FAMILIES AND NEW TECHNOLOGIES

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INTERNATIONAL FEDERATION FOR FAMILY DEVELOPMENT

Introduction

Over the past forty years, information and communication technologies have transformed the way we work, the nature of learning and education, and the methods by which we achieve personal and collective goals. Parents, grandparents, children, and the range of loved ones who form part of the modern family today face new and challenging choices about technology use, access, and control. The COVID-19 pandemic has shown how much we can depend on the use of technologies and how they can affect our lives.

This increasing reliance on digital technologies has created intense pressures and opportunities for families. Digitization, for example, presents new threats to the financial security of many families by making them more vulnerable to surveillance and discrimination in the marketplace. At the same time, technologies are providing important connections, as families scattered across the globe stay connected and engage in "remote caregiving."

Researchers, policymakers, popular pundits, and journalists often note that digital technologies have the power to disrupt personal relationships and deliver uninvited content. This anxiety centers on the impact that new technologies can have on the well-being of children and the strength and social cohesion of families. Child development experts worry that cell phones and personal computer devices—now common fixtures at the dinner table—distract parents from their children (and vice versa) and prevent them from engaging in positive, nurturing conversations.

The "anytime anywhere" access to Internet-enabled technologies has produced a thicket of benefits and dangers that families struggle to navigate. There are also great disparities in how families use technology, whether merely for entertainment or for social and educational betterment.

The effects of new technology vary widely across socio-economic and other divides. Children from low-income families, for example, spend more time with TV and videos than children from affluent families, and are three times more likely to have a television in their bedroom. There are also great disparities in how families use technology, whether merely for entertainment or for social and educational betterment. Parents in low-income families struggle to acquire digital literacy and often do not have easy access to teachers, librarians, mentors, and other educated professionals to help.

These technologies will continue to play an integral role in families' life choices and opportunities. Today, families have no choice but to use digital communication to interact with the many public institutions that no longer accept paper applications or other communications. Public assistance programs have increasingly become "smart," meaning participants are now more likely to interact with an algorithmically trained virtual assistant rather than a human caseworker. Caregivers must also contend with digital systems in schools and elsewhere, as learning processes become computer-driven. In short, technology is becoming the primary medium through which people gather, do schoolwork, shop, apply for jobs, schedule child care, communicate with teachers, read to their

children, share neighborhood news, and spread the word about family celebrations and hardships.

Consequently, the impact of New Technologies on families has been featured as one of the megatrends suggested by the United Nations Department of Economic and Social Affairs for the preparations and celebration of the 30th Anniversary of the International Year of the Family in 2024.

Organizing this focus group, we wanted to understand better all the different aspects of this topic, so that we can produce recommendations that can be validated by experts and confirmed by the families we are in contact with along the world and other global NGOs, as part of the proposals for the Anniversary, especially of those who will be included in the Civil Society Declaration we are promoting on the occasion of that anniversary.

To this end, we gathered a group of experts who are active in a variety of fields related to families and new technologies, so that their opinions could derive the central elements to our advocacy work on this topic.

A questionnaire with 9 questions was previously sent to all invited experts. After, an online meeting consisting of the replies from each expert to each question that were expected not to exceed 2 minutes.

The transcription of the meeting is included in this publication, together with final recommendations based on the points raised by experts.

Experts

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1. Should the universal coverage of internet be considered a human right?

There is a consensus among the Focus Group participants that universal coverage of the internet is essential and should be considered a human right. In 2010, Costa Rica was amongst the first countries to declare access to the internet a fundamental right, Tracey Burns noted. The COVID-19 pandemic highlighted that a lack of access to the internet can result in exclusion from schooling, training, and entertainment, as well as more generally from citizenship and democratic participation. Freedom of thought and expression, and the ability to take part in public discourse, depend on having internet access. As Tom Harrison said, access to the internet "underpins what it means to be a democracy."

Tracey Burns said that to realize their full potential and holistic wellbeing, both adults and children should have access to the internet. Access to the internet is a key driver for both economic and social change; digital tools have changed the way we live, teach, access public services, and do business, and have therefore become a prerequisite to access economic opportunities, Pierre Verlyck articulated. Further, the internet has become critical to accessing physical and mental healthcare. Accessing medical care online, particularly during crises (like the COVID-19 pandemic) and for rural communities, is important when considering how to reduce social and racial inequalities, Jessica Navarro expressed. Beyond simply access to the internet, we must consider what types of devices people are using, the availability of IT support, and knowledge and training on how to be healthy digital citizens, Amina Fazzlullah said.

Susan Walker added that macro-level institutions should work towards the delivery of essential services on the internet and have to consider the responsibilities of all the stakeholders. Workplaces, schools, and other social institutions should consider the role technology plays in the daily lives of families and share responsibility in developing citizens' digital skills. Individuals and families should not face this task alone; society must support digital access and skills for both individuals and families, and work to reduce the barriers to service provision. Similarly, Luci Pfeiffer articulated that with rights come responsibilities. Information and training on how to use the internet should also be considered rights. If children have the right to access the internet, they should also have the right to protection and guidance on how to use it. Without guidance, lonely children and adolescents can be vulnerable to predation and violence, and this is a responsibility we must tackle. Janice Richardson agreed, and added that both children and their caregivers have a right to guidance and literacy on how to use the internet safely and how to protect their loved ones. In addition, while the internet seems to encourage accessibility of information, computer algorithms can alter peoples' access and lead to profiling. Profiling goes against equal and free access to information, and should be addressed, Janice Richardson said. However, without the necessary telecommunications infrastructure, which is lacking in many parts of the world, making internet access a human right is meaningless.

