The challenges and opportunities of digital technologies for very young children

**What do we mean by ‘digital technologies for very young children’?**

Digital technologies include a range of tools or devices, such as digital cameras, recorders, projectors, smart watches or smart toys. For very young children, devices such as tablets or smart phones that can be swiped or touched are easy to use as engagement with these devices is not dependent on highly developed fine motor skills.

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| Research evidence on digital technologies and very young children |

Research into the opportunities and challenges in using digital technologies with young children identifies a range of findings, as the list below highlights.

* While the research focus has been on three- to five-year-olds, there is increasing interest in researching digital technologies with children under three years of age.
* Digital technology in early childhood education and care (ECEC) is a relatively new field of research, and the technology is sometimes ahead of the research.
* Young children often use digital devices at home with an adult or an older child. These contexts provide new ways of socially interacting and connecting with others.
* Digital technologies influence the way children learn, what they learn (new knowledge, understanding and skills) and how educators teach and learn with them.
* There is some evidence that families are divided in their attitudes to digital technologies and to providing devices for their young children. Parents engage in different roles with digital technologies, including acting as gatekeepers, supervisors, mediators or co-constructors of learning.
* Data reveal the dramatic increase in access to and use of digital technologies from 2011 to 2017. In Australia, 97 per cent of households with children reported having access to the internet through computers, mobile phones and tablets (Australian Bureau of Statistics 2018).
* While many Australian families have access to and use digital technologies, the lockdowns brought about by the coronavirus (COVID-19) pandemic highlighted the digital divide in some communities. For example, some families possess mobile phones, but they do not have access to a computer with reliable internet access.

*‘Guided play and learning occurs when adults are involved in children’s play and learning, following children’s interests and responding to spontaneous learning opportunities as they arise.’ (Victorian Early Years Learning and Development Framework, p. 15)*

Every ECEC context is unique. Educators and families make decisions about digital technologies based on their values, beliefs and contexts as well as their understanding of the research. Educators making pedagogical decisions about digital technologies take into consideration the following key principles.

* Digital pedagogy decisions are made in children’s best interests.
* Educators reflect and make decisions using trusted evidence, guidelines and information about digital technologies and young children.
* Decisions are made collaboratively with families, children and other professionals working with children.
* Play-based learning approaches guide the program.
* Changes in children’s learning and development from using digital pedagogies are monitored for impact and outcomes and modified or adapted in response.
* Recognise the difference between children’s passive participation with digital technologies (watching television alone) and active engagement with digital technologies or devices (experiences where children are thinking, making choices, interacting with others and the device, and have a purpose).

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| Practical examples of using digital technologies with very young children |

Toddlers can use a digital camera to photograph the people, spaces or objects of interest to them in ECEC environments. Educators, toddlers and families talk about the images and what they reveal about the children and their perceptions of the environment. This discussion informs ‘What next?’ planning decisions.

Digital technologies can also be used to support participation, engagement and learning for young children with disabilities or developmental delay by:

* amplifying sounds
* enlarging images
* providing a communication aid
* supporting inclusion, participation and active exploration through using a touch screen device that combines a range of sensory stimuli.

Educators and very young children can co-view digital photo documentation to talk about learning and promote conversations and memory skills.

Digital projectors can be used to project large images or shapes on a wall or floor. Very young children can explore these images by using their senses of touch or sight.

Educators record very young children’s exploratory play and interactions using digital technologies and share these records with colleagues, children and families to support deeper understanding about the powerful but often subtle learning that is happening. Families, in turn, can share videos of their child’s learning at home.

During the COVID-19 lockdowns, infants and toddlers engaged in video chats with educators and peers as well as with family members they could not visit. These experiences showed the positive outcomes from using digital technologies for connecting with others.

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| Final reflection |

Evidence suggests that informed, thoughtful use of digital technologies can help to motivate and enrich very young children’s learning. Using digital technologies with young children is best approached with a sense of curiosity, confidence, openness, and shared adventure.

#### This Fact Sheet was developed by Dr Anne Kennedy

Anne Kennedy works as a consultant, researcher, writer and advocate in early childhood education and care. Anne is a Fellow of the Graduate School of Education, the University of Melbourne and a life member of Community Child Care Association (VIC) and FKA Children’s Services. Anne has worked with the Victorian Curriculum and Assessment Authority (VCAA) on a range of projects to support the implementation of the Victorian Early Years Learning and Development Framework. Anne comes to the topic of digital technologies for young children with a sense of curiosity about the possibilities and challenges and a commitment to reflect on the research evidence from different perspectives in order to consider the pedagogical implications.

This fact sheet supports information contained in the March 2021 VCAA Twilight Webinar The challenges and opportunities of digital technologies for very young children. [Edited vignettes of this webinar are published on the Victorian Curriculum and Assessment Authority website for you to watch](https://www.vcaa.vic.edu.au/news-and-events/professional-learning/earlyyears-professional-learning/Pages/PastProfessionalLearningMaterials.aspx).

#### Additional resources that might be useful.

Australian Bureau of Statistics 2018, ‘Household use of information technology’ (available at [www.abs.gov.au/statistics/industry/technology-and-innovation/household-use-information-technology/latest-release)](http://www.abs.gov.au/statistics/industry/technology-and-innovation/household-use-information-technology/latest-release))

Early Childhood Australia 2018, ‘Statement on young children and digital technologies’ (available at [www.earlychildhoodaustralia.org.au/digital-tech-statement](http://www.earlychildhoodaustralia.org.au/digital-tech-statement))

Donahoo, D 2016, ‘We have a responsibility’, Every Child, vol. 22, pp. 16–17

Fleer, M 2016, ‘Inclusive pedagogy from a child’s perspective’, *Research into Practice Series,* Early Childhood Australia, vol. 22 (1)

Holloway, DJ, Green, L, & Stevenson, K 2015, ‘Digitods: Toddlers, touch screens and Australian family life’, *M/C Journal*, vol. 18 (5) (available at <https://ro.ecu.edu.au/ecuworkspost2013/1777>)

Livingstone, R 2015, *Using digital touch technologies to support children’s learning*, We Hear You: ACECQA (available at <https://wehearyou.acecqa.gov.au/2015/07/15/using-digital-touch-technologies-to-support-childrens-learning/)>

Miller, JL, Paciga, KA, Danby, S, Beaudoin-Ryan, L & Kaldor, T 2017, ‘Looking beyond swiping and tapping: Review of design methodologies for researching young children’s use of digital technologies’, Cyberpsychology: Journal of Psychosocial Research on Cyberspace, vol. 11 (3), Article 5 (available at <https://dx.doi.org/10.5817/CP2017-3-6>)

Yelland, N & Gilbert, C 2016, ‘Exploring with twenty-first century skills’, *Every Child*,   
vol. 22, pp. 34–35.

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