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Agnieszka Iwanicka https://doi.org/10.26881/pwe.2021.53.05
ORCID: 0000-0003-1176-6725
Uniwersytet im. Adama Mickiewicza w Poznaniu
iwanicka@amu.edu.pl

Digital skills of pupils aged 6–9 – children's and adults' perspective

Summary

In this article, I presented the results of the research aimed at identifying how early school age children create their digital skills. Despite the fact that the topic of digital skills seems to be an empirically well-recognized area, there is still relatively little research on children aged 6–9 years. I presented the conducted research both from the perspective of a child and an adult: digital experts and teachers. I conducted both qualitative research (in-depth interview with thirty children and ten digital experts) and quantitative research (survey with 717 teachers). Such a confrontation of three perspectives allowed for a full view of the digital world of the child. The research showed the thinking community of children and digital experts, and the opposing (in many aspects) early childhood education teacher's way of thinking.

Keywords: digital competences, digital skills, early education, media education

Słowa kluczowe: kompetencje cyfrowe, umiejętności cyfrowe, wczesna edukacja, edukacja medialna

Introduction

The use of media by children has always aroused a lot of emotions, but discussions around this topic are full of generalizations, simplifications and theorizing, often not supported by empirical data. Although there are many publications on media–pre-school children relations, more and more reports and studies are also devoted to teenagers (see: Tanaś 2016, (red.) 2016; Pyżalski et al. 2019), but relatively few studies, especially in Poland, concern children at early school age (6–9 years of age). It is still a little-known group, which until recently had been said to be very good at dealing with new technologies. This well-established myth is more and more often debunked (Livingstone, Haddon 2009; Gasser, Cortesi 2017) – we already know that the youngest generations cannot use digital media properly and do not have high digital competences.

It was a group of early school children that I made the subject of my research in May and June 2019. This group was interesting for me in research for several reasons: significant changes were prepared for it (among others) in the school core curriculum, regarding digital skills and competences that children should acquire in this area; it is also an active

audience of new technologies, especially screen-related ones, due to the amount of time spent on the media and the different types of new technologies they use. Research shows that after the age of 10, the use of technology increases (Livingstone et al. 2014), so it is a good time to take action to develop children's digital skills.

It is worth mentioning here that in the world literature, the term *digital competences* is being abandoned in favor of *digital skills*, or they are used interchangeably (Haddon et al. 2020: 13). The International Telecommunication Union (ITU) describes digital skills as "the ability to use ICT in a way that helps individuals achieve beneficial, high-quality outcomes in their daily lives for themselves and others", comprising of "the extent to which one is able to increase the benefits of ICT and reduce the potential harm associated with more negative aspects of digital engagement" (2018: 23). Describing competences or digital skills is currently dominated by a holistic approach, according to which these are not only technical (operational) skills, but also a complex set of functional, strategic, critical and social skills. In this study, I will use *digital competences* less often than *digital skills* terms. However, I am aware that *digital competences* have a much wider meaning (because they include not only skills but also knowledge and attitudes).

Before starting the research, I had been wondering how children perceive their presence in the world of new technologies, how they perceive their digital competences and what image of children (and their competences) people working with them have, the people whose task is to prepare them for life. I had the feeling that as adults, we were using a simplification in our perception of how children function in the digital world, that we were putting our filter of experiences and even prejudices that made us judge without really knowing what the children were thinking. Such thinking has become the basis of literature analyses and the subject of my research. At the same time, it was important for me to give the voice not only to adults, but also to children – to listen to what they had to say on this subject. I have therefore made the subject of my empirical analysis understanding the ways in which early school-age children create digital competences by looking at them from three intertwining research perspectives.

Methodology of own research

When starting the research, I asked myself the following questions (research problems):

- how do children aged 6–9 develop their digital skills?
- what conditions for the developmentally beneficial use of new technologies in teaching activities do digital experts perceive in relation to children at an early school age?
- how do teachers perceive the development of digital skills by children aged 6–9?

