Young children’s (0–3 years) touch-screen use and parental mediation

Pedagogical advice

Elyna Nevski and Andra Siibak

Introduction

Today’s young children live in media-rich homes (Cristia & Seidll, 2015; Marsh, Plowman et al., 2015; Kucirkova et al., 2014) with digital technologies creating additional opportunities for young children’s play (Yelland, 2015). Furthermore, studies indicate (e.g. Holloway et al., 2013; Rideout, 2013) that rather than just passively consuming the content, the digital devices have enabled infants and toddlers (0–3 year olds) to undertake more complex interactions in order to entertain themselves, to play, and to learn. Some authors (e.g. Marsh et al., 2015; Chaudron, 2015) even argue that smart devices, digital games, and electronic toys have become such an integral part of infants’ and toddlers’ daily life that children’s interest in digital play has overtaken their interest in dolls, action figures, board games and other traditional toys. As children bring their imaginations to each play experience (Goldstein, 2012), their habits and preferences are brought with them to every setting, including pre-school (Vinter, 2012). Thus, we believe that one of the biggest cultural changes that have occurred in the context of early childhood education during the last decade is the one which has been brought along with the digital devices and virtual play environments. Therefore, in addition to parents, older siblings and other family members who play important roles in shaping young children’s media patterns (Marsh et al., 2015; Chaudron, 2015), pre-school teachers also have a very important role to play in shaping young children’s touch-screen use. In fact, relying on the ecological system theory of Urie Bronfenbrenner (1979) and the techno-microsystem theory of Johnson and Puplampu (2008), we argue that pre-school teachers and the pre-school setting play a crucial role in young children’s microsystem.

We believe the pre-school classroom to be a key learning environment for young children, alongside the child’s home and family. Considering that digital devices influence the way young children play (see Doliopoulos & Rizou, 2012), we agree with Nikolopoulou and Gialamas (2015, p. 422), who argue that early childhood teachers “have to be aware of the potential of such environments and contexts for learning, in order to support young children with opportunities to play and learn with (and about) them”. In terms of 21st-century skills (see Lindeman &

McKendry Anderson, 2015; Reinen, 2015), teachers must foster learning environments that encourage critical thinking, creativity, problem-solving, communication, collaboration, global awareness, and social responsibility. As digital devices have the potential to change learning and teaching in the 21st-century early childhood learning environment, we face the need for innovative pedagogical approaches are practices.

Furthermore, many parents have questions and concerns about approaches for mediating children’s digital technology use and are in need of pedagogical advice in terms of child development (Nevski & Vinter, 2015). Parents also often need practical guidance on how to ensure and provide positive, educational, and healthy media experiences to children (Neumann, 2015). Thus, it is crucial for pre-school teachers to have an adequate overview of infants’ and toddlers’ touch-screen use so as to fulfill their roles as mediators of young children’s practices and tutors for parents, in advising them on how to enhance the positive effects of digital technology in learning. However, taking up these new roles might bring along change also in the teachers’ professional identities (see also Kupila et al., Section 2) and how the pre-school teachers view upon their role as a whole (see Vissio, Mikser & Tull, Section 2).

The present article is based on an analytical overview of relevant literature and findings from our previous empirical studies (Nevski & Vinter, 2015; Nevski & Siibak, 2016a, b), with the aim of providing recommendations and ideas for teachers on how to better fulfil their roles as tutors and guides of parents. Relying on our findings on parents’ attitudes about toddlers’ touch-screen use and parental mediation practices, we propose a typology of parents and offer suggestions to teachers for each of these groups.

We believe the fact that our empirical studies are based upon self-reports of parents from Estonia, one of the most switched on and plugged in digital societies in the world (Estonian Convention Bureau, 2017), offers some additional interesting insights on the topic. Furthermore, despite the general e-fascination in Estonia, the digital screen media awareness of Estonian parents is still rather limited and one-sided. In fact, previous studies indicate that Estonian parents not only lack insight and advice on the topic and thus are struggling to find a sensible balance between educational and entertainment opportunities afforded by touchscreens, but are also less engaged in parental mediation activities than parents in many other countries (Vinter, 2013). As a result, we target our recommendations to Estonian parents, although we also believe them to be relevant and applicable in other cultural contexts.

