Digital Literacy and Young Children: Towards Better Understandings of the Benefits and Challenges of Digital Technologies in Homes and Early Years Settings

A Policy Brief

August 2018

DigiLitEY

EECERA
European Early Childhood
Education Research Association

cost
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

1
Introduction

This policy brief is based on an extensive body of research across Europe and elsewhere conducted by leading researchers in the field across more than 30 countries. We have studied the use of digital technologies by children under 8 years old in a variety of settings using an extensive range of research methods.

The key issues highlighted in this policy brief are as follows:

- Children are growing up in media-rich homes and public spaces, but the range of access to and adults' understanding of digital technologies varies enormously.
- There are excellent opportunities made possible through digital technologies to support young children in learning and developing creative, social and critical dispositions.
- Parents and educators of young children are receiving mixed messages about new technologies and often do not feel confident in supporting effective use.
- Many educators have received little or no initial or in-service training to encompass effective use of digital media in education.
- Depending on parents own technological expertise they are more likely to either perceive benefits or potential risks of children's digital activities.
- Some children may be exposed to potentially problematic experiences with digital media, such as inappropriate content, accidental purchases, health and social impacts and misuse of data.
- Parents should be encouraged to engage with their children's use of technologies, assisting enjoyment, play and learning together.
- The notion of restricting screen time should be reframed to emphasise the quality of children's engagement along with balancing their daily activities offline and online.
- Families and early years settings would welcome well informed advice to enhance children's wellbeing, learning, safety as well as appropriate ways of integrating technologies into play-based pedagogies.
- There is an urgent need for more research in this rapidly changing area, especially into the Internet of Things and Toys for children, including playthings, wearables and home virtual assistants.

Research Findings

Children are often fascinated by today's new toys and technologies: this gives rise to wonderful opportunities as well as concerns. New media can provide children with innovative and engaging learning experiences, and allow them to be empowered and connected in new and exciting ways through digital technologies. Yet for many there are concerns that children might become isolated in unhealthy interactions focussed on the consumption of screen-based materials with insufficient opportunity for human dialogues, or the interactions via the screen may become negative. For example, cyberbullying is often attributed to the apparent anonymity associated with media communications. As part of the education process, children should be involved in critical reflections about technology, as important an aspect of digital literacy for children as it is for adults.

There are many ways in which children can use digital technologies that are beneficial to learning. Crucially important is the presence of collaboration. For example young learners supported by adults can develop new literacy practices where they interpret sound, image, and written text, to make sense and problem solve. Digital technologies can be used to generate dialogues, for example with distanced family members and friends. Children benefit where parents have active engagement with young children's digital technology use, discussing the content and taking part in the learning experience. When supported by adults, young children's interactions can offer meaningful routes to discussion and learning.

Children's digital books and literacy-oriented apps can enrich children's reading for pleasure and learning. Digital books that offer stories with high-quality text and appropriate interactive and multimedia features can motivate children to read and enjoy stories. With open-ended apps children can create their own multimedia stories which can support parent-child communication, children's confidence and emerging literacy skills. Digital gaming has been shown to support learning in many ways. Discussions around play is a vital foundation for literacy development, and can support social development. Activities such as evaluating and creating games empower children as active makers of digital content. Online apps and clubs by young children and parents can foster such opportunities.

Young children's everyday play typically centres around physical objects. For this reason, there may be positive implications for the hybrid play afforded by Internet-connected toys (IoT) These offer a new dimension of playing and learning, making the digital and virtual malleable for the child. IoT can provide new opportunities for personalised play and learning, with great educational benefits for young children's learning of literacy and numeracy skills. However, IoT raises concerns regarding how children's personal information is stored, treated and shared. Simplistic opt-in/opt-out choices transfer legal responsibility for the collection, analysis and distribution of children's data to parents, and this effectively gives commercial entities authority to continue and conceivably expand upon data-collecting and sharing procedures.

A general lack of guidance on how to support children's play with technologies means that parents turn to the media for answers, which can lead to unnecessary anxiety. Children thrive best in environments where they are supported to enjoy a range of healthy, balanced activities indoors and out. When digital technologies are involved, the quality of the media and the quality of support from adults and others are extremely important. The notion of "screen time" is not the most useful way of considering a child's health and learning holistically. Research shows that some parents draw on deficit terminology when talking about their children's play with technologies such as "addiction" yet such terms are not used for traditional toys such as train sets and books, where persistent engagement is valued. In connection with digital technologies parents sometimes lack confidence in their own judgements of health and balance.