Matt Brossard expressed concern that discussions of new human rights sometimes do not translate into appropriate efforts on the ground, like access to electricity and an appropriate number

of quality devices. Amina Fazlullah added that the right to internet access is particularly relevant during and after natural disasters, when communities often find themselves isolated. Similarly, the quick and collaborative global response to develop a COVID-19 vaccine was possible because of the internet, Tom Harrison added. Pierre Verlyck went on to add that access to the internet impacts all other human rights. Should the 1948 Universal Declaration of Human Rights (which reflects the era in which it was created) be written today, it would most likely include the right to universal access to the internet for everyone.

2. What are the best indicators to measure households' access to New Technologies?

Focus group participants underscored the need for clarity related to the definitions and constructs of this question. For example, the participants articulated that the term "new technologies" has now become obsolete. Tracey Burns asked: "Do we mean fancy machines in my kitchen? Self-driving cars? We need to be more specific about what we mean." Tom Harrison agreed: "What is new technology right now? The internet can be classified as old technology." Tracey Burns suggested that we must grapple with what new technologies will mean in the future, beyond watches and smart tech, to include biotechnology, brain-computer interfaces, enhanced cognition, and smart drugs.

In terms of indicators of access, Jessica Navarro said that there is a need for a more nuanced measurement of internet access, rather than simple statistics about access to broadband internet that can be misleading. Nevertheless, having accurate and qualified data on access to new technologies, whether talking about equipment or services, is key to digital-related public policies, Pierre Verlyck explained, stating that household access to new technologies can be measured by several key indicators. First, the proportion of households with a computer or another working digital device such as a smartphone or a tablet. People need access to well-functioning equipment and services. The difficulties encountered by many households during Coronavirus lockdowns underline that it is still a real challenge and that not all households have access to functional equipment. Second, the number of devices with regards to family size, as it is not easy for some families to combine homeschooling and teleworking. Janice Richardson agreed, adding that you can have wonderful broadband, and the right devices, but it can be problematic if everyone is using the internet at the same time. Further, during the COVID-19, some schools expected children to print their homework, scan it, and then send it back; this requires a lot of equipment. Luci Pfeiffer confirmed that, according to her experience, inequalities arise and are reinforced when one family shares only one connected device. A third indicator would be the proportion of households with functional access to the internet. Pierre Verlyck said that publishing this information in public forums is important for policymakers, and to foster innovative and creative solutions. It is important to know who wants these indicators, Janice Richardson added, whether it is a family or the government, as this will certainly influence definitions and outcomes. Janice Richardson then posited the need for qualitative analyses as well. She gave an example of a study in Luxembourg where citizens were asked open-ended questions about their daily lives (e.g., how many books they had read, how frequently they attended the theater), which lead to greater reflection on citizens' lived experiences. In terms of indicators, Janice Richardson added that information about the approximate amount of time spent online would be useful. Not only does it provide an idea of the broadband required, but it asks families reflect on how much time they are spending online.

Participants also discussed the role such indicators can play in reinforcing and reducing inequalities. Amina Fazlullah said: "A lack of access to broadband results in reduced access to a host of technologies. It is very important to understand who has access to the underlying infrastructure,

as everything else relies on both internet access and knowledge. Policymakers must understand the gaps in connectivity and infrastructure, and also gaps in training for families, students, teachers. If we don't look at the underlying infrastructure, the basic access to technology, we only deepen that divide." Speaking on the level of access of different members of the family, Tom Harrison confirmed that the digital divide may be happening within the household, between the digital natives and the digital immigrants. Susan Walker agreed on the need to broaden the definition: "For what outcome do we need indicators? That is going to change not only how we define a household, but also how we look at access and obviously how we are looking at new technologies. Taking a lot of census data is not very useful because it's too broad and not specific enough. I think especially with households we need to ask: Is it a household with children? If this is a household with children, are there caregivers and who are they? What are the ages of children? Young children, teenagers, young adults? How many children there are in the family? All of these demographics within the family make a big difference related to those outcomes." Susan Walker added that what matters is not just having access, but the skills to be able to use technology. Within and across families, there are differences in the skills as well as attitudes towards using technology, and skill differences between children and their parents, which can set up a power differential. "As we've been doing more work with schools, there are privileged households with many devices, including laptops, monitors, tablets, smartphones, while for other families, a single smartphone is a technology used by everyone". Jessica Navarro furthered this idea, stating that if you look at her local county's statistics of broadband access and smartphone ownership, you may conclude that everyone or almost everyone has access. However, there are many children attending school and doing homework from a smartphone and this is very different from a PC. Besides, the bandwidth of broadband also matters; if you have a household with one child attending school and one parent, it is very different from a larger household, where all members may be trying to access streaming information at the same time. This is problematic for access to education and to the job market. "Creating a resume on a smartphone is very challenging," she concluded. Matt Brossard said that UNICEF was supporting surveys of internet use in many countries but that these surveys are may suffer from self-report biases, and that the International Telecommunication Union does have data and indicators that may be of interest. From a global perspective, Matt Brossard also reinforced the difference between access and use. Many countries still have social norms preventing children from accessing the internet, especially girls.