To answer these questions, I conducted qualitative research based on in-depth interviews with children and digital experts, and quantitative research (diagnostic survey) with teachers. I conducted in-depth interviews with children after obtaining a positive opinion

from the Faculty Ethics Committee (Faculty of Educational Studies, Adam Mickiewicz University in Poznań) and the consent of the parents of the surveyed children.

In order to obtain a sample of children aged 6–9 (N = 30) for the in-depth interview, I used a multi-stage randomization scheme. The sampling frame was the current list of primary schools in the Educational Information System (SIO – System Informacji Oświatowej) for the city of Poznań (Poland). On its basis, I started the procedure of randomly selecting children for research (drawing schools, sending out invitations to the study, drawing a group of 30 children from the group interested in the study). The deliberate selection criteria concerned the child's age and the number of children under study. The obtained research material was subjected to a qualitative analysis, which allowed to outline the areas of functioning of children at an early school age in a digital environment, and a typology of digital competences characteristic for the studied children was also adopted.

I also conducted an in-depth expert interview with specialists in media education and new technologies (N = 10), according to the previously prepared interview instruction, with due diligence and the conditions for a good interview. In them, I put emphasis on the freedom of experts; statements, during its duration using the previously established scheme of thematic threads included in the interviews disposition. The purpose of the interview was to pose exploratory questions that helped explain the issues that interest me. The people selected for the expert interview dealt with educating children in early school age with the use of new technologies throughout Poland. They are trainers, experts from the Ministry of National Education, co-authors of the core curriculum, teachers active in the Internet space (e.g. in the *Superbelfrzy* group) and teachers nominated in prestigious competitions, such as *Teacher of the Year* and *Global Teacher Prize*.

In order to obtain a representative sample of early childhood education teachers (N = 717), I used the simple random selection scheme (drawing schools from the current list of primary schools in the SIO for 16 Polish voivodeships, sending survey invitations to interested school principals, filling in questionnaires by teachers). The survey questionnaire consisted of six blocks of questions, which were closed, with categories to choose from, and a scale. The results of quantitative research were collected in a tabular form and subjected to a statistical analysis depending on the type of questions.

Analysis of selected research results

Development of digital competences in the assessment of children aged 6–9

Competences related to safe movement in cyberspace

The children I spoke to made self-assessment of their competences in the principles of safe movement in the digital space. However, it should be remembered that these were only declarations and cannot be associated with the actual behavior of children on the Internet.

The children's statements reveal a fairly high level of competence in this area. I have divided it into certain categories:

- Children are aware of the importance of the protection of personal data, such as: name, age, address, telephone number, school address:

> On the Internet, you have to be careful about giving your phone number, giving your personal data, address, even the school you go to (A 9-year-old girl).

- Children are aware of the importance of image protection and the ability to build it – they know that not all photos can be made available to the public (e.g. their face), they know that there are situations in which both the sender and the recipient should remain anonymous:

> We talk a lot about it in school. And then we say that you are not allowed to send your photos to anyone. And I know that you cannot post your photos to the internet without permission, especially your face (An 8-year-old girl).

- Children are aware of how important it is to protect privacy on the Internet and be careful when accepting friends on portals such as Tik-Tok, Instagram, Snapchat, Facebook:

> We should pay attention to who we have in friends, e.g. on Snapchat, Instagram. I only have friends on Snapchat who I know personally, because I can trust them (A 9-year-old girl).

The children declared that their parents quite often give them advice on maintaining their privacy on the Internet, they also pay attention to behavior accordant with the netiquette: not swearing, respecting other Internet users, not using hate speech. The children's statements showed a relatively high awareness of the need to maintain the privacy of their image on the Internet. It seems that media education conducted by teachers, social campaigns carried out in the mainstream media, and the growing awareness of parents on this subject are beginning to bear fruit: children know that in addition to their advantages, new technologies can carry a danger that will have a real impact on their life.

