Opinion Paper

Digital transformation of everyday life – How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care?

Netta Iivari*, Sumita Sharma, Leena Ventä-Olkkonen

INTERACT research unit, University of Oulu, Finland

ABSTRACT

Children of today have been surrounded by digital technology since their birth. However, children of today are not equally equipped for their technology rich future: various kinds of digital divides still prevail in the society and affect the young generation and their digital futures. Schools and education of children should undergo an extensive digital transformation to be able to meet the needs of the young generation and their digitalized future. The COVID-19 pandemic has suddenly and abruptly forced schools and education indeed to engage in such a transformation. In this study we examine the digital transformation initiated by the COVID-19 pandemic in the basic education of the young generation, the variety of digital divides emerging and reinforced, and the possible barriers reported along the way. We argue that information management research should better acknowledge children, their digitalized everyday life and their basic education as significant areas of concern. We should understand them as well as allow them to shape the education we offer in the context of higher education, but we should also aim at influencing the basic education of the young generation – for the purpose of equipping them with important skills and competencies for their digital futures but also for the purpose of arousing their interest in this important field, maybe even as a career option.

1. Digitalized everyday life of the young generation

Children of today have been surrounded by digital technology since their birth; ever since, their everyday life and practices have been entwined with social media, smart phone, tablet, and Internet use. Digital technology has been thoroughly embedded with how they live and learn. They have started interacting with digital technology already as toddlers if not even earlier, and their adult life will for sure be thoroughly embedded and intimately intertwined with digital technology.

However, children of today are not equally equipped for their technology rich future (Organisation for Economic Co-operation & Development (OECD), 2012; Livingstone & Helsper, 2007). We maintain that various kinds of digital divides, i.e. polarizations between those who have access to and ability to develop their skills related to digital technology, and those who do not (Organisation for Economic Co-operation & Development (OECD), 2012), still prevail in the society and affect the young generation and their digital futures. This is a concern for information management research and education, among other fields. Even if we have already examined digital divides around technology access and use quite extensively (see e.g. Agarwal, Animesh, & Prasad, 2009; Riggins & Dewan, 2005; Song, Wang, & Bergmann, 2020, Srivastava and Shainesh, 2015), we are very limited in addressing the young generation (Iivari, Molin-Juustila, & Kinnula, 2016; Iivari, Kinnula, Molin-Juustila, & Kuure, 2018) as well as in approaching the variety of digital divides shaping their lives (Iivari et al., 2018).

We maintain that digital divide is not merely about access or use of digital technology, but about being able to integrate digital technology into meaningful social practices (Livingstone & Helsper, 2007; Mariën & Prodnik, 2014; Warschauer, 2002) and to gain benefits of it (Song et al., 2020). The young generation needs to understand and be able to make informed decisions on how to utilize digital technologies in everyday life in meaningful ways. Furthermore, we maintain that the digital divide concerns design and development of such technology, too. It is important that the young generation adopts a critical and proactive stance towards digital technology, i.e. they should critically consider how it could and should be, not merely accept how it currently is. For this to happen, the young generation needs to gain skills and competences to innovate, design, program, make, and build digital technology (Blikstein, 2013; Heeley & Damodaran, 2009; Iivari et al., 2018; Mariën & Prodnik, 2014). Important are not only programming or

computational skills and competences, but design and innovation related ones (Blikstein, 2013; Iivari & Kinnula, 2018; Iversen, Smith, & Dindler, 2017).

Overall, we maintain that we should empower the young generation to start more proactively making and shaping digital technology, and more broadly, our digital futures (see e.g. Blikstein, 2013; Heeley & Damodaran, 2009; Kinnula et al., 2017; Mariën & Prodnik, 2014). Schools are in pivotal position in this: they should educate the young generation for the needs of the future. However, schools struggle to keep up with the recent developments in digital technology. They may be lacking resources, skills, competencies or interest, and there also may be great differences between schools (e.g. Godhe, Lilja, & Selwyn, 2019; Kinnula, Laari-Salmela, & Iivari, 2015; Organisation for Economic Co-operation & Development (OECD), 2012; Smith, Iversen, & Veerasawmy, 2018; Vainionpää, Kinnula, Iivari, & Molin-Juustila, 2019; Vainionpää, Kinnula, Iivari, & Molin-Juustila, 2019). It has been acknowledged that schools and education of children should undergo an extensive digital transformation to be able to meet the needs of the young generation and their digitalized future. The COVID-19 pandemic has suddenly and abruptly forced schools and education indeed to engage in such a transformation. This is what we will empirically explore.