We begin by giving a theoretical overview of social learning and digital technologies as important parts of young children’s daily lives. We then outline the significance of pre-school as a learning environment, combined with home and family. We move on to propose a typology of parents and focus on analysing different media patterns in the home environment. We conclude with recommendations for pre-school teachers on how to improve collaboration between the home and pre-school.
Urie Bronfenbrenner (1979) developed the ecological systems theory to explain how everything in a child and the child's environment affects how a child grows and develops. He divided the context of child development into five nested environmental systems (micro-, meso-, exo-, macro-, and chronosystems), each of which contains the next smallest. In this chapter, we will focus on the microsystem, i.e. the immediate environment the child lives in, which includes bi-directional interactions between children and any immediate relationships or organizations they interact with (e.g. family, caregivers, day-care, pre-school, kids in the courtyard, and close relatives). In other words, learning and social experiences at pre-school and home are complementary (Johnson, 2010) and important others in the child's life, e.g. parents, siblings, peers and teachers, can bring about changes in a child's behaviour, way of thinking, and formation of habits. At the same time, all of these important others are also affected by the behaviours and responses of the child.

As ecological systems theory emerged prior to the internet revolution, Johnson and Puplampu (2008, p. 178) proposed an extension to Bronfenbrenner's theory by adding an ecological techno-subsystem, within the microsystem which “includes child interaction with both living (e.g. peers) and non-living (e.g. hardware) elements of communication, information, and recreation technologies in immediate or direct environments”. The techno-subsystem also mediates bidirectional interaction between the child and the microsystem. However, as the ecological techno-subsystem failed to provide precise descriptions of the mechanisms of influence, Johnson (2010) proposed to also include a techno-microsystem that contained the bio-ecology of the child (i.e. cognitive, social, emotional, and physical development). Thus, older siblings and parents as mediators should be viewed in the context of the child's techno-subsystem.

Various studies (e.g. Neumann, 2015; Marsh et al., 2015; Kabali, 2015) suggest that children's home environments contain a diverse range of opportunities to engage with and learn from different digital devices and media. Several studies (e.g. Nevski & Siibak, 2016a; Nikken & Schols, 2015; Wang, 2014) have shown that parents' and older siblings' media use patterns and the general media environment at home play a significant role in forming young children's media use. In other words, as argued by Stephen et al. (2008, p. 24), “the family habitus (practices and culture)” has an impact on the young child's engagement with new technologies. In other words, parental mediation is shaped by cultural norms, which help to frame what different parents see “as thinkable or unthinkable, desirable or undesirable in terms of the use of technology and what it can offer to them and their children” (Hollingsworth et al., 2011, p. 352). For instance, parents who believe it is important for their toddlers to be familiar with technology are also more likely to allow their children to use their smart phones (Roy & Paradis 2018), and 0-2-year-olds of parents with more positive attitudes towards smartphones and tablets also spend more time with smart devices (Lauricella et al., 2015). The findings of our previous studies (e.g. Nevski & Vinter, 2015) indicate that caregivers often justify making smart devices available to infants and toddlers by saying that they want to enable their children to learn new skills and acquire new knowledge, as well as wanting to provide the child with opportunities for entertainment. In fact, 67.7% of the Estonian parents participating in our survey said that touch screens enable their children to learn new skills, or acquire new knowledge (53%), and 55.1% of the parents justified their decisions by saying that they wanted to provide the children with opportunities for entertainment (Nevski & Siibak, 2016b). This indicates that the socio-cultural approach emphasizes the importance of parental “ethnotheories” (Marsh et al., 2015), i.e. systems of knowledge, beliefs, values, and meanings which start to shape the practices of parents as well as those of their children.