Digital skills that children consider particularly important

Some of the digital skills that children already possess seem to be particularly important to them, considered useful and of which they are extremely proud to learn. These are not very high skills, but in my opinion – appropriate for age. Most often they are limited to simple, reproductive and passive use of new technologies. These skills were the most common among children:

- A basic ability to use a given device (smartphone, tablet, etc.), including: installing the application yourself, the ability to take photos, shoot simple videos, play a movie or

a fairy tale (e.g. on YouTube) on the device, play online games on a tablet, smartphone, laptop. Another problem is searching for information on their own:

> I can turn on the console myself, I can even turn on the computer, I can even turn on the game, but I cannot find anything on the Internet myself and I do not know how to find out various things from the Internet (A 6-year-old girl).

– Managing your social media account – including adding comments, entries, videos on portals such as Instagram, Tik-Tok and the basic knowledge of the rules for setting your privacy on them:

> I can do everything on my phone: take photos, videos, I even shot videos once to post them on Facebook. But unfortunately, I can't put them on YouTube yet, although I would love to have my channel there. And I know how to make it visible only to me (An 7-year-old girl).

Some of the children spoke of programming as a skill they are extremely proud of and find very valuable. They also emphasized that mastering this skill required more work from them:

> I am definitely proud that I can program, I am very good at it. I do various games and animations there. I learned it a bit in school, but there are just the basics of how to make the character move. But it interested me, and later I learned by myself from a book (A 9-year-old boy).

By learning to code and program, kids learn that making mistakes – especially when trying to solve a problem – is nothing wrong. On the contrary, it is one of the steps in this process:

> In robotics and programming, the teacher often tells us that if we make a mistake, it's okay, that it can be like that. Then we have to think about it together, check everything again. And it always turns out that we were wrong and made a mistake. We're happy when find (A 7-year-old boy).

Children notice that programming helps them develop social skills, learn from each other, integrate and show support to others:

> Robotics is better when I'm with my friend, because we help each other, and we always pair up. When we are together, we do better, and we complete tasks faster (A 7-year-old-girl).

Dynamics is an attribute of digital competences. In the course of development, the children learn about new digital tools, their applications and possibilities. They are proud to have mastered skills that are perceived as unusual for a given age group and the ones that took more work to learn. Children start digital activity in new areas in line with their abilities, interests, skills and acquired abilities. These skills may include those that will be

of particular value for the child in the near, professional future (e.g. programming) – so it is worth giving them the opportunity to learn about various digital tools.

School as a place of the development of digital skills

Most of the children reported little use of the media in their classrooms. The multimedia projector and Power Point presentations are still popular among teachers – which basically boils down to conducting lessons in an informative way that does not trigger children's activity too much. Children occasionally watch thematic videos (including YouTube) during classes, they rarely use tablets (those were provided only in a few schools). They were also able to use the *Kahoot* quiz-making platform only a few times.

The children I spoke to were banned from using smartphones in the schools. Only for three of them, smartphones were used for educational purposes during a specific lesson. The use of a smartphone in a lesson is such an unusual event that children remember its circumstances well:

> Once our teacher did a Kahoot quiz on our phones and it was very, very cool! But it was only one time, because we are not allowed to bring anything to school, no smartphone, we mustn't use them (An 8-year-old girl).

In the pre-pandemic reality (and this is when I did my research), banning smartphones at school was a common practice that children could not understand. They also felt a strong sense of injustice when the prohibition was violated by teachers:

> Our teachers very often take out their phones in class and write something in them. And we can't, we must have them hidden! We can see it and we are sad. Because it's not fair (An 8-year-old girl).

The feeling of injustice in this situation is understandable, as always when we are part of a discriminating situation – here, due to age and belonging to the student community.