3. Does teleworking contribute to work-family balance or is it just a way to work more?

Overall, participants agreed that telework and remote work is largely positive, as it reduces commuting time and allows time to be used more flexibly. As such, many workers can multitask and manage their time more efficiently (e.g., taking care of domestic chores throughout the day). Tracey Burns said remote working can aid in balancing work and family life. Besides, it creates opportunities for people with limited mobility who may not otherwise be able to take part in the workforce. Technology is making work possible for a lot of families, Susan Walker confirmed, adding that it is not necessarily that we are working from home, but that technology is allowing work from anywhere. The Coronavirus pandemic gave way to a large-scale natural experiment with regards to working at home, Tom Harrison stated. Some businesses have seen that their efficiency rate and profits have not been negatively affected by teleworking, which has made the transition to remote work smoother than expected, even for employers who may have resisted remote working for many years. Tom Harrison added that teleworking does not imply working more but working differently: "Some of the differences are good and some of not so good. I'm inclined to apply a moral theory perspective to this, which examines what drives the behaviors, judgments, and choices we make. My work and the work of others have shown that how we manage ourselves in face-to-face settings, in terms of how we act related to regulations and rules, tends to not work as well in an internet-based environment. We tend to be poorer at understanding the consequences of our actions. I see that with myself! I struggle to see what spending so much time in front of screens is doing to myself, what example am I giving to my children." Janice Richardson referenced studies that have shown that when people could work from where and when they wanted, their output was much greater: "Analyzing work efficiency should be a question of output rather than hours." However, meeting online can be difficult for some: "For younger people aged 14 to 22, having a lot of video meetings puts a lot of pressure on them, they become very self-conscious and lonely. There is no one to turn to when they have a problem." Richardson also highlighted three other issues with remote working. Firstly, that when people are working from home and looking after children at the same time, which many parents are forced to do, this is fair neither to the parents nor to the children. Secondly, employers should not expect employees to answer questions after a certain hour of the day. Thirdly, she recommended that maintaining a schedule (e.g., going for a walk after lunch) can help to balance work, family, and physical exercise. She also highlighted the importance of boundaries when it comes to telework, as it can be destructive to family time: "Nothing is worse than someone sitting at a birthday party and answering an email because it's urgent from the boss."

Pierre Verlyck also described the benefits and downsides of telework. On one hand, telework can be a way to better balance professional and family responsibilities; telework allows for more flexible schedules, which enables people to be present "at the right time" for their family—not just when they return home from work. It allows people to be physically closer to their family members, avoid commuting, and may allow workers to take breaks in their work schedule to perform household tasks, thus freeing up time for family on the weekend or evenings. On the other hand, working at home can mean working more; schedules can be extended, and employees may have

difficulties logging out, Pierre added, mentioning his personal experience. Teleworking also means missing colleagues and having shared experiences. Telework can lead to conflicts between work and family responsibilities. For some, telework is a new way of working and, as with any new practice, we must adapt. For some, this may mean establishing new login and logout boundaries and having a specific office space that is respected by the rest of the family. Pierre also believes that we should share information about the benefits and the risks of teleworking, as well as recommendations and resources. Pierre also discussed an interesting measure that was implemented a few years ago in France, which gave workers the right to disconnect as a way to combat employees' exhaustion, both physical and emotional. Tracey Burns also highlighted some downsides: "People do tend to get sucked in. We have all experienced Zoom fatigue during the COVID period. It is a good reminder that interactions over the screen are more tiring and draining than those in real life. The way that digital screens have increasingly integrated into parents' and children's lives and parents' time makes it hard to distinguish between work and family time. The devil is in the details and it's all about how adults manage that time and the kind of interaction they have with their family and make sure this time is not just screen-based, and you have boundaries between work and personal that you can distinguish." Luci Pfeiffer said that teleworking with children around is not an easy way to work, underlining that being forced to telework during a pandemic is very different from teleworking in a normal time. "We didn't choose telework nowadays, but some people like it very much. It of course depends on the type of work." Jessica Navarro added that discussions about teleworking should not just be about how it impacts the family but also about how family impacts the workplace, the quality of work, and how people feel about it. "In my particular case, I have three children here at home with me. That is constantly impacting the quality of the work I'm able to do."