Furthermore, studies (e.g. Livingstone et al., 2015) have revealed that parental mediation practices are also dependent on already established styles of parenting and family values. Eastin et al. (2006), for instance, differentiate between four main parenting styles: 1) authoritative parenting, which is typical of parents who are both more responsive and more demanding than average, 2) authoritarian parenting, which is characterized by high control but low warmth, 3) permissive parenting, which is warm and supportive but non-demanding, and 4) uninvolved parenting, which is low both on demand and in responsiveness. Previous empirical studies (e.g. Valkè et al., 2010) suggest that internet parenting styles significantly affect child internet use, e.g. the highest child usage level is found when parents of primary school children adopt the permissive parenting style, whereas the lowest level is observed when parents adopt the authoritarian parenting style. The findings of different studies (e.g. Ihmeidreh & Shawareb, 2014; Valkè et al., 2010), however, suggest that the most commonly used parenting style is authoritative parenting, which is also considered by Mascheroni et al. (2016, p. 277) to be the best approach, as it aims to “scaffold learning and maximise opportunities of digital media access, as well as to reduce or manage – and learn from – exposure to risks”.

In addition to the importance of parental values, beliefs and parenting styles, the practices of parents themselves, especially the amount of time the parent spends with a smart device, also have a significant impact on young children's use of touch-screen technologies. Various empirical studies from different cultures (e.g. Nevski & Siibak, 2016b; Lauricella et al., 2015; Nikken & Schols, 2015) suggest that the more frequently parents use these devices, the more frequently smart devices are also used by the child. The above findings indicate that toddlers observe parents and older family members' behaviour with smart devices and may start to mimic their activities by using the devices (see Chaudron, 2015). Furthermore, as noted by Gutnick, Robb et al. (2010), parents and other family members often provide touch-screen technologies to toddlers and babies through both intentional and incidental acts of child rearing (e.g. purchases, scheduling and household space arrangements). Thus, as suggested by Neumann (2015), being a positive digital role model when using digital devices is an approach that parents should consider, instead of just setting strict limitations on children's use of digital technology.
In December 2014, we carried out an online survey amongst Estonian parents of 0–3-year-olds to study their opinions and practices about the usage of smart devices amongst infants and toddlers. After informing the parents about the aims of the study, procedures to be undertaken, potential risks and benefits of participation, expected duration of study, extent of confidentiality of personal identification, and demographic data, we asked them to sign an informed consent. Our final sample consisted of 400 parents, amongst whom three parental types emerged: 1) parents who themselves used touch-screens and also allowed their children to use touch-screen technologies (n = 198), 2) parents who used touch-screens but did not allow their children to use such devices (n = 202), and 3) parents who did not use touch-screens and did not allow their children to do so (n = 202) (see Figure 13.1).

We determined the types of parents using descriptive statistics based on parental mediation questions about active and restrictive mediation and co-use (Nevski & Siibak, 2016b).

We believe that pre-school teachers need to be aware of the differences between parents and their practices and attitudes related to young children’s digital technologies use in order to fulfill their roles as tutors and supporters of parents in terms of young children’s digital technology use practices.

**Aspects influencing parental mediation of young children’s digital technology use**

Sims and Colunga (2013) claim that in order to ensure a positive impact of technology on the child’s development, infants’ and toddlers’ smart device usage

| 1) Parents who use touch-screens daily (34%) and allow their children to use touch-screens daily (13.8%). |
| 2) Parents who use touch-screens daily (30.7%) but do not allow their children to use touch-screens. |
| 3) Parents who do not use touch-screens (45.3%) and do not allow their children to use touch-screens. |