Teachers and others working with children hold a variety of understandings in relation to digital technologies and the roles they play in their own and in young children's lives. Early years' teachers define digital literacy in varied ways, drawing on different meanings of digital technologies, media, and tools. They engage in digital literacy practices both for personal and professional purposes such as communicating, getting informed, staying connected, as well as identifying and designing instructional material, forming informal peer groups for their professional development, and so on. They acknowledge that young children may often be competent users of digital technologies outside educational settings, but can be reluctant to broadly engage them in digital literacy practices in formal learning spaces unless there is evidence of particular educational value.

Digital literacy has not yet become an integral part of early years' education in most settings across Europe. School curricula for young children often include few references to the digital and those mostly centre on the tools to be used as instructional materials e.g. videos or on specific computing skills that children need to develop. Young children's meaningful engagement in digital literacy in educational settings would be fostered by the expansion of early literacy curricula that recognise the fusions of online and offline as well as screen and non-screen based technological activities that characterise much everyday life, including in future employment and leisure time.

Effective learning practices are connected to problem-solving, exploration, skill acquisition, collaborative learning, social interaction, creation and the capacity to criticise. The integration of digital technologies presents teachers and their settings with new exciting opportunities and challenges in designing the environment. Time and resource needs to be invested in identifying and exploring the potential pedagogical benefits of different digital tools and applications. This is particularly important given the multiple ways in which digital devices can be used: for instance, the tablet may be a platform for social interaction and self-presentation at the same time practicing conventional print-based skills; similarly, the interactive whiteboard may be a tool for showing and viewing as well as searching and communication.

Teachers' preparation and in-service training are key to the integration of digital tools and the design of effective digital literacy pedagogies in official school settings. Factors that influence teachers in such decision-making include, but are not limited to, their beliefs and attitudes, technological competence and perceived ability, knowledge of available technology, content and pedagogical knowledge. Teacher education and in-service programs that are effective in supporting teachers to integrate digital literacy in their instructional designs, are those that stimulate practitioners to think for themselves. Much as in the case of young children, practitioners learn better through their own engagement and design opportunities and guided reflection on these. Although there is growing evidence as to the benefit of such professional development activities, little is known about their extent.

It is also important to recognise the competence and agency of even our youngest citizens. While it is undeniable that technologies hold cultural significance and value, there is a tendency to overstate the role of technologies in children's lives, presenting technologies and childhood as discordant, with technologies held accountable for the 'state of childhood' in contemporary society. Such a pessimistic and deficit view of children and technology resides within a conceptualisation of childhood which is now outdated. It presents the view of children as passive and at risk. Yet research shows quite clearly that children can be empowered by digital devices, when offered appropriate opportunities; how we offer these opportunities is often framed by those guiding and supporting children in their learning. Libraries, museums and other venues for informal learning can offer opportunities for children's multimedia creativity and play, as well as for information-seeking. More research and development is required on the collaboration of different professionals across spaces and disciplines.

3

Key Messages

…in relation to Parents and Carers

- Parents should engage with their children in their activities with digital media. The most important issue is not whether they lack in knowledge or confidence – the most useful way they can support their children with technologies is to talk, play and learn with them.

- Parents would benefit from more publicly funded or impartial advice about how to frame children's use of technologies in life and learning. (We will follow up on this in future publications).

- Parents should take the time to look carefully at what IoT they buy, ensuring that they understand the privacy issues and that they are clear about if and how their children's data will be used. They should be wary of sharing their family's personal details in registration forms and only complete the minimum necessary.

…in relation to Early Years Practitioners

- Teachers and other adults working with young children should develop opportunities to integrate beneficial activities involving digital technologies in their teaching. This should always be led through sound pedagogical principles rather than be led by the latest technological innovation. Practitioners should support children's curiosity and critical, reflective attitudes towards digital technologies so that they can be used creatively, responsibly and safely.