Some participants brought in new dimensions to this question, including the necessity to broaden the scope of the question to include more vulnerable families and adopt a less North-centered or White- or Euro-focused approach. Matt Brossard underscored this is a very North-oriented problem. "In African countries, where about 85%-90% of the jobs are in the informal sector, like agriculture and informal jobs in the street, teleworking is not an option for many people". Jessica Navarro pointed out that teleworking is often possible for employees in white-collar jobs. However, blue-collar jobs do not often have access to remote work. In families where caregivers have had to go to work outside the home during the pandemic, remote learning has been very challenging. Jessica Navarro discussed how non-teleworking parents faced additional challenges during the pandemic: "If you have the advantage of being able to work from home you may be able to find time to support for your child, but if you are not privileged enough to work from home you don't have that option." Jessica Navarro added that many children are not attending remote learning because they do not have the access or support necessary to do it on their own. As such, not having access to remote work is a significant disadvantage for families and reinforces inequalities. Susan Walker said that employers need to provide more support at an individual level to help individual parents or individual family members. Employers should help workers to develop their "digital cultural capital" and to have a better understanding of how they can use different technologies to fulfill individual roles and needs. Susan Walker underlined we should look at what we mean by balance at an individual level (e.g., mental health, family concerns). She believes that before we start adding in technology, we need to think about work/family balance generally and be very careful that our view is not focused solely on white or European concerns, as work and family is defined differently according to the country and type of work. In some cultures, spending more time at work is a necessity and a way of taking care of your family. Gender is also a critical issue. Susan Walker said that many work and family policies have been aimed at flexibility around hours, childcare, and personal leave. These policies have resulted in more women in the

workplace but there is still a lot of work to be done. Jessica Navarro echoed this sentiment, stating that gender roles must be taken into account. Women are often seen as primary caregivers and issues of work and family balance disproportionately affect them. There is a cultural acceptance of men working more hours, and this is perpetuated by internalized gender role ideologies. These imbalances negatively impact both men and women. In addition, we should not forget about the role of person and employer characteristics, Jessica said. A person's ability to psychologically detach from work plays a huge role in their ability to set and hold work-family boundaries, as does their ambition and investment in the workplace. Further, some organizational cultures promote a strict separation between the two spheres while others don't. Teleworking is impacting family life at various levels, all those different factors come into play.

4. Can the remote learning experience of COVID-19 help to improve education?

The participants generally agreed that the experiences of pandemic-induced lockdown can improve education, as it has shed light upon what does and does not work, and how improvements can be made. Throughout the discussion, it became apparent that all the stakeholders in educational settings (i.e., children, parents, caregivers, teachers, and institutions) have different needs that must be addressed to see improvement overall. However online education is not able to provide the same opportunities for supporting the development of student's soft skills and socioemotional wellbeing. Tracey Burns stated that she believes remote learning will improve education overall. COVID-19 highlighted inequities that existed prior; concerns about learning loss and the most vulnerable children being the most at risk are not new, she said, stating that these are the same vulnerable children as before. "We know who these kids are, we know who these families are, it has been 100 years and it's the same risk profile. What we haven't had our ways to address it. It's not just education's problem, it's not just housing's problem, it's not just health's problem! This is something that we have been challenged with as societies, worldwide." What COVID did was shine a light on the weaknesses in our system. Students with the fewest digital skills and without parents to help them with their homework were very easily marginalized and disenfranchised. These kids are at risk at multiple levels and recent experiences have underscored a need for systematic and equitable changes to education. Tracey Burns also discussed how some OECD countries have addressed gaps in technology infrastructure and are working to ensure that children have access to the broadband connectivity and devices they need. Other countries, like Mexico, have started airing educational programs on the TV and radio so that children without access to the internet can still access educational content. Regardless of approach, the telecommunication and educational infrastructure are key considerations. However, it is not a magical solution, as laptops and internet access themselves are not a source of knowledge. Rather it is the teaching and educational opportunities that make having a functioning device useful. Tracey recommends that policymakers and educators should assess their pedagogies and rethink how to use technology innovatively and creatively, as opposed to trying to recreate a traditional school setting online. During COVID-19, teachers were forced to switch to digital teaching overnight and many have been very innovative. Besides, there are questions related to children's assessment in an online environment. Beyond educational assessments, what are the best ways to measure mental health, emotional wellbeing and prosociality in a digital classroom? COVID-19 lockdowns reminded us that schools are the social fabric of our communities; school is not just a building but a place where communities meet face-to-face and engage with one another to stimulate socioemotional development and wellbeing.

Amina Fazlullah also discussed issues of unequal access to education, and the importance of the internet as a delivery mechanism. She reported that the US also used television and other forms of media to deliver education, in addition to the internet. Schools have tried to innovate and be resilient; they have worked hard to build online curriculums and deliver online instruction. As Tracey Burns had said, Amina said that is not easy to just flip a switch and delivery classes online. Throughout COVID-19, educators dug in and asked hard questions about digital inclusion in their

community. Asking about connectivity and devices is difficult, and many have found it necessary to find creative ways to ask questions about digital inclusion. Teachers have begun to see the whole picture; it is more than devices and connectivity, but also about training and IT support. Educators have grappled with the myriad prerequisites necessary for students to be able to engage meaningfully in class, and this information will likely be translated beyond COVID-19, into classrooms after the pandemic. Amina Fazlullah concluded by urging the inclusion of socioemotional learning and mental health support in the online education setting, agreeing with Tracey Burns' perspective.

Tom Harrison is an advocate of online learning. Five years ago, he set up an online master's program and has had a positive experience in bringing together students from around the world, starting collaborative conversations on important topics that would not be happening otherwise, and allowing people to study where and when worked for them. However, Tom believes that online education is not the same as bringing people physically together in a school setting and having human contact. Tom Harrison expressed concern that online learning becomes more transactional than transformative: "It's about transmitting knowledge, it's about people passing exams, it's about people getting assessments and learning knowledge, but where is the transformative element? The transformative elements in the past, the focus on wellbeing, the character qualities, and the values, social-emotional learning… that is what makes us human, but it also makes us who the employers want to have to work for them." Tom argued that character education should be taken very seriously in distance education.