**Figure 13.1** The parent categories: the average frequency of use and the allowance of touchscreen technology use

<table>
<thead>
<tr>
<th>Type A: parents who restrict time and content (57%)</th>
<th>Type B: parents who restrict either time or content (30%)</th>
<th>Type C: parents who don’t impose any restrictions (14%)</th>
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<tbody>
<tr>
<td>keep an eye on the child and stay close to the touch-screen (co-use)</td>
<td>child sits in the parent’s lap and the parent explains what happens in a game/app (active)</td>
<td>mind their own business do not tend to check on touch-screen history and opened apps after use</td>
</tr>
<tr>
<td>monitor gaming behaviour, specify apps that are appropriate, read apps content descriptions (restrictive mediation)</td>
<td>play together with the child (the child asks for it or on parental initiative) (co-use)</td>
<td>do not tend to evaluate apps content do not tend to use touch-screen together with the child (parental initiative)</td>
</tr>
<tr>
<td>evaluate apps content (active mediation)</td>
<td>tend to mind their own business</td>
<td></td>
</tr>
</tbody>
</table>

Table 13.1 Types of parents – parental mediation during the child’s digital play

needs to be a guided activity. Considering Bronfenbrenner’s (1979) model of concentric systems that influence human development, socializing agents (e.g. parents, teachers, peers, other family members and relatives) in children’s lives and the various social mediation strategies they implement in guiding young children’s digital device usage play important roles in guiding children’s technology use. Furthermore, the specific effects of parental mediation also depend on the type of mediation used (Linder & Werner, 2012). The findings of our studies (Nevski & Siibak, 2016a, b) reveal that parents of 0–3-year-olds take their roles as mediators of child’s digital play seriously and tend to combine different mediation strategies.

Veronika Kalmus (2012, p. 144) suggests that parental mediation should be viewed “as a set of embedded practices” influenced by a complex interrelationship of children’s and parent’s socio-demographic characteristics, parents’ cognitive and time resources, (inter)acting capabilities, and parenting styles. She suggests that social mediation of children’s technology use can be divided into two broad categories: “social support, i.e. help, guidance, co-use and co-interpreting, provided by any socialising agents”, and “rules and restrictions (social as well as technical), predominately set by teachers and parents” (Kalmus, 2012, p. 138). However, as stated above, parents differ considerably in their attitudes and decisions regarding their children’s engagement with technology, and there are numerous aspects which affect the mediation strategies they use.

One of the aspects that have been found to have a strong effect on parental mediation practices is the socio-demographic status of the child and parent. Empirical studies (Nikken & Schols, 2015), for example, reveal that parents tend to be more restrictive in their practices when children are younger, especially when mediating the technology use of young girls. Furthermore, studies (e.g. Nikken & Haan, 2015) have shown that parental mediation strategies are also dependent on the child’s skills in handling media, as parents with more skilled children also feel
more confident in their mediation abilities. This can, however, also work the other way round, as Nikken and Schols (2015) have shown. Their findings suggest that parents who consider the media to be too complicated for their children less often supervise and co-use media with their children or restrict the children's media use, whereas parents who use the media as pacifiers to keep children quiet or as a way of structuring family media routines tend to be more restrictive about the time their children use media devices or have access to media content.

It has also been found that lower-educated parents are more prone to make use of restrictive mediation, whereas parents with higher education tend to make use of active mediation strategies. The findings of comparative empirical studies carried out in seven different EU nations suggests that, together with the educational level of parents, the socio-economic status of parents has a significant impact on how parents mediate toddlers’ touch-screen use (Livingstone et al., 2015). The findings of Livingstone et al (2015) indicate that parents with lower levels of education and lower income levels feel less confident about their own abilities to use digital devices and thus tend to make use of more restrictive mediation strategies, i.e. setting concrete rules for screen time. Parents with lower incomes but higher education levels, however, were found to be fairly confident in terms of their own digital skills and, in contrast to the previously mentioned group, were found to make more use of active mediation (ibid). The most diverse mediation strategies were found to be used by more educated and higher income families, where parents also made extra efforts to promote various offline activities amongst their children (ibid).