- It is worth investing time into learning about new technologies especially if they are supported in school policies, but it is at least equally important to appreciate that besides any technical competence, long-held pedagogical principles still apply in these new settings. For example, the encouragement of children's learning can be supported through open-ended questioning.

- Teachers and others should appreciate that for many children their popular culture interests are blurred across offline and online spaces, and across different media. Teachers should recognise that this offers opportunities to follow and develop their interests across different kinds of spaces.

- Classrooms and learning spaces should allow for children's inquiry-based, open-ended investigations that are directly linked to their everyday lives. Good pedagogical practices are those that allow children to ask, investigate, create, discuss, reflect, negotiate, construct, play, and transform meanings and identities in and through diverse media.

- Schools and early years settings should have clear but dynamic, regularly reviewed policies on the use of digital media to support children's learning and observations of what children can do in order to build in their existing competencies and knowledge. Staff require appropriate training and opportunities for collaborative reflection and support that is both technical and pedagogically-oriented.

- Early years settings should develop ways of drawing on competencies and interests children develop at home and liaise with parents and other family members to create connections between home and school. If technology use is grounded in high quality pedagogy, practitioner should be open to sharing best practice with parents, where required or requested.

…in relation to Policy Makers

- Education providers and educational institutions should provide sufficient initial and in-service training for practitioners in order to provide them with research-based knowledge and competencies as well as providing adequate technological resources.
- Training is required for leaders and pedagogues in early childhood education which encompasses safety, security and pedagogic guidance as well as improving their confidence in the use of technologies. Practitioners need to understand how they can integrate technologies in creative and productive ways into indoor and outdoor activities.
- More research is needed into effective guidance for parents, including through better ways of liaising with pre-school settings.
- More research is needed into IoT: how to reap potential benefits to children of their use in play and learning while guarding against potential threats to wellbeing.

…in relation to Children

- Children should be recognised as active participants in the discussions about technologies in lives and learning. Guidance should not always be directed at adults, suggesting a hierarchy of power imbalance; instead children should be provided opportunities to reflect on their own media use and with guidance and support from parents and educators make decisions about their own technological engagement.

4
Who We Are

DigiLitEY The digital literacy and multimodal practices of young children is a COST action funded under the Horizon 2020 programme of the EU. We are an interdisciplinary network of researchers in 35 European countries promoting, synthesising and innovating in research focussed on children aged 0-8.

The Digital Childhoods SIG is a group of academic, teacher and student members of the European Early Childhood Research Association. We are interested in researching young children's lives in a digital era. Our definition of technologies is broad, including screen-based and touchscreen technologies, robotics and IoT.

This briefing pulls together research conducted by the authors and syntheses of other research in the area. Writing was led by:

> Dr Julia Gillen, Reader in Digital Literacies, Lancaster University and co-chair, Working Group 1, DigiLitEY
> Dr Lorna Arnott, Lecturer in Education, Strathclyde University and Chair of the Digital Childhoods SIG, EECERA.

Further information

The publications section of the DigiLitEY website contains many open access reports and publications on research discussed in this document http://digilitey.eu/publications/digilitey-publications/

Note also a Special Issue of the British Journal of Educational Technology: Digital Devices, Internet-enabled Toys And Digital Games: The Changing Nature Of Young Children's Learning Ecologies, Experiences And Pedagogies - in print 1st September. https://onlinelibrary.wiley.com/journal/14678535

Contact: Julia Gillen j.gillen@lancaster.ac.uk

To cite this document:

Gillen, J., Arnott, L., Marsh, J. Bus, A., Castro, T., Dardanou, M., Duncan, P., Enriquez-Gibson, J., Flewitt, R., Gray, C., Holloway, D., Jernes, M., Kontovourki , S., Kucirkova, N., Kumpulainen, K., March-Boehnck, G, Mascheroni, G., Nagy, K., O'Connor, J., O'Neill, B., Palaiologou, I., Poveda, D., Salomaa, S., Severina, E., Tafa, E. (2018). *Digital Literacy and young children: towards better understandings of the benefits and challenges of digital technologies in homes and early years settings.* Policy briefing of DigiLitEY COST Action IS1410 and the Digital Childhoods SIG of the European Early Childhood Research Association. 31st August.