Pierre Verlyck agreed that unexpected situations can inspire us to find more resources and to be innovative. He reported that studies completed during the COVID-19 lockdowns have shown children and families were engaging in creative approaches to learning at home, including things like digital escape rooms and science experiments. Pierre hoped that this may inspire more innovation in schools' daily activities. He echoed concerns with remote learning; there have been many difficulties in using specific digital tools, teaching from home, conducting dynamic activities, maintain students' attention, and providing support for students with learning difficulties to stay on track. Remote learning requires preparation and training for teachers. While digital tools are helpful, they are not enough. He argued that educators should pay attention to students' engagement and monitor learning behaviors and outcomes. In the end, Pierre agreed that we have a lot to learn from the remote experience of COVID-19 when it comes to education, as it allows us to rethink education, focus on what matters, and build education systems that enable children to learn both in schools and at home.

"I come from the land of remote learning, Australia. We've had remote learning for the past 70 years out of necessity," Janice Richardson said. The COVID-19 experience has helped improve education, but it is still very recent. While before it was an add-on, now we are seeing thinking outside the box and integration for real output and real learning. They have done a good job, but schools need to think through their plans more carefully going forward. Some schools were using different platforms from one class to the other and parents were complaining that they had to register for up to 6 different platforms. Also, schools are using tools that are made for commercial use, like Zoom, which has its issues, the majority of which have been ironed out now. In interviews with parents, we have also found gaps in provision for children with learning disabilities. Socio-emotional support and well-being are incredibly important for students, and Janice argues we need more innovation in that regard in online classrooms. One-on-one moments with teachers are important to check in about these issues and this is more difficult in an online context. Besides, we have found that some children feel embarrassment or shame about their setting and

background on camera, that this may show socio-economic conditions they do not feel comfortable sharing.

Luci Pfeiffer discussed how remote learning does not work very well for the little ones, who have different needs than older students: teacher's physical presence, sharing, and movement for example. She argued that we need to consider age and development when we think of remote education. How long can a 6- or 7-year-old stay in front of a screen? For adolescents, online learning can be more successful, but it depends on the teacher and software, and the resources of the family. It is impossible to have 4 hours of classes on a mobile phone. Luci Pfeiffer added that even adolescents benefit from their teachers' presence, interactions with peers, and the opportunity to ask questions, all of which are less possible online. Organizational size and resources matter too; some schools have money to prepare good materials and adapt them to remote teaching, while others do not, so many students are losing out. While classes on TV are efficient, we don't know if the children are attending.

Susan Walker agreed that COVID-19 improved online education, but that it depends on equality and access. "In my class of undergraduates, I shared pictures of two children sitting outside of a Taco Bell; that was their access to the internet, sitting outside the building to bootleg." Access means who is in the home to help the children with their learning and technology, as well as device access at home. Susan said that we must also consider the wide range of children and families: homeless families, children with special needs, and children with language issues. In terms of structure, growth, opportunities, COVID-19 has exposed the need for not only teachers to be trained to use the technology effectively but also for administrators and schools to put more resources into using technology in the classroom. Also, training must be available for other people working with the families, beyond educators who have excellent standards for incorporating technology. When you look at other professions that work directly with families, they are behind. Finally, the idea about the whole child approach is right, schools do more than we give them credit for, in terms of developing children's socioemotional skills and character. In the absence of children going to a physical school building and having the exposure of school for their character development, child development has fallen to a greater extent on families, and parents were never set up to be there 24/7.

Jessica Navarro highlighted that COVID-19 has shown the importance of teachers and schools for the community and that we should reflect on increasing pay and professional development for teachers. "If I had a dollar for every time I heard a parent saying how much they appreciate their teacher now that they have worked with their child at home, I'd be a rich person", Jessica Navarro said. Finally, Matt Brossard argued that COVID-19 exacerbated pre-existing disparities in the education sector, mostly due to the digital divide. Only one-quarter of the world's children were able to use online learning as a solution during school closures. These are either children in wealthy countries or the wealthiest children in poorer countries.

5. Which specific policies can help to bridge the intergenerational digital divide?

Answers to this question were shorter than for the other questions, but issues of inequality were again at the forefront. Amina Fazlullah linked the question to the topic of digital inclusion and support, saying that intergenerational connections across families are only possible with both access and training. Pierre Verlyck identified a divide between individuals who grew up in the digital age ("digital natives") and older individuals and gave examples of how digital literacy mentorship between young volunteers and older people may help bridge this divide between generations. Such programs are interesting, Pierre added, as they can: (a) foster cooperation between generations and allow for stronger intergenerational links, (b) decrease the strength of stereotypes about how old people use technology, (c) increase older adults' empowerment and their ability to use digital tools, and (d) reduce technophobia.

