DIGITAL *Childhoods*

scottish universities insight institute
mobilising knowledge for a better Scotland

RESEARCH BRIEFING 3: RETHINKING YOUNG CHILDREN CREATING AND COMMUNICATING

Digital childhoods

Over the last decade, digital technologies and digital media have transformed our homes, our work and our leisure activities. Changes have been so rapid and so pervasive that it is hard to remember that at the turn of the century, home access to the Internet was largely via dial-up modem and a computer terminal, and available in around a quarter of UK households. The use of mobile phones as multi-tasking devices was just beginning to take off.

We have been conducting research with families with a child aged three to four since 2003 and have observed how this growth in home technologies has affected children's lives. In our most recent visits, which took place in 2009, every family we visited had at least one home computer – and sometimes as many or three or four – and all had broadband access to the Internet. Every family had at least one TV set, at least one mobile phone and at least one games console. The range of technologies bought specifically for children's use was extensive, including DVDs of children's films and TV series, video games, MP3 players, karaoke machines and electronic musical instruments, still and digital cameras, mobile phones and teaching technologies such as electronic books. Thus, by the time they start school, 21st century children have had extensive exposure to a range of digital technologies, at home and in the community.

This briefing paper specifically considers children's early communicative and creative experiences with digital technologies, addressing the following questions:

» What are children learning about the roles digital technologies play in supporting communication and creativity in their families and communities?
» To what extent are they able to harness these technologies for their own purposes?
» What use will they make of their knowledge and experiences when they start school?

What are children learning about the roles digital technologies play in supporting communication and creativity in their families and communities?

Many of the digital technologies most enthusiastically adopted by the public have been those which facilitate communication in various forms: oral, visual and in writing. Up until the end of the 19th century, communication over time and distance could only be achieved through graphic representation (pictures and writing), hence the critical place which literacy came to play in many societies. The advent of radio and the telephone, and later, film and television, marked a radical shift in the 20th century towards the spoken word and moving images as a much faster means of communication; but in the 21st century, we are becoming increasingly competent in a much expanded multimedia communicative world where we routinely use the written word for fast communication (email and text messages), the spoken word by landline, mobile or VoIP (e.g. Skype) for personal conversations and discussions, and social networking tools such as Facebook or blogs to communicate, through words, photographs, video and music with wider 'audiences' of friends and family, often not just in our immediate neighbourhood but across the world.

All societies understand the importance of ensuring that young children learn to communicate orally and much of the focus of parents' engagement with children in the first years of life is on supporting them as they develop language. These practices are so ingrained in human communities that much of our 'teaching' of the spoken language to babies and small children occurs without us being fully aware of the educational role we are playing. For example, researchers studying the ways in which babies learn to speak their first language have

University of **Strathclyde**
Humanities & Social Sciences

UNIVERSITY OF STIRLING

drawn attention to the importance of pointing and gaze in the early stages of learning to understand and speak. By looking at a person or an object or by pointing at it, parents help babies to associate certain sets of sounds with the person or object, and eventually to point and make (attempts at) those same sounds themselves. Many parents do this instinctively or only partly aware of the importance of the gaze or pointing element. But in repeatedly speaking to babies in this way, they teach them not only that these people or these things are important to their families but also that communicating about them is important. Learning to speak is not simply acquiring an ever-growing list of names for things but understanding why we want to speak about them: for example, because we are hungry and want some food, because we are surprised by something and want to draw others' attention to it, because we are happy or sad and want to express our feelings, because we have a story to tell and want to share it.

Just as young children learn how and why to speak by observing and interacting with adults and older siblings, they are also learning how and why to use different communication technologies by observing the ways in which others in their families and communities make use of them and trying out such activities themselves. For example, on one of our visits, we observed a nine-month-old baby (brother to the child in our study) pick up a toy mobile phone and 'talk' into it, even although he had only reached the babbling stage and had no recognisable words: Duncan already knew that mobile phones were a significant feature in his home and that they were used for talking – and he wanted to participate in this activity, even though he himself could not yet talk.

