

> In many cases, parents have become teachers, although not everyone can teach. […] And now it turns out that not everyone has the equipment, internet access, appropriate learning conditions. It is unknown how to solve these inequalities. (Poland, Policy Maker)

> We have to talk about the equality of the education, and all the inequalities that this entire situation is bringing. […] this situation will increase digital gaps and digital inequalities among children. Those who need more support may be the ones whose parents have to go out to work and are not entitled to stay at home to take care of their children during the pandemic. (Portugal, Teacher)

Some remedies for fighting technological inequalities were settled rather quickly, concerning first and foremost access to devices, whereas unequal access to cultural and social capital at home (e.g., support and help by a digitally competent adult) is much more difficult to tackle.

Nearly half of the experts shared their perceptions of a stronger and closer school-home collaboration due to the combined efforts to deal with and cope with the crisis. Furthermore, experts acknowledged that both parents and teachers had developed soft skills necessary to cope with digital communication between home and school.

> I think it has definitely made this cooperation stronger. […] The school had to instruct the families more than ever because at least the youngest students have needed a lot of support from their parents to be able to study. (Finland, Policy Maker)

The crisis-related school-home communication, however, has not been overwhelmingly positive or constructive, especially in those countries or regions where distance learning started less smoothly. The German expert brought an example of a conflict situation caused by a problematic e-learning platform that failed to work properly: "the parents were very angry, so we also got a lot of feedback because the technology was not used as it should be" (Germany, Teacher). Still, the experts foresaw some positive outcomes of the current inconveniences and suggested that "it will have a knock-on effect in schools" (Germany, Policy Maker), leading to efforts to establish more meaningful school-home communication on digital skills. Digital solutions alone cannot change the communication patterns, but better preparation for communicating and collaborating through training can.

DISCUSSION AND CONCLUDING REMARKS

While previous research has demonstrated that school-home communication is important in supporting children's academic development and progress (Archer, 2010; Tomlinson, 2017), the role of teacher-parent communication in stimulating children's digital skills development remains under-explored. By means of 20 in-depth interviews with education sector experts in six European countries, this study aimed to start filling this gap by identifying the benefits of and obstacles to school-home communication on children's digital skills development and shed a light on the changes brought along by the COVID-19 pandemic. The findings of the study postulate that most initiatives regarding digital skills are predominantly, and in normal circumstances, taken by the school, and teachers should be seen as change agents. This finding is in line with several previous studies showing that while students' actual use of smartphones and tablets for learning at school and for doing homework is only in 2% predicted by the students' own behavioural intention to use digital devices for learning, in the case of teachers and other adults, 40% or even more of the use of the devices could be predicted by their behavioural intention (Adov, Must, & Pedaste, 2017; Adov et al., 2020). Thus, teachers have the power to improve students' digital skills and to involve parents in making changes happen at homes as well.

The study, furthermore, highlights the idea that digital skills as part of core competencies deserve a specific focus in school-home communication. While digital competencies are essentially needed for learning and homework in various courses, they may not receive specific attention as a stand-alone teaching and learning issue. According to another explanation, teachers may have low self-efficacy, insufficient social support, anxiety in using technologies, low performance expectancy or effort expectancy in using digital learning – all being important attitudinal factors predicting teachers' behavioural intention to use digital technologies in teaching and learning (see Adov et al., 2020).

Another object of discussion is the experts' standpoint that besides schools, families are to be more involved in children's academic performance as well as their digital skills development through school-home communication. Simultaneously, experts conceded that actual parental involvement in the development of children's digital skills remains rather limited due to parents' insufficient digital literacy, which may inspire feelings of inadequateness regarding their ability to support their child's digital skills development (see OECD, 2019). Even when parents possess adequate digital skills to provide support, they may lack teaching or supervising skills that qualified teachers have acquired through training. Apart from the lack of digital skills, some families may lack the possibility to collaborate with the school due to being overwhelmed with other responsibilities and, as a result, lacking time and energy to actively support their child's digital skills development.

The problem of limited time resources became especially acute during the first wave of the COVID-19 outbreak when parents had to support their children in setting up online learning environments and take up teacher's responsibilities, which might have been too demanding for many parents. At the same time, the enforced home learning via online platforms may have enhanced parents' role in stimulating their child's digital skills; for instance, by teaching them how to enter the online learning platform or the video call alone, or by

helping them with the modalities of online homework. Using ICTs for school-home communication speeds up and facilitates information exchange between both parties (Lee et al., 2011; Olmstead, 2013) as the school will be more accessible for parents to join virtual communication initiatives, and the corona crisis has already confirmed this pattern (Bubb & Jones, 2020). Some studies conducted during the COVID-19 pandemic (Lepp et al., 2021) have also reported that learning goals were revised due to the crisis and the focus was set more on generic skills, such as learning skills and digital skills, instead of subject-specific skills that had been more in the focus before the pandemic.

