



Young children and digital technology at home

A Froebel Trust early childhood research
highlight by Professor Rosie Flewitt
and Dr Sandra El Gemayel



Froebelian principles

This research highlight considers how digital technology features in young children's lives. It makes links between research and practice in Froebelian education today.

Friedrich Froebel (1782-1852) was the inventor of the kindergarten and a pioneer of early childhood education and care. Froebel's work and writing changed the way we think about and value early childhood. **The principles** of his work continue to challenge and be relevant to modern early childhood education.

Find out more about a Froebelian approach to early childhood education at froebel.org.uk

A Froebelian approach to education reflects the wholeness of Froebel's ideas and brings together all the principles of his work. This research highlight makes particular connection to five of the principles:

- Unity and connectedness
- **Autonomous learners**
- The value of childhood in its own right
- **Relationships matter**
- **Creativity and the power of symbols**
- **The central importance of play**
- Engaging with nature
- **Knowledgeable and nurturing educators**

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What do we mean by digital technology?

With the fast pace of technological advancements, most children in the Global North, and increasingly in the Global South, are born into households where there is at least one digital device, if not multiple devices. Every day, most children see their families chatting on the phone, messaging, texting, working on their laptops, activating 'Alexa', and/or watching Netflix – and very young children soon learn to join in!

When we think of digital tech, we might consider smartphones, touch-screen tablets, personal computers and virtual reality games. But there are many everyday objects that now have digital connectivity, such as washing machines, dishwashers, refrigerators, smart TVs, baby monitors, security systems and Smart Toys, in what is often referred to as the Internet of Things (IoT).

Despite the prevalence of devices in young lives, we don't know much about how children from birth to three years old experience digital tech, what social divides there might be in digital tech across different households, or how adults can support young children's play whilst also ensuring their safety with digital tech.



How do parents, carers and educators feel about technology?

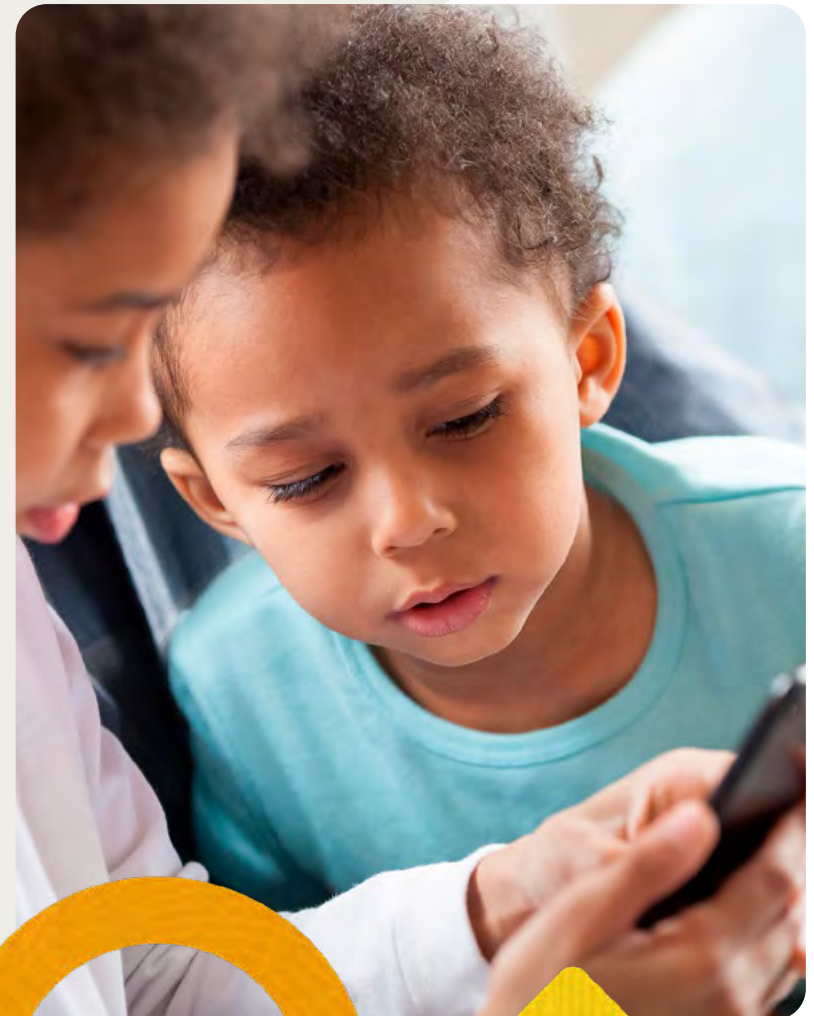
Parents, carers and educators often have ambivalent feelings about **young children's use of digital technology**.¹ Many adults recognise the importance of tech for children's futures, and its role in connecting family and friends. They often select fun, creative apps that prompt children's early language and literacy, as well as drawing, painting and music apps. However, they also worry about finding a balance between digital and non-digital activities, and about children's safety and security in the online world.

Such fears are fuelled by negative media discourses, and tensions between digital guidelines that focus on restricting 'screen time' for young children and the reality of contemporary home life where it's difficult to avoid digital devices. For example, the **American Academy of Pediatrics**² suggests that children younger than 24 months only use digital media with adults for videochatting, and encourages adults who would like to introduce digital media to children aged between 18 and 24 months to choose high-quality programmes.