Digital transformation, i.e. "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies" (Vial, 2019: 118), is generally taking place in all spheres of our life and affecting everyone from babies till the elderly; for sure, it is not confined only to organizations and the workplace anymore. We are particularly interested in the digital transformation pushed forward by the COVID-19 pandemic concerning children and their basic education. We acknowledge that the digital transformation under consideration is somewhat unorthodox as those responsible for the basic education did not strategically initiate or lead this process, but instead they merely reacted and desperately tried to adjust to the state of the affairs. Nevertheless, they extensively relied on digital technologies in transforming their offerings and along the way tried to deal with and manage a variety of structural and cultural changes and barriers (cf. e.g. Vial, 2019). Inertia and resistance have been identified as significant barriers in digital transformation (Vial, 2019). Existing resources and capabilities, including factors such as technology, culture, practices, people's skills and competences as well as their values, attitudes, identities and mindsets, have been considered as barriers to digital transformation (Vial, 2019). In this study we examine the digital transformation initiated by the COVID-19 pandemic in the basic education of the young generation, the variety of digital divides emerging and reinforced, and the possible barriers reported along the way.

We maintain that information management research should acknowledge children, their digitalized everyday life and their basic education as significant areas of concern. We should understand them as well as allow them to shape the education we offer in the context of higher education, but we should also aim at influencing the basic education of the young generation – for the purpose of equipping them with important skills and competencies but also for the purpose of arousing their interest in this important field, maybe even as a career option.

2. Tales on digital transformation of basic education pushed forward by COVID-19 pandemic

We have carried out exploratory empirical research addressing digital transformation of education caused by the COVID-19 pandemic in the context of basic education in Finland and in the context of special education in India, by interviewing teachers and personnel involved in educational administration. In Finland, we have interviewed teachers and representatives of educational administration in the City of Oulu, while in India we have interviewed special education teachers working with individuals with special needs in private or integrated public

schools. Next, we briefly discuss our initial empirical findings.

2.1. In basic education in Finland

The city of Oulu is positioned as a forerunner in using learning technology, and different equipment has been in use even before the distant teaching period. The city has had enough equipment per pupil and the use of learning technology in schools has been systematic for a long time before the pandemic. Distant schooling naturally increased the usage, but the fact that children had been using technology comprehensively in all the subjects made the transformation rather smooth. A representative from educational administration states that the sudden lockdown caused some challenges to get all the equipment and forms of distant teaching in use, but the transformation was very quick and smooth.

From teachers' perspective, a fifth grade (children 11–12 years old) teacher in a Finnish public school mentioned she has been using an online learning environment, Google Classroom, occasionally over five years already before the lockdown. Hence, luckily, the situation was not a giant leap either for children or for the teacher. The teacher was familiar also with different types of online environments and had good technological skills so transformation to online teaching was smooth also for her. However, even in her school there are also teachers whose technological skills are not that good while now it has become obvious that one must have at least basic technological skills.

As the distant schooling started, the teacher tried to keep the schedule and the structure of the school days similar to normal schooling. However, after a couple of weeks modifications to the practices were made: for example, two fifth grade teachers started to work as a working couple and shared the workload by sifting online class responsibilities. The school days consisted of 2–4 live lessons a day via Google meet (half of the lessons held by one, half by the other teacher), after an approximately 20 min live teaching sessions students had 40–50 min time for individual work after which the class gathered again to live session to Google meet. There were 15 min breaks between the lessons. All the tasks of the day were sent for the students in the previous evening. At the end of the school day the teachers checked children's' daily tasks in for example Google Classroom and started to plan together the lessons of the next day.

Even if we have not specifically collected data from children or their parents, a representative from the educational administration stated that children learned very fast to use different distant teaching platforms and methods, according to a feedback survey of the municipality. Parents have also mainly been satisfied and given good grades in the survey.

2.2. In special education in India

In India, two special educators, one at a private special school and one at an integrated pubic school, have similar experiences with going online with their teaching within days after the lockdown in India was announced. They were both already using technology for their day to day interventions with their students, including tablets, computers, and online videos on YouTube. At the integrated public-school, educators were assigned tablets from the school that they used for their teaching and kept with them at school and at home. Since the WiFi at the school was available only in certain areas, the educators bought their own SIM cards with data connections for their tablets to be always connected. When teaching went online, the educators continued working with their tablets. The special educator at a private special school has access to computers connected to the internet and also tablets connected to the school's WiFi within the school premises. When teaching went online, they used their own personal devices, mostly their smartphones and sometimes, if available, their home computer or laptops, to connect with their students. They usually asked other tech savvy family members to help them connect when using a laptop or computer.