Our study also acknowledges the problem of social inequalities in all six researched countries. The analysis revealed various difficulties for schools to reach all parents, including those who may avoid communicating with school because of lack of confidence in various skills. The factors inhibiting school-home communication are strong predictors of inequalities, increasing the risk of vulnerability: those who are most disadvantaged offline because of their lower socioeconomic status or migration background, generally are also more disadvantaged online (El Asam & Katz, 2018; Mascheroni & Ólafsson, 2016). This disadvantage may increase due to the traditional approach to school-home communication where socioeconomic and/or ethnic inequalities are neglected (Lee & Bowen, 2006; Santamaría Graff & Sherman, 2020). The communicative initiatives of school, which often take place through written or digital communication, phone calls, or face-to-face meetings (Palts & Kalmus, 2015), may not be as accessible to disadvantaged groups or parents. Furthermore, these parents often choose not to take part in initiatives concerning digital skills organised by the school (Hornby & Blackwell, 2018). This absence of an adequate relationship between disadvantaged families and the school may further handicap the children. Therefore, it is crucial both for schools and disadvantaged families to invest extra efforts into building and maintaining a sustainable relationship to support children's digital skills development. Some experts interviewed in our study suggested that these efforts should even reach beyond the school, as some groups of parents may perceive the school as distant and intimidating. Instead, the experts proposed that the focus should be on more accessible parent-to-parent contacts and mentoring.

Additionally, the transformative model of family-school relations, by taking a critical approach and arguing that existing social inequalities should be challenged instead of being neglected, may provide a solution. By focusing more on integrating parents' voices and perspectives into inclusive practices, an empowering relationship between both parties can be set up (Santamaría Graff & Sherman, 2020). The COVID-19 crisis, so far, has amplified the inequalities: with learning activities moving online, access to digital devices became critical, revealing parents' unequal abilities to invest time and attention in supervising and supporting distance learning at home.

Instead of conclusion, we present five recommendations for enhancing school-home collaboration on children's digital skills development. First, one of the most pressing challenges for the education system is to detect children and families who are at risk of being left behind and to cater appropriate services and support for them. Beyond universal access to necessary digital devices and software, the school system should provide professional help with using these devices and software for learning and communication. Furthermore, there is a need for paying greater attention to the development of critical skills as a crucial part of the digital competence of future citizens.

Second, the educational system should afford digital skills enhancement not only to children but also to parents, considering besides the school environment other possible approaches and formats, such as parent-to-parent mentoring, to engage parents who cannot attend school-based gatherings for various reasons.

Third, the schools should implement routines for school-home communication, for instance, by composing guidelines for teachers, students and parents to support their coping and interaction, especially in the conditions of distance learning.

Fourth, teachers should be better prepared for coping with various challenges and obstacles in communicating and collaborating with parents. A great variety in parents' educational and occupational backgrounds and skills demands that teachers are prepared to perceive and approach them as different target groups to make the best use of parents' various competences and expertise in school-home collaboration. Therefore, school-home communication should be part of the training system for future teachers and a key aspect of continuous professional development of all educators.

Fifth, all parties (especially teachers and parents) should develop an empathetic attitude towards each other's resources and opportunities and maintain improvement-oriented yet realistic expectations regarding school-home communication. Overly

ambitious demands, that require time and other resources that parents or teachers do not have, may be counter-productive and/or cause stress and burnout.

Finally, two main limitations of the research should be acknowledged. First, due to the qualitative nature of the study, the sample of education experts remained small and insufficient for a detailed comparative analysis of the countries. While conceding that the opinions and experiences described by the participants may have been based on different education policies and practices in these countries, we have focused on common issues, problems and emerging topics related to contemporary school-home communication on digital skills. Further research could provide more in-depth views of the situation, needs, and barriers regarding school-home communication in individual countries. Second, the interviews with education sector experts remained somewhat limited in providing insights into the 'home component' of school-home communication. Furthermore, we have to consider a specific limitation of expert interviews as a method. Namely, the information the experts provide is never purely objective: as any other discourse it is shaped by participants' social and discursive positions and the related viewpoints and interpretative repertoires (cf. Jørgensen & Phillips, 2002). In our case, as the experts represent educational institutions, they may have been motivated to avoid blaming schools and therefore laid more responsibility to homes as a part of their overall discursive strategy. Therefore, further studies should generate insights into the opinions, needs, and experiences of parents, especially those with disadvantaged backgrounds.

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