Janice Richardson mentioned a previous program in Luxembourg, where the government set up centers with computers and trainers open to the community, which worked very well. Luci Pfeiffer stated she believes that the most important bridge is between the parents and children, rather than with grandparents: "It's different if the parents can teach the children what is positive or the risks about the internet and many adults now use digital technologies in a primitive, limited and unprotected way, they are unable to teach the following generations how to obtain the best of the internet." Luci suggested that with regards to older generations, we focus on what is of interest to them, rather than just teaching skills. Susan Walker echoed Janice's thoughts on the impact of media messages about generational conflicts and differences, and that we should instead communicate about the positive relationships that can be built. Susan underlined that the biggest issue was access and equity; getting technology and digital skills to more people is going to open up intergenerational possibilities. She said: "Professionals across the board, not just teachers and the folks working the children, but those working with other ages should develop the digital skills and the digital confidence as a content area for the teaching. If a family therapist is working with a family, they should not forget that technology is an issue, an aspect that they can promote". When thinking about adults' access to technology, we should not forget that many children are in the role of helping parents and grandparents navigate technology and technological language, Susan concluded.

Jessica Navarro articulated that we do not the extent of intergenerational digital divides and that we need more research. She furthered this idea by arguing that research on generational divides should move beyond the access and use of technology to attitudes. How do people feel about different devices and platforms, social media, online gaming? Jessica said: "It's not just how they use it but how they feel about it. In my research, one of the questions I'm interested in is does parent's generation or age or experience with technology impact their attitude and their relationship with their children? It's not just about access and skills. I think it's important we do more research on that so we can understand what motivations are behind resistance, acceptance, or fear." Matt Brossard, speaking from his UNICEF perspective, stated that the most important digital divide is a poverty divide rather than an intergenerational divide. However, these inequalities

can combine to further disenfranchise people, such that in poor households in poorer countries where parents are illiterate, one can observe a growing intergenerational divide. “It’s very difficult to support children learning when you are not able to read yourself.” Matt also pointed out that there is often no reading material at home in the poorest households, let alone IT devices and the internet. Above generational status, he argued that socioeconomic disparities are what drives inequality concerning technology.

6. Should coding be introduced as a classroom subject, like other languages?

Coding is already a classroom subject in many schools, starting as early as primary school, Tracey Burns said. “It’s a useful skill, expected to continue to be relevant and useful, but programming languages are not a natural language, and I think it’s important to make this distinction.” Language is about cultural nuance, interpersonal relationships, and humor; coding, therefore, does not qualify and cannot be used to replace a foreign language credit, Tracey specified. Amina Fazlullah expressed that her company’s interest in coding is focused on the underlying technology and support and that it is important not to forget that appropriate access to technology and devices is essential for coding education. Tom Harrison was supportive of coding and raised interesting questions as to how it can be operationalized effectively. He said that computer science class can be dull and very functional, regardless of the talent of the teacher, and that online coding instruction can be difficult. Harrison also highlighted that many successful digital innovators learned coding through experiential learning rather than through class lessons.

Regarding the content of courses, Harrison argued that coding should serve to make us more human and contribute to society and that we need coding and ethics working in concert with one another. New technologies are transforming the skills students need to enter the labor market, Pierre Verlyck said. Seeing this need, many schools have begun teaching coding. The introduction of coding at school is relevant as students’ digital skills need to evolve with technological developments. However, we should also bear in mind that technological change is accelerating at an unprecedented speed and that coding skills tend to become obsolete in only a few years. What we teach children today may be obsolete by the time they graduate. Instead, we should focus on teaching students how to learn, and thus being able to acquire new skills continually. It requires flexibility and a positive attitude towards lifelong learning. Besides, students should also be taught the logic behind coding and computational thinking, so that they can express problems and solutions in ways that a computer could execute. Pupils and students should “understand” coding rather than “know” coding. Janice Richardson agreed and added that schools should teach coding, but the subject should not be obligatory. Coding itself can become rapidly obsolete. A more useful alternative would be teaching cyber-resilience, algorithms, profiling, and data management, and teaching children that they can find new solutions for problems.

As a psychoanalyst, Luci Pfeiffer expressed her view that the human language is for human communication, with inflections and intonations. “We start to learn our language during pregnancy; we learn about the meaning of the words when we can play with words and language. However, the human brain doesn’t work with mathematics the same way. It’s different to use repetitive codes and computer programs.” As a result, Luci felt that coding does not qualify as a language and believes that although it is a good subject to study, we should rather prioritize teaching internet safety. Susan Walker agreed with other participants about the risk of obsolescence, the need to teach computational thinking, and that coding is not a language. Susan also focused on equity; she said that we should think about whom we are promoting computational thinking and widen the target to a broader range of audiences, particularly to women and other disenfranchised

audiences. Jessica Navarro added that teaching children different ways that they can create content is incredibly important. “We know that teens who are active creators of content have better mental health outcomes than those who are passive.” We should teach children and teens skills they can use to create digital illustrations, videos, digital photography, and ways they can participate in online communities rather than just being passive and observing. Matt Brossard brought a global perspective: “There are even more crucial priorities, particularly in low- and middle-income countries, where foundational skills are not acquired by the majority of children. When 50% of the children in the world cannot read or understand text, this should be the priority, especially as many countries have budget constraints.”

7. What instruments should be developed to ban child abuse materials online?
What is the best tool parents can use to prevent online abuse of their children?