By the time they were three or four years old, the children in our studies were aware not only of the role of speech but also of that of the written language in their environment, ranging from shop signs, food labels and letters and numbers on phones and keyboards to books, newspapers, websites and text messages. Though few could read or write themselves, they observed others doing this and were learning the importance of written communication and the different kinds of ways in which this can be used. In some cases, adults deliberately taught their children to name letters, recognise their shapes and the associated sounds, and to identify common or significant words, such as their own names and those of family members, favourite toys, media characters and so on. By reading aloud to their children, they also demonstrated that the written word provides access to information and enjoyment – ranging from the pleasure of reading a story to knowledge about times of favourite TV programmes, events in the local vicinity, or about the wider world we live in, feeding an interest in dinosaurs, trains, animals or music.

Digital technologies have greatly expanded the visibility and accessibility of graphic and written communication in 21st century children's lives. Opportunities to see this form of communication in action are increased by parents', older siblings' and other acquaintances' frequent use of texting and other screen-based communications (email, Facebook, websites of all kinds) and possibilities for young children to participate themselves are enhanced by the fact that such communications are often multimedia, making use of visual symbols (emoticons), photographs, video and sound as well as written texts. These additional elements make it easier for children to understand who is communicating and why, and to reply: if they cannot yet write a message, they can add a photo or a smiley face, or can participate in the making of a video which they know will be sent to distant relatives. In this way, they become part of social networks outside their immediate community at an earlier age and in a more proactive way than would have been possible even a decade ago.

In our studies we observed how children's play activities incorporated technologies in ways which demonstrated that they saw technological tools as part of their everyday environment and understood their purposes, even when they were not necessarily able to make full use of them themselves. For example, they used old computers, non-functioning mobile phones and toy replicas of technological items, such as supermarket scanners, laptops and metal detectors, as props for imaginative games involving work in various guises, such as in imaginary offices, shops, schools, as well as when 'playing house'.

To what extent are they able to harness these technologies for their own purposes?

In order to become proficient users of digital technologies, children need not only to understand how they are used but also to make use of them themselves as tools for communicating and creating. Three examples from our studies illustrate ways in which children were becoming proficient and imaginative users of the technologies at their disposal.

Liam: puppeteer
Several of the children in our studies drew on technological resources to enhance imaginative play. Liam, a quiet four-year-old boy at the time we first met him, was enthusiastic about the film of *The Lord of the Rings,* and played a range of imaginative games based on this. He searched the web for pictures of his favourite characters from the film. His father printed them out on glossy paper and his mother cut them out and stuck them on card. Liam then used these cardboard cutouts as puppet figures in games he invented himself, based around the story.

Kylie: singer
The social potential of technologies is becoming increasingly attractive in family contexts. Kylie, aged three, and her mother made use of domestic karaoke machines both to express their love of singing and to make new friends. Kylie's mother was a keen karaoke singer and bought Kylie a sophisticated karaoke machine as a Christmas present. She encouraged Kylie to sing along with the backing tracks. She had several karaoke tapes (mainly of nursery rhymes) and sang with great enthusiasm. Her mother often invited other mothers of young children over to their house and adults and children spent evenings singing to the accompaniment of the machine. These activities helped to develop Kylie's musical abilities and her sense of audience, and also to alleviate the social isolation which Kylie and her mother, a young lone parent living away from family and friends, had been experiencing.

Colin: photographer
Most children had extensive experience of being photographed and videoed, from babyhood onwards, and some were beginning to make use of digital cameras to record and communicate their own perspectives. Colin was three years old when we visited his family, and already a proficient photographer. He was learning to store and retrieve photos electronically, with help from his mother. On later visits, we found that Colin and Emma, his five-year-old sister, were communicating with relatives in Australia, sending them photographs and messages containing emoticons (as neither could write at this stage) and also using a webcam for video calls. By the time of our last visit to Colin's family, when he had just started school, Colin was just beginning to learn to use Internet search engines and was collecting photographs of chinchillas from specialist websites.

What use will they make of their knowledge and experiences when they start school?

It is now well established that children's early experiences with *traditional* (print-based) texts play an important role in supporting the development of reading and writing skills when they start school. How do their experiences with digital technologies fit into this picture? As a result of our research we compared the kinds of skills or competences children develop for *traditional* and *digital literacies*.

This comparison shows that the kinds of communicative and creative activities stimulated by digital technologies often complement those children are developing as a result of their early experiences with traditional texts. Long-standing childhood practices such as listening to stories, learning nursery rhymes, drawing, making greetings cards, and imagining their own adventures with the help of props such as dolls, soft toys or dressing up clothes contribute to their interest and understanding of narratives and the graphic representation of stories and information. Watching TV programmes and films, singing along with a karaoke machine, taking photographs and sending them as picture messages, and imagining their own adventures with technological props – mobile phones, electronic wands, toys which walk and talk – develop similar skills from an expanded range of sources and often for a wider audience, given the increased potential to communicate over a distance. It is therefore important that early years professionals recognise the full range of children's creative and communicative experiences and value those which derive from their early technological experiences as well as the more traditional sources.