Both schools have dedicated resource rooms for special education with games, puzzles, devices, and other physical resources for everyday interventions. Since the lockdown in India was sudden, and schools were closed within days after the announcements in March, educators were not able to take these resources home from school or provide them to the parents and children.

The special educator at the public school used mostly WhatsApp to connect with their students. This includes sending a 15-day lesson plan (with short tasks and activities) to their parents or caregivers every two weeks. The tasks and activities are evaluated by connecting with the parents or caregivers every week. For most of the student-parent pairs who are connected with the educators, there are also weekly online sessions using WhatsApp video to check on the progress made, provide short interventions, and discuss any issues. For parents who do not have access to or do not use WhatsApp, the educator sends the 15-day lesson plan via SMS and has weekly phone calls. The calls and video session times are negotiated with the parents a day before.

At the private school, once they decided to go online, they set up a schedule for all educators and school staff. The educators have to conduct online sessions using Zoom with each of their assigned students. The sessions can be one-to-one or with many students at the same time. The session times were negotiated with the parents, with some they were fixed and with some they were more flexible. In addition to online sessions with the students (with the help of parents), the entire school staff has regular (4 days a week) all-hands-on-deck Zoom meetings (about 40 min long). In these meetings, educators can discuss any issues they are facing, e.g. technical or with their teaching, and get resolutions. There is also a WhatsApp group for the school educators and staff where short technical training videos on how to use Zoom etc. are provided. The educators create weekly lesson plans for each student, which they share with each other and other school staff for feedback. Evaluation of the tasks and activities is done daily, and a report is created by each educator for all of their students and sent to the school admins every workday.

2.3. Deepening digital divides

2.3.1. Among children and families

In the City of Oulu, Finland, according to the educational administration, some students, who have difficulties to concentrate in a normal classroom, for instance because of noise, benefitted from the distant teaching. These pupils succeed better when they were able to study intheir own quiet space without distractions. According to the fifth-grade teacher, there were also many pupils who liked independent studying that distant schooling provided. These pupils were able to schedule their own school day and follow their own pace. It was also possible for a pupil to concentrate more on personally interesting topics and get more challenging tasks if own performance was higher than average. These pupils succeeded well and enjoyed personalized learning opportunities.

The teacher claims that technology was not a problem or a barrier for any of the pupils. The school borrowed equipment, for example laptops, for those who did not have them at home. However, skills might have been a bit of a barrier for some in the beginning. It took some time at first to start to use the online platforms, but those challenges were overcome and the teacher said that "I don't know that anybody would have had a problem due to equipment or technology that they wouldn't have been able to participate because of that."

The biggest challenges were with those pupils who needed enhanced support from teacher, mainly for activity control, and did not have adults at home helping. These pupils had difficulties for example in waking up and some had too many stimuli at home, making concentrating to live lessons difficult. Special needs teacher helped these children by waking them up by phone calls and guided to live video sessions and sometimes helped in tasks using video connections. There were also some problematic attitudes among pupils. The digital

assignments compared to physical and tangible ones appeared to be less important (and real) for some students. Some pupils appeared to think that "it is not that serious if I don't return that assignment" and the attitude seemed to be like "who cares".

In India in the context of special education, both educators mentioned that some students, who were able to get into a new home-schooling routine, were doing well. Of course, getting into a routine required the efforts of many different stakeholders. The parents had to ensure that the child wakes up on time, freshens-up, and has breakfast before the scheduled online session. They had to ensure that all the materials are available and set up in front of the student. Further, they had to motivate their child to sit on a table and look at the educators on the laptop screen and follow the educator's instructions. For the students, there can be many distractions in the home environment they have to ignore. However, many students were delighted to interact with their teachers after several weeks of no contact. Online schooling did not start right away after the lockdown but several weeks later because initially the lockdown was put in place for only 2 weeks and was expected to be lifted. Only after it was extended most schools come up with an online schooling plan. Parents and students, who were able to follow routines, did well even in the lockdown.