The use of new technologies by children aged 6–9, according to digital experts

Digital skills of children according to digital experts

Most experts share the opinion that digital skills of children aged 6–9 are selective. Some of them notice that children are great at technical support for new technologies, they know the basic capabilities of a given digital tool, but do not have – especially the youngest – other skills:

> Children have high competences in the field of technical service of digital media, i.e., casual, simple operation of buttons and what we can turn on in a digital device – a smartphone or

> a tablet. But this equipment is mainly used by them for play, because this is how children get to know these pieces of equipment – through entertainment. Technically, they can handle the equipment: take a picture, know where to find it, shoot a video – but they can't do much more with it (Expert 3).

According to experts, children are not yet good at finding information and judging both its credibility and usefulness.

> They also cannot search for information – everything they know, they know from their colleagues. He plays a game, I also play – but the child does not find new products, does not read descriptions or reviews (Expert 5).

Experts note that the most popular among children are social media used for entertainment:

> Outside of school, children have by far the greatest contact with the media in terms of entertainment and killing time: watching YouTube videos is now very popular among children and even a young child knows how and where to click to start a fairy tale or a movie on YouTube (Expert 3).

They emphasize that this is not a bad thing, because children coming to school do not have a problem with technical media support and the teacher can focus on developing other skills in them and achieving educational goals:

> It is very useful later at school, because I no longer have to focus on teaching the technical operation of devices, and my role is to direct the tasks in such a way that educational goals are achieved and to show children that the media are also very interesting educational applications that are cognitively valuable (Expert 3).

Experts also emphasize the importance of the role of parents to maintain and develop the cognitive curiosity awakened by the teacher with the help of new technologies. They note that due to parents' low digital skills, children can mainly use screen-related media. They are only recipients of media content, without the ability to produce it, because no one has told them and showed them that new technologies can be used wisely:

> Parents do not show their children that the media can be used for something other than fun and entertainment. Usually, they have little awareness that this equipment can be used for learning, for creating something (Expert 3).

Experts also noticed that those children who have relatively high (compared to their peers) digital skills have support in the form of competent, creative and inspiring people in their immediate environment:

> Children love to make movies; they have their phones, and they really know how to make use of them. Their digital skills are even greater if they deal with competent people around them – e.g. parents who will show them what, how and why (Expert 2).

It is these people who can help keep a child developing their digital skills.

Digital skills important in children's future

Experts agreed that there is a certain set of digital skills, the mastery of which is of particular importance for functioning well in a digital society. They indicated, inter alia:

Social competences: they emphasized that the development of a child's social competences to a large extent takes place with the participation of new technologies, and that for them, mediated communication is as important and natural as the face-to-face one. In the interviews, children declared that they value face-to-face meetings with their peers more than contact with new technologies (in a situation of choice: unlimited access to an Internet device and meeting with a friend, children always chose the latter). Experts expressed a similar belief as the children:

> Besides, children – simply speaking – like being with each other, they prefer to meet their friends rather than sit at a computer. When they cannot meet, the computer remains, and since the computer is not educational programs, but entertainment, most often games or watching movies (Expert 5).

Experts emphasized that the media provide a great opportunity for the development of social competences, provided that they are introduced in a purposeful and skillful way:

> When working with children, I always give them fewer robots, fewer tablets so that they can work together in a group (Expert 9).

New technologies also help to develop the ability to cooperate and work in a group:

> Working in the cloud and cooperation are the most important competences for me that we can develop in children right now. Creating and co-creating various content related to their lives, including here and now: documents, presentations, projects – this is the future (Expert 7).

Paradoxically, poor digital tools in Polish schools contribute to children's experience of the so-called the peer effect – a phenomenon during which children learn from each other by interacting (see: Brzezińska, Rycielska 2009: 19; Dolata 2009: 76; Kosno 2013: 95). It also gives a great opportunity to practice the so-called exploratory speech (Britton 1971, after: Klus-Stańska, Nowicka 2005: 83), during which students express their thoughts loudly, try to solve the problem through discussion, and reach common conclusions together with their peers (with similar competences).