All of the above indicate that socio-demographics, parenting styles, parental attitudes and parent screen time “play a dynamic and complex role in children’s screen time with these technologies” (Lauricella et al., 2015, p. 15). However, it is important to note that considerable cross-national variations have been found in regard to parental mediation of young children’s technology use, largely supporting the EU Kids Online classification (Livingstone et al., 2015), e.g. Finnish parents were found to actively mediate their children’s online activities, Czech parents were generally more passive and parents in the UK, Italy, Russia, Germany, and Belgium favoured more restrictive approaches. The findings of our quantitative study (Nevski & Siibak, 2016b) reveal that more restrictive approaches were also popular amongst Estonian parents of 0–3-year-olds, as more than half of our respondents (56.6%, N = 198) limited both the time and content of their children’s use of smart devices, although there were also parents (14.1%) who did not impose any restrictions on their children. The categorization of parental responses showed that content restrictions were most related to violent videos, cartoons and games. Estonian parents also prohibited their children from accessing age-inappropriate content, e.g. documents or calling and messaging applications (ibid).

All of the above illustrate the fact that parents from different cultures and with different backgrounds and values vary considerably in their family media practices, and thus children enter pre-school education with unequal background experiences with technology and mediation. Furthermore, as welfare regimes have been found to “foster the outsourcing of socializing tasks to public childcare”, Kalmus and Roosalu (2011, p. 13) have highlighted the growing need to include media education in the curricula of pre-schools and primary schools. We agree wholeheartedly with Neumann (2015), who argues that it is crucial to raise the awareness and knowledge of teachers so that teachers develop different strategies for assisting parents in providing their children with positive and healthy experiences and interactions with digital technology.

**Teachers’ role in guiding the social mediation practices of parents**

Wolfe and Flewitt (2010, p. 397) argue that “if all children are to achieve their full capabilities as members of a society in which knowledge and communication are highly prized commodities, then all children need opportunities to become proficient or literate in their use of new media”. However, “as a consequence of being embedded into everyday life activities, digital literacy is more and more a matter of informal, instead of formal, learning” (Arolfi & Mascheroni, 2016, p. 7).

Thus, it is crucial to find the best ways to use digital technology to support children’s learning and to help them find new ways to learn (Knowland & Formby, 2016) in the pre-school context. Recent studies have shown (Formby, 2014) that practitioners mainly make use of touch-screen technologies to engage children in different creative activities (e.g. taking photos and making videos), or with the aim of accessing teaching resources (e.g. research topics, visiting apps and websites with links to songs and rhymes, and using apps for stories). However, making use of smart devices requires much more than just finding and selecting appropriate software and integrating it somehow into classroom practices. In fact, Flewitt et al. (2015, p. 305) argue that it actually “requires a great deal of thought and consultation from teaching staff”, as well as “developing a local curriculum and pedagogy that supports their creative use”.

Thus, teachers need a good deal of curriculum guidance and training to understand how to achieve this most effectively (Wolfe & Flewitt, 2010). Also, it is essential that teachers develop their own ICT abilities to improve their pedagogical techniques. Teacher training programmes in Estonia contain special modules that offer educational technology courses where students can assess their own digital skills and learn how to use ICT in the pre-school learning process. Also, educational technologists, i.e. individuals who have teaching competence and skills to use technology in education, are working in pre-schools to support teachers and parents. Today, it is still rather exceptional and a privilege to have an educational technologist working in early education, but it is a rising trend.

In addition, teachers should understand their roles as mentors and guides for parents. Nikken and Haan (2015), for instance, have shown that parents need practical support to help their young children use digital media, because well-informed, well-equipped, and confident parents can make better judgements on which media activities suit the development of their particular children.
Although the findings of our study (Nevski & Vinter, 2015) revealed that parents were very interested in obtaining pedagogical advice, the majority of them (70.5%) had never received any guidance on their children's smart device usage. Those who had sought guidance and advice (16.8%) had done so themselves while looking up information online (34.3%), and an equal share of parents had received advice they could use from newspapers and magazines (both 19.2%). Asking or receiving advice from a professional, e.g., a family physician or preschool teacher, however, was very seldom indicated: just 2% of the parents who had received any guidance on the topic had turned to professionals for help. Furthermore, those parents who did not allow their children to use smart devices (N = 202) had received less guidance (24.7%) than those (N = 198) who allowed their children to use smart devices (33.8%). The analysis of open responses to our survey questions suggests that the parents were mainly concerned about content-related risks, i.e., they were worried that their children might encounter inappropriate content online (pornography, violent content, etc.).