As expected, not all children could attend online sessions due to a multitude of reasons. Children in the public school usually belong to low socio-economic backgrounds, where they may not have access to a laptop or computer at home. Many parents or older siblings might have personal smart phones, which then they have to lend to younger children for them to attend online classes. Thus, there is a dependency on someone else in the family to connect, and for the phone to be available. Children might not be tech savvy or tech-inclined for online classes. There is also a lot of dependency on parents or other older family members – to setup and connect, to provide devices, time, and attention, and to schedule and arrange the session with the educators. Not all parents are alike in their motivation, inclination, competence, and efforts towards their child's schooling. Even before the pandemic, during regular schooling, some parents were more proactive than others towards their child's learning and development. There can be many reasons for these attitudes, including own competence, technical abilities, access to resources, level of education, other children or older family members who also require attention/time/effort, socio-cultural norms and traditions (e.g., with respect to traditional gender roles), and more. The educators empathized with the situations that could be affecting many of the parents – including loss of employment or business, working remotely from home all the time, and fear or depression due to the pandemic.

2.3.2. Among teachers

In Finland, according to the representative of educational administration, the teachers have been flourishing during the pandemic. Assignments for the pupils have been versatile and digital solutions have been used in numerous ways. Digital technology has been utilized in different subjects including arts, crafts and physical exercise. The teacher also reports on positive experiences. The pandemic has given valuable experiences for the teacher which she will or would like to apply in normal classroom teaching in the future. One of them is using online platforms for having exams. Different online platforms offer also useful places for studying and preparing for exams. In addition, for motivated pupils, the internet offers unlimited resources for different subjects. The teacher thinks she will definitely utilize these resources in the future teaching, too. As the online teaching was success for many of the pupils, the teacher would like to see a possibility to allow distant teaching days or periods for the students who clearly benefit from and enjoy of them in the future.

However, some teachers report that for the teachers, the distant teaching period was very laborious. For instance, planning of a single lesson took much more time compared to normal classroom teaching. Also differentiation of teaching, how to make personalized assignments

to pupils in different levels, was more challenging and time consuming. During online teaching it was difficult to write very specific and comprehensive textual instructions in advance for pupils doing the tasks at home by themselves. Compared to face to face teaching, the teacher could not be there for help, and advise when needed, where needed. In distant teaching, teacher has to be able to foresee what will be the challenges for the pupils and how to overcome them.

In India, for educators both in public and private settings, several of their students were not reachable or available. Many students from the public school had gone back to their villages when the lockdown started as their parents were daily wage laborers who were out of work when the lockdown started, and factories and constructions closed. These students were not contactable by the educator. Several other students, who could be contacted, did not have access to devices or an adult family member to help them with the online schooling. At the private school, there were a handful of students whose parents did not want them to attend the online classes, possibly because they were too busy and had many own issues to address due to the lockdown (employment or businesses being shutdown). Both educators were worried about children whom they could not contact or connect with during the lockdown. They mentioned that some children, without the continuous interventions and support from the educators and school, could unlearn many things and that educators will have a tough task, when schools finally do open, to get the children back on track.

Both educators mentioned the challenges in going online within a few days (after it was decided). They had to setup new routines for themselves, negotiate times with students and parents for online sessions, create weekly or biweekly lesson plans for each student, and assess and evaluate daily or weekly. However, after the initial work and getting used to, the educators became comfortable with this new routine. For one of the educators, they had to learn how to use a computer, how to setup and use Zoom, and how to conduct sessions online, all within a week. The public-school educator was able to continue her work with the smartphone and tablets. One challenge both educators faced was the lack of resources at the students' houses – flash cards, puzzles, building blocks, water-color paints, all kinds of physical and tangible resources that they use on a daily basis at the school. There was also no way to send these items to them or for parents to buy them during the lockdown as most of such stores were closed. Educators were tasked with coming up with creative and innovative solutions. Overall, the educators who work with children with special needs, and teachers overall, are displaying remarkable resilience and perseverance, when it comes to the learning and wellbeing of their students during this pandemic. The biggest burden they felt was yet to come – restarting with the basics with children who were being left behind.