The ability to solve problems and deal with errors: allows to properly define a problem, classify it and place it in the right context, look at it from different perspectives, and then choose the right approach and apply it in action. So, it is a process during which we can make mistakes – which, from an educational standpoint, is a desirable situation:

> Problem solving is a very important competence that we can develop thanks to the media, and one which will be very much needed in the children's future. It is closely related to the ability to search for information. Today, thanks to introducing coding to the core curriculum, we can support our teaching activities, teach problem solving in a fun way (Expert 1).

Children also paid attention to this aspect – they appreciated that working with digital tools, e.g. with educational robots, gives them the opportunity to take "looser" lessons, during which not only are they not afraid to talk to their peers, but also feel comfortable when they make mistakes – the specificity of the tool requires them to find the place where they committed this mistake and to correct it, without suffering the consequences of a lower grade.

The moment when the child is confronted with a problem situation also gives an opportunity to be inventive, go beyond the schemes, look for (and find) non-standard solutions, a creative approach to the problem:

> It is thanks to creativity that the world and the civilization develop. Children with whom we develop creativity will do well in their lives in 15 or 20 years, for me this is definitely a competence of the future. We have great tools to help develop a child's creativity: coding software, educational Lego Wedo bricks, educational robots – they do a great job (Expert 1).

The role of school in developing digital skills of children

Experts are aware that digital education at home is at a low level and that it is largely up to the teachers to determine what digital skills they will equip the youngest with. It is the role of the teacher to show to the children that the media is not only for entertainment, but also for tools that can serve other purposes.

> Media should be present in a child's life from an early age, but wisely. Because children use media mostly for communication, for games that don't teach anything, and parents aren't always aware of it. If the teacher skillfully uses the media, it can really make a child's learning more effective (Expert 2).

Experts emphasize that the media at school, during lessons, are something normal for children, and children do not demand their constant presence, because they know that technology is used when there is such a need. However, this principle will only apply if children are digitally 'guided' in a deliberate manner. A wise teacher should introduce them to lessons when they help them to achieve their goals.

> When I see that children are having troubles with doing calculations in memory, instead of tormenting them with column methods, I give them an application with some animals that will help them exercise something in a fun way. But I do not do anything by force, for example I do not ask them to write letters on tablets, because it makes no sense and does not comply with the assumptions of constructionism (Expert 8).

This approach makes children perceive new technologies as useful tools that help in learning, increase its attractiveness, and stimulate them to work more effectively. They are not something unusual at school, but only a part of the "equipment of the student's pencil case".

All my interlocutors were against the ban on the use of smartphones in schools, considering them to be an expression of digital incompetence of school employees and fear of the unknown. They advise teachers to improve their competences, tame fear, learn how to use the media for work and study, and, as a result, show children how to use new technologies wisely.

Teachers' perception of new technologies in the context of developing selected digital skills of children

Digital skills of children according to teachers

Contrary to digital experts, teachers believe that children are highly digital literates. As many as 8% of the respondent strongly agreed with this statement; 35% of the respondents agreed with this statement, and 33% partially agreed. A much smaller group of teachers is of the opposite opinion: only 3% strongly disagreed with the fact that children have high digital skills, 9% disagreed, and 12% partially disagreed. Such strong differences between the statements of digital experts and the opinions of the surveyed teachers may indicate the still low digital skills of all teachers and the lack of knowledge about the real areas of children's competences. Their beliefs may also result from submitting to stereotypes related to perceiving children as so-called *digital natives*, for whom new technologies have no secrets.

The surveyed teachers agreed that children at an early school age have operational (technical) skills: they can take a photo with a phone, record a simple video and are good at handling smartphones, tablets, computers, game consoles and other devices.