Tracey Burns raised a key issue, which was brought up by several other participants: Issues of uncertainty related to national jurisdictions in the face of crimes that take place in a globalized and border-less internet environment. “Many of our systems are based on national education, national regulatory systems… judiciary systems are national, so if you want to prosecute children’s abusers, your enforcement tools are limited in geography, while the internet has no borders and no boundaries, geography is irrelevant.” One of the main challenges is legislating and enforcing national laws in an international arena, particularly for an offender who lives in another country. Further, the situation is even fragmented within countries, where multiple different ministries with their policies, rules and guidelines all come into play. The challenge is therefore not only about tools but about enforcement: How do you track and penalize those who break the law? Tracey also discussed parents’ attitudes: “There’s been a push to protect children from all risks… and yet children need to be aware of what the risks are and how to manage them. They need language to tell their parents what they have experienced. We need to move away from the language of minimizing risks and more towards managing awareness and resilience.” This was seconded by Jessica Navarro, who underlined the importance of strong parent-child relationships and having discussions about these issues: “It’s having a positive relationship with your child, it’s being open, it’s playing with them on online games and platforms, and when they play with other people, ask them to have the sound on.” It is a necessity to acknowledge that abuse and threats can happen and to give children skills to analyze the risks. However, Jessica added: “We don’t know a lot about digital parental mediation, we don’t know what specific skills and strategies are the absolute best, but we do know about parenting in general, and so I think right now the best thing we can do is being active, we can download the same applications, Instagram, TikTok, and see what is going on, and get an understanding of that.” Jessica suggested that engaged parents are the best way to prevent online abuse, including cyberbullying and cyber victimization.

Amina Fazlullah mentioned that there was discussion underway in the United States around the impact of a law, called Section 230, that offers a shield to internet services and social media companies and other platforms, and whether or not that shield prevents appropriate enforcement against online abuse. It is valuable for policymakers to think flexibly about what existing laws can and cannot do, and to consider how technology impacts the harm landscape for children and families, Amina added. She said there is too much pressure for parents to be responsible for the threats, and that there needs to be more action on the part of the platforms. We can also understand algorithms that promote interaction between kids and potential threats and figure out different ways technology can help flag threats in advance. This is something policymakers can do in coordination with industry. The onus should not be put on the parents but the providers themselves, Amina Fazlullah believes.

New technologies present regulatory problems, and governments, policymakers and tech companies have a lot of responsibilities in this area, Tom Harrison stated. However, until they catch up, the best equipment we have to deal with child safety online is ourselves: parents, teachers,

and educators, Tom said in confirmation of earlier opinions. His work is focused on how schools, parents and others can contribute to cyber-wisdom (i.e., how to behave on the internet when no one is looking). Tom added that cyber-wisdom is about making wise decisions, learned through letting children play and live in the world, with adults as sources of advice and support. What is lacking is education, not just for parents or teachers, who often feel behind the curve, but also digital citizenship education for children. Tom said: "…Quite often discussions about internet safety happens to be reactionary, with the educators trying to catch up or follow something that has happened." This reaction can be too focused on risks without discussing opportunities; it is deficit-based and it focuses too often on problems. "Technology is neutral," Tom added, "it's the use that determines the outcome."

A comprehensive approach is needed, Pierre Verlyck agreed. More training and resources are required to prevent child abuse online. However, children should be aware of the risks of the digital devices they use. This does not mean scaring them, this means increasing their digital literacy and their awareness about what the stakes are. Concerning the ban of child abuse materials online, Pierre believes that software should be developed to do a large part of this for the authorities. For example, this could be put on the same level as anti-terrorism surveillance tactics. The best tool to prevent online abuse is interpersonal communication between parents and kids: speaking openly, choosing the right words, not eluding real risks, and not avoiding the taboo subject, which can cause fascination and unwanted risk-taking behaviors, Pierre said agreeing with the other participants. There are also interesting applications that can be used to track children's activities online. However, maybe here again is it best to avoid secrets and taboos and tell children an application is on their device, what it does, and what it doesn't do.

Janice Richardson mentioned a hotline in Morocco where child sexual abuse materials can be sent to authorities. Photo DNA could prove to be a useful tool; any image of a child can be recognized anywhere. Facebook and the other social media takedown about 90% of child abuse content before anyone sees it. The European Electronic Communication Code that was just passed now prevents the usage of such crawlers, so we may find more sexual abuse material online from now on. Janice Richardson also mentioned a manual that she wrote for the Council of Europe, called the Digital Citizenship Education Handbook, with five key tenets: values, attitudes, skills, knowledge, and understanding. "You have to build trust with children, they have their values, they know what they can do and what they can't do before they reach the age of five, six, seven, when they take their first independent steps online." Transparent legislation is required so that parents know what to do and where to go when having these problems. For many parents, legislation is out of reach and they have no idea of their rights and do not know who to turn to. Parents of children on social media should check their child's digital footprint regularly with that child, as this can help children understand privacy and the risks of people hiding behind an innocent face online. In addition, Europol has brought together all the credit card companies to ensure that payments are not made for sexual exploitation and are also working with banks to make sure that bank transfers cannot be made for sexual exploitation.

Luci Pfeiffer broadened the issue to include other forms of online behavior: sexual, physical, and psychological violence and neglect, as well as dangerous challenges and selfie trends, which have caused the death of some teenagers. Knowledge about digital technology needs to be available for adults that are responsible for children and adolescents like the parents, professors, pediatricians, and others. Early and widely available education about the threats and dangers should be available for all Luci Pfeiffer concluded.