3. Concluding remarks

3.1. Summary of the results

The COVID-19 pandemic initiated an extensive, sudden and dramatic digital transformation in the society. The pandemic forced us to take an extraordinary digital leap in our everyday life and practices, including our children and their education. In a flash, their education was transformed from a traditional classroom practice to a remote, digitalized one. Suddenly, an entire generation of children had to start managing and mastering with digital tools to participate in their compulsory basic education. This required significant adjustments not only from children and their teachers, but also from their families, school administration and the entire society. Teachers and schools had to take the lead in this sudden, unexpected digital transformation of children's basic education, without being well prepared for it. Even if digitalization in education has been a hot topic already for ages within different disciplines and digital tools are extensively already utilized in schools, teachers, schools and educational administration have been poorly prepared for acting as leaders and change agents in digital

transformation (e.g. Papagiannidis, Harris, & Morton, 2020; Vial, 2019), i.e. in situations in which "digital technologies create disruptions triggering strategic responses from organizations that seek to alter their value creation paths while managing the structural changes and organizational barriers that affect the positive and negative outcomes of this process" (Vial, 2019: 118), especially as all this happened with such a fast pace, concerned everyone and covered all educational levels. A great burden was placed also on children and their families who suddenly had to possess a variety of skills, competencies, and resources.

We maintain that the digital divides we identified picture unfortunately strong in the current COVID-19 new normalcy. Definitely not all children are in equal position to engage in their digitalized basic education. There are issues with technology access and use (Agarwal et al., 2009; Riggins & Dewan, 2005; Song et al., 2020, Srivastava and Shainesh, 2015) – both among adults and children involved: there may even be issues with having access to the internet, devices, and applications needed. There are children and families lacking such. Moreover, there may be issues with skills and competences to use the tools, both among parents, children and teachers, as well as issues with being able to integrate the digital tools into learning and teaching practices in meaningful ways and gaining benefits from them (Livingstone & Helsper, 2007; Mariën & Prodnik, 2014; Song et al., 2020; Warschauer, 2002). Some children are seen to truly benefit from the digital transformation: they are reported to enjoy, be capable of and benefit from independent, self-directed and personalized learning, while there are also children lacking in all these respects, suffering greatly from the current state of affairs. Some children have missed out education altogether. Some parents are reported of being active and capable of supporting their children, whereas other parents are reported of being less well-equipped to offer their children such support. Children have been shown to depend greatly on their parents to take part in the education. For some children, parents' support would have been vital during these critical times, but the parents may have been not present or unable to offer the support due to other reasons. Moreover, it has become evident that among teachers there are differences in the digital skills and competencies. Also some teachers may have relied on their technology savvy family members to digitalize their teaching. Teaching and its preparation may have been very burdensome for teachers. Then again, the teachers have showed great resilience, creativity and perseverance in responding to the challenging situation of the COVID-19. Some have identified valuable digital practices that they wish to utilize also in the future. Schools and educational administration of the city may have provided valuable support. However, the teachers expressed worries regarding their pupils, having lack of access to some of them and having a fear of the problems caused by the lock-down for their future education. Overall, the data shows that a variety of stakeholders have been as well as should be engaged in ensuring children their basic education: parents, other family members, teachers, special education teachers, schools and educational administration of the city.

Our dataset does not indicate a lot of inertia and resistance towards this transformation. Such a dramatic transformation in all spheres of life may not have given room for much resistance or inertia to emerge. Some attitude related problems were brought up concerning both children and their parents. Some cultural issues were mentioned as potentially affecting whether and how parents support their children. Teachers were reported of struggling with limited access to pupils and/or to technology, with limited skills and competences as well as with the burdensomeness of delivering teaching online. All in all, in line with the prior research on digital transformation, it seems that existing technology, practices, skills and competencies, attitudes as well as cultural aspects can be acting as barriers to digital transformation (Vial, 2019). However, this study can not give a comprehensive picture on this complex topic; particularly a deeper look into the intermingled cultural issues, values, attitudes, mindsets and identities is needed in the future.

In our dataset, we could not see any of these stakeholders reporting

of adopting a proactive stance towards design and digital technology; starting to innovate and design better tools to meet the needs of digitalized basic education. This is something that should appear if the remote education arrangements prevail; the world is definitely not perfect yet.