Examples of early traditional literacy activities	Examples of early digital literacy activities
Developing technical skills: shapes and sounds of letters, how to hold a pencil or a book, alphabet and spelling games	main functions of different technologies (off, on, fast forward, alert sounds), keyboard symbols (recognition & location), how to use a mouse
Developing communicative skills: letters, postcards, birthday cards	text messages, email, sending and receiving digital photographs
Playing: rhymes, songs, riddles, jokes, playing cards, board games	games of all kinds
Listing and categorising: labels, lists, instructions	icons, menus, instructions
Expressing oneself symbols, drawings	emoticons, taking photographs
Imagining listening to stories, telling stories	watching DVDs, acting scenes from favourite programmes or films
Acquiring knowledge of the world: non-fiction texts (books, newspapers, magazines, cards, toy packaging, cereal boxes)	non-fiction sites, educational game play, search engines

Where we stand

As educational researchers we are often asked to say whether it is a 'good' or a 'bad' thing for young children to be exposed to technology at an early stage in their lives. There is a widespread view, particularly among media commentators, that young children now spend most of their time watching TV and playing computer games, and that this is at the expense of more valuable experiences, including listening to bedtime stories, playing traditional games, drawing and painting, and learning basic letter and number skills. Our research does not support this view.

In the course of our research, we have worked with over 50 case study families: in none of them did we find that children spent most of their time on technology-based viewing and playing, but rather that these kinds of activities and others with a technological element were mixed, often seamlessly, with the more traditional activities that are highly prized. Moreover, the technologies now available in the home and accessible to preschool children are much more extensive than DVDs and computer games. They offer an increasingly wide range of opportunities for children to pursue their interests and develop communicative and creative skills of value to their future educational careers and, more generally, for living and working in a society where digital communications and multimedia forms of expression will play a significant role as the 21st century progresses.

© Joanna McPake, University of Strathclyde

The Research Background

Young children learning with toys and technology at home

Lydia Plowman, Joanna McPake, Christine Stephen, Alan Prout, Claire Adey & Olivia Stevenson
Funded by the Economic and Social Research Council, 2008-2011.

Young children learning with toys and technology at home aims i) to use household case studies to produce a richly detailed account of young children's encounters with technology in the home and ii) to extend methods for examining children's experiences of technology in their domestic environments. Children were three years old on our first visit and their play experiences at home have been traced over the course of nine rounds of data collection in fourteen households. Families were identified through five preschools in central Scotland that serve harder to reach families with low socioeconomic status (SES). We recruited 14 families, half of whom we have assessed as low SES, with a distribution in line with the Scottish Household Survey.

Earlier research on young children and technology

Entering e-Society: Young children's development of e-literacy (ESRC, 2005-07), Joanna McPake, Christine Stephen, Lydia Plowman

Interplay: Play, Learning and ICT in Preschool Education (ESRC, 2003-05), Lydia Plowman & Christine Stephen

Children's access to ICT at home and their preparation for primary school (Becta, 2003-2004), Joanna McPake, Christine Stephen, Lydia Plowman
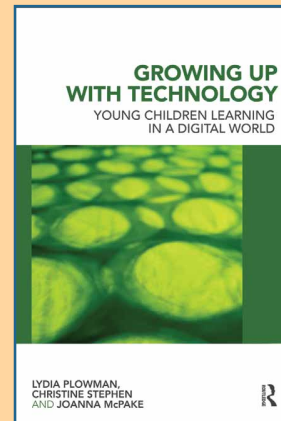
Plowman, L., Stephen, C. and McPake, J. (2010) *Growing Up with Technology: Young children learning in a digital world*. London: Routledge.

More information and publications may be found at www.ioe.stir.ac.uk/research/projects/toys-and-tech/

Cite this document as
Joanna McPake, *Rethinking young children creating and communicating*. Research Briefing Three for Digital Childhoods
Scottish Universities Insight Institute, June 2011.

For more information on Digital Childhoods see:
http://www.scottishinsight.ac.uk/Home.aspx