Susan Walker agreed that it is important to limit children's exposure and added that the family dynamic is very important. "From an industry perspective, there is a wider acceptance that it's not just about making money… people are stepping up from an ethical standpoint. From a family perspective, good parenting is essential. Beyond the technology, look at the family dynamic and relationships with children and that kind of thing. We need to remember that families are very messy: technology is just one of the many things parents are parenting and communicating about. While we would like many families to step up and do more with digital citizenship, many families are simply overwhelmed. There's been a lot of backlash about the parent's responsibility with COVID and limiting their screen time… A gentler approach with supporting families and digital media is needed." Susan also mentioned the importance of considering all varieties of families, including those who are homeless or who are working 3 jobs and are lucky if they can kiss their kids good night, let alone spend a lot of time on technology education.

8. Is there any additional topic you would like to mention?

UNICEF's Matt Brossard articulated the need for digital learning platforms that can function in low connectivity contexts to reduce the exacerbation of disparities across and within countries. Also, Matt mentioned that we now have more evidence that ICT tools do not automatically lead to better learning and underlined the importance that such tools be embedded in a relevant pedagogical approach and the importance of doing implementation research. Pierre Verlyck reiterated the need to help school dropouts and parents who are unemployed. POP School, for example, is a training organization providing digital training programs for school dropouts, as well as for people excluded from the labor market, with programs focusing on cybersecurity, the internet of things, and agricultural technology. "Our mission at POP School is to reconcile two ambitions: (1) An economic ambition: fostering the digital transformation of society and providing new talents and new digital skills supporting economic growth. (2) A social ambition: making digital and new technologies an opportunity for everyone. There are many ways to learn new technological skills and benefit from the economic and social opportunities of the digital revolution, Pierre concluded. Supporting communities working to build stronger relationships between employers, training organizations, job seekers, and other local organizations is an absolute necessity.

Susan Walker also contributed to this additional question, saying that we need to also focus on family professionals, which means seeing technology as both a content area for teaching and assistance to families, and as an area for integration into practice in service and education delivery. Susan sees families' use of technology as a systemic issue, addressed by front-line practitioners, and at a more macro level by standards of professional practice (including research ethics and procedures) which guide preparation and ongoing professional development. In her collaborations across fields (e.g., classroom teachers) Susan Walker finds that, by comparison, a tremendous need for family professionals to regard technology as an area of competence.

Recommendations

1. Access to the internet should be a human right and the appropriate instruments should be implemented for it. States should work towards universal access through developing an underlying infrastructure, as well as helping citizens to gain access to appropriate devices, skills and protections, and encouraging everyone, particularly the most vulnerable or least privileged to partake in digital citizenship.

2. There is a consensus on the need for more qualitative measurement of access, rather than broad general figures that can be misleading. Policymakers must understand the gaps in connectivity, infrastructure, but also other gaps in training for families, students, teachers. For a better understanding, figures on access to the internet should be broken down as follows:

- The proportion of households with functional internet access and the underlying infrastructure.
- The proportion of households with a computer.
- The number of devices per person in the family.
- Family composition and demographics (number of children and parents, age, type of work, caregivers…).
- The type of skills and attitudes family members hold.
- The kind of technology children and teenagers use, and the corollary threats.

3. Policymakers should support log in / log out digital workplace policies to encourage a healthy work/family balance and promote clear schedules in telework environments.

4. Policymakers should encourage all employers to provide recommendations and resources on the benefits and the risks of teleworking.

5. Policymakers should develop and encourage a right to teleworking solutions for people who would not be able to work otherwise.

6. Policymakers should adopt a holistic approach when considering the experience and needs of all the various partakers in education, like children, parents, caregivers, teachers, institutions.

7. Policymakers should initiate the process of a holistic transformation of school teachings into an online environment, including the development of different pedagogies, and build education systems that enable children to learn both in schools and online equally.

8. In online learning settings, educational professionals should both help children to be able to develop interpersonal skills, innovate ways of assessing their students' socioemotional health, and promote access to mental health and counseling services when necessary.

9. Policymakers and educational professionals should work together to build digital learning platforms working that can operate in low connectivity contexts to reduce the exacerbation of

disparities across and within countries, and to think strategically about how to leverage internet access and technology to address issues of poverty and inequality.

10. Policymakers and educational professionals should promote digital technology as an opportunity for traditionally disenfranchised audiences (e.g., school dropouts and unemployed adults) to find meaningful work. Besides, they should work to develop training and support for the least digitally literate students and parents as a means to improve equity.

11. Policymakers should support digital training for all generations, and build mentorship schemes between young people, parents and older adults.

12. Policymakers should make it compulsory for digital platforms and websites to include protections and software to reduce bullying, blackmailing, and illegal content.

13. Educational professionals should incorporate developmentally appropriate content about digital skills (including content creation) and digital citizenship for children and adolescents of all ages.

14. Education and child-related professionals should promote open communication between parents and children about digital technology, including discussions about online risks and benefits. Further, they should encourage parents to engage with the platforms and media their children utilize as a means of understanding their children's digital lives.

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