When it comes to other skills, their opinions were divergent. The respondents did not have an opinion on whether early school-age children know that they should remain anonymous online or whether they know that there is a real person on the other side of the screen (computer, smartphone) who can be hurt by, for example, a malicious comment, or for example a modified photo (known as a meme). Between "I partially disagree" and "I have no opinion" stands the following statements: early school-age children can name

situations when their image privacy is violated on the Internet (e.g. using a photo without their consent). This opinion of teachers differs significantly from the declarations of children that I collected in the in-depth interviews – all my little interlocutors were able to describe what image protection is and mention situations when it is violated.

Table 1. Attitude towards selected statements related to the digital skills of children at an early school age (in teachers' opinions)

Agreement with the statement: [scale: 1 (I strongly disagree), 2 (I disagree), 3 (I partially disagree), 4 (I have no opinion), 5 (I partially agree), 6 (I agree), 7 (I strongly agree)]	**M**	**Me**	**SD**
Early school children can take a picture with a phone and record a simple video	6,19	6	0,97
Early school children are good at operating smartphones, tablets, computers, game consoles, and other devices	5,84	6	1,27
Early schoolchildren know that they should remain anonymous online: not provide personal data, name, surname, address, and photos of faces. They can explain why	4,12	5	1,64
Early school children know that there is a living person on the other side of the screen (computer, smartphone) who can be hurt by, for example, a malicious comment or a modified photo (the so-called meme)	3,84	3	1,56
Early school children can name situations when their image privacy is violated on the Internet (e.g. using a photo without their consent)	3,54	3	1,61

M – arithmetic average; Me – median; SD – standard deviation

Source: own study.

Teachers are also not convinced that new technologies help children establish and maintain interpersonal relationships. Almost the same number of respondents partially disagree, and partially agree with this statement (21% and 22%). Only 2% of respondents strongly agree with this statement, which is a completely different from the opinion of digital experts that new technologies help in developing social competences. Experts even considered this competence as one that can be developed to the greatest extent by new technologies. There is a clear discrepancy not only with the experts' position, but also children's views on this issue. The children emphasized that it is the new technologies that largely help them to maintain the previously established interactions, develop and enrich them. Experts who gave examples of the use of specific ICT tools to improve children's social skills were of a similar opinion.

Programming/coding as a desired skill

As coding was often cited by experts as an important digital skill (which also coincided with children's declarations of coding as one they would like to master), I asked teachers if and how coding helped them develop selected skills:

Table 2. Developing selected skills thanks to learning programming/coding – attitude to selected statements (in teachers' opinions)

Agreement with the statement: [scale: 1 (I strongly disagree), 2 (I disagree), 3 (I partially disagree), 4 (I have no opinion), 5 (I partially agree), 6 (I agree), 7 (I strongly agree)]	**M**	**Me**	**SD**
Programming/coding helps children develop logical and algorithmic thinking skills	5,94	6	1,10
Programming/coding helps children develop problem-solving skills and creative and creative thinking	5,69	6	1,08
Educational robots help children develop problem-solving skills and creative thinking	5,61	6	1,32
Programming/coding helps children develop communication, collaboration and teamwork skills	5,06	5	1,53

M – arithmetic average; Me – median; SD – standard deviation

Source: own study.

My respondents agree that programming/coding helps children develop logical and algorithmic thinking skills. Between the answers "I agree" and "I partially agree" the following statements can be placed: programming/coding helps children develop problem-solving skills and creative and creative thinking, and educational robots help children develop problem-solving skills and creative thinking. These responses are consistent with the opinions of the experts I interviewed. On average, respondents only partially agree that programming/coding helps children develop communication, collaboration and teamwork skills.

School activities and the growth of digital skills in children

I also asked teachers if they agreed with the statement that formal school activities can improve children's digital skills.