3.2. Implications for information management research and practice

It is already widely acknowledged that people's everyday life and digitalization within is a concern of ours (see e.g. Chang & Huang, 2020; De Souza & Dick, 2009; Gentina & Rowe, 2020; Pappas, Papavlasopoulou, Mikalef, & Giannakos, 2020; Patil, Tamilmani, Rana, & Raghavan, 2020; Reyes-Menendez, Saura, & Thomas, 2020; Song et al., 2020; Vazquez et al., 2020), while examinations on the young generations' digitalized lives are still warranted in order to prepare for their education as well as for their recruitment. We should be attracting new students and be able to communicate to them how interesting, valuable and societally relevant our field is. Yet, for current high school students, our field remains almost non-existent: the high schol students are familiar with business and IT as an engineering discipline, while not with something that combines them both (e.g. Vainionpää et al., 2019a, 2019b). As digitalization has entered all spheres of our live, during the COVID-19 pandemic if not earlier, we should be making visible how significant our field is in supporting and understanding digitalization, particularly from human, organizational and business perspectives. In addition, we should be making visible that we do not merely have to accept how the world is, but through design and digital technology, we can take action to make it better. We can be looking at digitalization critically and envision alternative digital futures. Making these aspects of our field visible for the young generation may make our field more appealing for them, as they are reported of having a tendency to make value and interest based career choices, often associated with an overall aim of making the world a better place (e.g. Vainionpää et al., 2019a, 2019b).

Moreover, we should not only consider student recruitment, but also retention, and figure out the new normalcy in their learning practices before they enter the higher education. The world has dramatically changed during the past couple of months and we should be actively following up the emergence and evolution of new digital practices and ways of life, also prevalent in teaching and learning. We need to better understand the life worlds and worldviews of the new kinds of digitalized students who will be entering higher education institutions soon.

We should also be more active in preparing the society for digital transformation. We claim to be the experts in understanding and facilitating digital transformation in industry and public sector organizations, while we should start to approach digital transformation of education as one of our core concerns, joining forces with educational sciences. We should consider how we could better integrate information management and digitalization topics into the basic education of children, giving them the needed means and tools to manage and master in the middle of extensive digitalization of the society and everyday life (see also Iivari et al., 2016, 2018). We should also aim to empower them to start more proactively shaping and making our digital futures as protagonists (Iivari & Kinnula, 2018; Iversen et al., 2017), who not merely accept digitalization as is but critically reflect on it and try to shape its trajectories.

We should also consider how we could empower the teachers, schools and teacher education to act as leaders of digital transformation of education. Probably already during teacher education, the future educators should be given skills and competencies to understand, reflect upon, plan and lead the process by which they generate strategic responses through digital technologies to disruptions emerging in society and along the way consider the optimal value creation paths as well as manage the structural changes and organizational barriers that emerge (cf. Vial, 2019). This requires much more than mere adoption of digital tools in teaching practices. This requires strategic thinking,

awareness of technology potential, ability to envision alternative futures and to reflect on them as well as change management skills and competences. For sure, teacher education does not equip future educators with all these skills and competences, but we could offer a valuable contribution – even if this study outlined many positive findings on teachers' flourishment, creativity and resilience in the middle of the crisis, definitely help would have been appreciated.

3.3. Conclusions

The COVID-19 pandemic initiated an extensive, sudden and dramatic digital transformation in the society. The pandemic forced us to take an extraordinary digital leap in the basic education of children as well. This required significant adjustments not only from children and their teachers, but also from their families, school administration and the entire society. Teachers and schools had to take the lead in this sudden, unexpected digital transformation of children's basic education, without being well prepared for it. A great burden was placed also on children and their families who suddenly had to possess a variety of skills, competencies and resources. Digital divides picture unfortunately strong in the current COVID-19 new normalcy. Definitely not all children are in equal position to engage in their digitalized basic education. There are issues with technology access and use – both among adults and children involved – as well as with skills and competences needed to integrate the digital tools into learning and teaching practices in meaningful ways to gain benefits from them. Children depend greatly on their parents to take part in their basic education. Some children have benefitted from the situation while others have suffered. Some teachers have showed great resilience, creativity and perseverance in responding to the challenging situation of the COVID-19, while others have struggled. For information management research, examination on the young generations' digitalized lives is warranted in order to prepare for their education as well as for their recruitment. We should be attracting new students and be able to communicate to them how interesting, valuable and societally relevant our field is. Moreover, we should not only consider student recruitment, but also retention. The world has dramatically changed during the past couple of months and we need to better understand the life worlds and worldviews of the new kinds of digitalized students who will be entering higher education institutions soon. We should also be more active in preparing the society for digital transformation. We should approach digital transformation of education as one of our core concerns and consider how we could empower children to manage and master in their digital futures during their basic education. In addition, we should consider how we could empower teachers, schools and teacher education to act as leaders of digital transformation of education.

Acknowledgements

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.ijinfomgt.2020.102183.

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