I’m very concerned about the possibility that my 2-year-old will access inappropriate content online, especially pornography. She randomly types on an iPad keyboard and if she gets the letters p and o in correct order then Google will provide the word porn. I’m not so skilled in using filters or something to avoid this.

(parent of a 24-month-old girl)

The example above illustrates the fact that parents often admit to not having enough technical skills and knowledge themselves to resolve the problems that they might face when mediating young children’s touch-screen use. Thus, preschool teachers could help them by giving extra guidance and advice on how to make use of parental controls or how to engage in technical mediation.

Our findings also illustrate that parents sometimes also feel in need of more general advice related to the development of their children and their abilities to understand and interpret media content.

For me, it seems confusing: the difference between the experience of his world and mine if he is used to swiping, scrolling and tapping on the screen, his perception of reality as opposed to mine and if he is able to distinguish the real world from the screen.

(parent of a 30-month-old boy)

Sometimes, parents also lack knowledge of how to make difficult parenting decisions and thus are grateful for specific tips on how to handle those situations.

I need some good tips and recommendations on how to prevent my child from crying after the tablet is taken away or a cartoon is forbidden.

(parent of a 28-month-old boy)

It is crucial to keep in mind that children are active users and they explore the new media technologies to learn about the world and express themselves in new ways. Caregivers and educational institution goals must help children make informed choices about how they use media and for how long, and how much they can trust and be informed by what they see (see Edgar & Edgar, 2008; Penman & Turnbull, 2007).

Discussion

The advancement of digital devices is rapidly changing early childhood experiences. The aim of this article has been to analyse the role of important others and the home environment in general in young children’s touch-screen use. In the context of cultural changes related to the usage of digital devices happening in the world and the emerging innovative practices appearing in the field of early childhood education, we believe such knowledge to be crucial for pre-school teachers so that they could transform their practices in order to support young children’s digital literacy practices but also so as to be able to fulfil their roles as mentors and guides of parents in supporting their mediator roles.

Relying on the findings of previous research and our own case studies carried out in Estonia, we have argued that parent’s attitudes and decisions regarding technology are not only affected by such individual level factors as socio-demographic background (e.g., gender, age, educational background, and income) but are also guided by general values supported by the welfare regime and dominant values regarding parenting styles in particular cultural contexts. Furthermore, previous literature on young children’s smart device usage supports Bandura’s (1977) social cognitive theory, referring to the fact that important others (e.g., parents, siblings, peers, and teachers) and their usage of smart technologies serve as role models for the young child. Since family and caregivers influence the child’s beliefs and behaviour with technology through the bi-directional technomicrosystem (Johnson & Puplampu, 2008; Derksen, 2010), parents’ awareness of their responsibilities as role models of young children’s touch-screen use is crucial.

Although parents of 0–3-year-olds take their roles as mediators of children's digital play seriously, they desperately need pedagogical advice, especially in regard to educational and age-appropriate content, managing children’s smart devices and how to keep children safe online. Therefore, we propose that much closer collaboration between the pre-school and parents and home are needed. Below, we have divided our recommendations for pre-school teachers based on three main categories (I, II, and III) (Table 13.2) and three main types (A, B, and C) of parents (Table 13.3). We have used the findings of our two empirical studies (Table 13.2), as well as our reflections on the previous research literature on the topic (Table 13.3) as the basis of these recommendations.