Table 3. Formal school activities and the development of digital skills of children aged 6–9 (in teachers' opinions)

Agreement with the statement: [scale: 1 (I strongly disagree), 2 (I disagree), 3 (I partially disagree), 4 (I have no opinion), 5 (I partially agree), 6 (I agree), 7 (I strongly agree)]	**M**	**Me**	**SD**
The growth of children's digital skills is influenced by a teacher who is media competent and open to new technologies	6,15	6	1,04
The fact that the school is well equipped with modern technologies contributes to the growth of children's digital skills	6,08	6	1,01
The increase in the digital skills of children is influenced by the organization of thematic interest groups and workshops for children by the school	5,96	6	1,07
The increase in children's digital skills is influenced by trainings and workshops on new technologies organized by the school for teachers	5,88	6	1,18
The increase in children's digital skills is influenced by the comprehensive use of new technologies in the classroom by teachers	5,80	6	1,14

M – arithmetic average; Me – median; SD – standard deviation

Source: own study.

The respondents agree that: the growth of children's digital skills is influenced by a media competent and open to new technologies teacher, good school equipment with modern technologies, the school's organization of thematic interest groups and workshops for children, training and workshops in new technologies organized for teachers by the school, comprehensive use of new technologies in the classroom by teachers. Despite these declarations, their previous opinions seem to indicate that teachers are still not very motivated to include new technologies in children's learning, and they are not convinced that children can achieve tangible benefits from the presence of ICT in early childhood education.

Conclusions and ending

I perceive the functioning of children in the digital world holistically: on one hand, I notice the dangers of the world of new technologies, and on the other, I see their enormous potential, especially when we relate it to children's cognitive-social and emotional experiences, those related to family, peers and school. The use of new technologies by children depends on many factors: on what digital skills are possessed not only by the children themselves, but also by their parents, from a prominent peer environment, from digitally competent teachers and a school that consciously uses new technologies (Iwanicka 2020).

The research I carried out showed the community of children and digital experts thinking about new technologies and – often remaining in opposition to them – teachers. The

latter should be distinguished by avant-garde, pioneering thinking in terms of education, but as my research shows, it is different. The most important conclusions:

- Children aged 6–9 still have low digital skills (most often only related to the technical operation of devices) – both experts and teachers agree (similar results in a different age group were obtained in the study: Pyżalski et al. 2019). However, they (declaratively) have a lot of knowledge about potential Internet threats: they know about privacy on the Internet or image protection (see: Tomczyk, Srokowski 2016). Teachers are of a different opinion: according to them, the knowledge and skills of children in this area are low;
- Children notice that new technologies allow them to develop social competences: they like to work together on one device, they notice that they learn from each other, they solve problems together. In a situation of choice: new technologies versus meeting a peer, they will choose a face-to-face meeting. Experts are of a similar opinion, emphasizing that new technologies bring many social benefits (see: Walter 2018). Teachers are of the opposite opinion: according to them, technologies even harm the proper course of interaction, and according to them, children prefer to use them to communicate;
- An important skill that can be developed with the help of new technologies is coding (Bers 2012; Brennan 2013). Children appreciate the introduction of coding learning programs and educational robots to schools, as do the experts who emphasize that coding offers a great opportunity to develop social and soft skills;
- School, according to children, is not a very friendly place for new technologies. Children not only rarely use them in class, but are also prohibited from using them during breaks. Experts, similarly to children, believe it is time to lift the bans that they believe express fear of technology (see: Kopecký et al. 2021).

Confronting the perspective of teachers and experts with the perspective of students allowed me to see the world through the eyes of the latter – to observe what they say about their experiences and the individual meanings they give to digital reality. The conducted research shows how children at an early school age develop digital skills, how it is conditioned by digital experts and how the development of children's digital skills is perceived by teachers of this age group. They also show how much people from the child's immediate environment still have to catch up with in terms of digital education, thanks to which the triad: children-experts-teachers will be more coherent.

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