However, it's not clear how parents can gauge the quality of apps, or exactly what 'screen time' means. Using a screen? Seeing someone else use a screen? Consequently, many adults report feelings of anxiety and guilt around their own and their **children's uses of digital tech**.³

Recent research has found many positive aspects to young children's digital tech use, which can open up highly expressive and creative pathways for children's self-expression, but often only if adults know how to provide effective support for young children's adventures with tech.

Froebel viewed creativity as an essential component of learning and self-knowledge.⁴ By encouraging and supporting children's creativity both with and without tech, parents, carers and educators can help children express themselves by making **connections between their inner thoughts, feelings and experiences and the outer world**.⁵ This outer world nowadays includes digital tech.





How does digital technology feature in young children's daily life?

How digital technology is used with young children varies across families. For some children, tech is integrated into “the ‘rhythm’ of the day” ⁶ whereas others might only watch occasional programmes on TV or YouTube. In households with a wide range of tech, most young children occasionally or sometimes play games, use apps, and/or enjoy video calls with friends and relatives.

In the UK, for example, 78% of 3-4-year-olds use tablets to go online, and 17% own a mobile phone. ⁷ 25% of under threes who live in a household with a tablet own their own tablet, ⁸ while 5% of under 2s and 43% of 2-4-year olds in the United States own their own tablet. ⁹ In our own research, conducted in 2023, almost 40% of over 1,550 parents reported in an online survey that their 0-36-month-old child owned a tablet, and almost 13% reported that their very young child owned a Smartphone.

How do digital media feature in children's language and literacy development?

We know that if very young children are supported by adults when they use digital devices, then they soon become able to use them independently for some tasks, including talk and literacy-related activities, such as recognising and purposefully selecting screen symbols and icons. They develop the technical and motor skills needed to operate touch screens – to swipe, locate, and tap to select and use apps such as the camera and photo gallery to take and view photos and videos, or to access YouTube.

In so doing, very young children are not only learning about digital devices, but digital technology is reconfiguring their early experiences of literacy.

Many devices function with voice control, swiping and tapping, which require different kinds of knowledge and skills to traditional print literacy, and are more accessible for young ones. Rather than reading words, children can activate icons on touch screens by tapping, pinching and stretching – **all of which comprise literate action.**¹⁰

These changes in technology mean that young children can independently take part in highly effective communicative practices long before they develop the skills they will **need to read and write in conventional script systems.**¹¹ While using tech, they are also **building cultural awareness of its role in daily life.**¹²





Can young children really play with digital tech?

Digital play refers to activities that children freely choose to engage in that involve using digital devices.¹³ Tablets are amongst the devices that are most favoured by parents for their young children's use, partly because their size, portability and accessibility allow children autonomous control of these devices.

- Young children can use tablets to read picture books, watch videos and television, and explore their own creativity with drawing and music apps, taking photographs and making videos.
- Young children can use tablets to play games, complete jigsaws, and use apps that **develop their understanding of numbers, letters, shapes and familiar objects found around the house.**¹⁴
- Holding and using tablets and mobile phones requires the development of fine motor skills to tap and swipe.
- Young children **develop gross motor skills in their exploratory and locomotor play as they dance to music played on digital devices or run to find toys that resemble characters on TV.**¹⁵
- Young children **draw on their life experiences when playing and creating play scenarios,**¹⁶ so digital tech inevitably features in their play, such as dressing up like their favourite characters, re-enacting fun scenes or using digital devices as props in their imaginative play.

Can digital tech help to connect children socially?

Digital tech is often associated with solitary and lonely activity. But it can help young children develop communicative and social skills, and to maintain strong personal connections with family and friends from whom they might be physically separated. Video calls were crucial to keep friends and family in touch during the COVID pandemic and continue to feature in everyday life, due to distance, forced displacement or illness.

Froebel emphasised the importance of community in young children's lives. Connecting with others and building relationships with their community promotes young children's learning and wellbeing. **It also provides young children with a sense of belonging.**¹⁷ Nowadays, digital tech can promote such connections, especially when family and friends are separated by distance.

Adults tend to be playful in their virtual interactions with young children, making funny faces and sounds, and engaging in social language play (e.g. 'Peek-a-Boo') when video chatting with young children. Video chats with playful loved ones have been found to **benefit children's language development, imagination, creativity and fantasy play.**¹⁸

Froebel saw play as a social activity. **Through play and playful interactions, children build friendships and relationships, understand rules, and show empathy and care to others.**¹⁹



How can parents, carers and educators support children's use of digital tech?

Joint media engagement (JME) is crucial in young children's digital tech use. JME means that at least one adult or (often older) peer actively engages with a child while watching television or playing a digital game – sharing in the fun and excitement together. Through JME, adults provide emotional and cognitive support, stimulating responsive and enjoyable conversations, which **help scaffold children's learning and strengthen the adult-child relationship.** ²⁰

Joint Media Engagement aligns with Froebel's recognition of the importance of adult guidance for young children's learning. Froebel saw that children learn and develop autonomy when adults provide sensitive guidance, encouragement and support, help children make decisions and complete challenging tasks, and listen to and **respect children's ideas.** ²¹

With the prevalence of digital technology in very young children's home lives and children's growing engagement with digital media in learning, socialising and play, educators have begun to re-examine the early years learning environment and re-conceptualise the many ways that **children learn with and without tech.** ²² Educators know they must build on the experiences and knowledge that children develop at home, and this now **includes their knowledge of digital tech.** ²³





Reflecting on young children and digital technology

What have you learnt by reading this Research Highlight?

What might you do next to engage in JME with young children?

Reflecting on your own views, having read this highlight, how do you feel about young children using digital tech?

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