Considering the fact that more and more toddlers have become active digital media users, we believe that the national curriculum for pre-school childcare institutions is also in need of thorough changes so as to address the rapid
<table>
<thead>
<tr>
<th>Category I: Parents high use, child high use</th>
<th>Category II: Parents high use, child no use</th>
<th>Category III: Parents no use, child no use</th>
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<tbody>
<tr>
<td>Parental involvement is essential and active mediation helps parents to engage their children while using the touch-screen; talking about what children are seeing and doing, and encouraging them to use their minds and bodies to maximize learning (Lerner &amp; Barr, 2014). Parents mediate differently and they play a key role in constructing the electronic screen environment in the child's bedroom according to the child's capacities to handle these devices (Nikken &amp; Schols, 2015).</td>
<td>It is essential to increase parental awareness of their roles as mediators and role models of young children's touch-screen use. Parents must be informed and instructed regarding their influence on the child's use of technology. The media environment at home and important others (older siblings, caregivers, etc.) shape the child's use of touch-screens (Vinter, 2013). Toddlers learn and behave through observational learning and by mimicking their parents and older siblings. Thus, parent self-control and limiting time with the smart device are important factors.</td>
<td>The key factor here is agreement between the parent and child. Parents should be aware that older siblings and peers are also role models for their young children (Nikken &amp; Schols, 2015) and that touch-screen use increases with age (Neyski &amp; Siilak, 2016b).</td>
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Table 13.2 Advice according to the three main categories of parents (I–III).

<table>
<thead>
<tr>
<th>Suggestions</th>
<th>Learning can take place when content is restricted (age-appropriate) and the content is age-appropriate coupled with adult-mediated instruction. Parents may restrict, monitor, or observe their children's screen time to ensure that the content is appropriate for their children's age and developmental stage. It's important to ensure that the content children are engaging with is age-appropriate and suitable for their developmental needs.</th>
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<tbody>
<tr>
<td>Supervision</td>
<td>Co-operation (co-parenting) is key to effective mediation. Parents should work together to create a balanced and positive environment. Monitoring and supporting each other's efforts can lead to better outcomes for children.</td>
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<tr>
<td>Content</td>
<td>Restrictions on content, such as blocking inappropriate websites or apps, can help to protect children from harm and encourage them to engage with age-appropriate material. Parents should also encourage their children to use apps and websites that are educational and developmentally appropriate.</td>
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Table 13.3 Suggestions according to the three main types of parents (A–C).
using such technological tools as filtering and monitoring software (Livingstone & Haddon, 2009). Considering the above-mentioned suggestions, we believe that the national curriculum for pre-school childcare institutions should contain media literacy and a media education programme for both children and parents. In fact, we suggest that pre-schools consider implementing media education programmes for parents, where parents can get more detailed information about various mediation strategies and all the necessary background information for guiding toddlers' touch-screen use. Furthermore, we believe that greater cooperation between pre-school teachers and paediatricians is needed in order to explain to parents the potential impacts of touch-screens and how to avoid threats and enhance positive effects. All of the above, however, means that the national curriculum for pre-schools, as well as pre-school management, should all help to provide sufficient and necessary training and guidance for teachers on the topic, to guarantee that teachers are able to fulfill their roles in assisting parents.

Currently the National Curriculum for Preschools (2008) in Estonia does not contain such concepts as "media education" or "media literacy", even though the concept of "virtual environment" is used. Despite the fact that the national curriculum does not cover the topic of media education, there are some teacher training programmes and educational technology courses targeted at pre-school teachers in Estonia, where media education is dealt with as a cross-curricular theme. We believe that pre-school management need to have a clear overview of what media literacy and educational technology training courses their teachers have taken and what training they need in the future to enable them to provide the most effective and knowledgeable advice to parents. In fact, as pedagogical leaders play a pivotal role in facilitating the integration of digital technologies into the classroom, we believe that ICT and media education training for pre-school teachers should be viewed as a professional duty, and this should be the case in every cultural and societal context.

References


