

# DIGITAL

## \* Childhoods \*



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## RESEARCH BRIEFING ONE: RETHINKING YOUNG CHILDREN AND TECHNOLOGY

### Digital childhoods

The children who participate in our research projects are three or four years old. Their childhoods are characterised by change: not only developmental changes in terms of physical and intellectual growth but also what they do, where they go, and who they spend time with.

Childhood is not so much a period with a defined beginning and ending as a concept which is interpreted differently according to different historical periods. Views about whether children are just adults-in-training or whether children have a role in shaping their childhoods vary within and across cultures so it's not surprising that there are diverse views on parenting and bringing up children. Throw digital technologies into the mix and there is even more scope for debate.

What does it mean to talk about 'digital childhoods'? 'Digital' describes the ways in which information is encoded. This has implications for the quantities of data that can be transmitted, how it is manipulated, and the speed of transmission. It is often paired with 'technology' as it is the technology that processes and stores the information. None of this has any direct connection with 'childhoods'. At one level, it doesn't make sense to talk about 'digital childhoods' but the term suggests

that children are immersed in a world in which digital technologies are ubiquitous. The extent to which digital technologies define these childhoods is a topic that we will discuss in the course of these events.

We use the word 'technologies' in the way it is commonly used by the adult participants in our research - to refer to digital devices that are found in homes and educational settings. We generally use its plural form, otherwise people tend to think of technology solely in terms of computers. This would give only a partial picture: by the time they started school, most of the children in our case studies had encountered a range of technologies used by the family, such as mobile phones, interactive television, games consoles, DVD players and iPods, as well as the desktop and notebook computers used for leisure, work and study. We also include toy mobile phones, laptops and cash registers if they are electronic as they provide a means for children to engage in role play about how these devices are used in everyday life. The children in our studies also encountered domestic technologies such as microwave ovens and washing machines. These get less attention than the technologies that have more obvious educational potential but are an important part of the technological landscape in which children grow up.

### Childhoods and parenting

It's become a bit of a cliché to talk about the pace of technological change in the context of children's lives in the first decade of the 21<sup>st</sup> century, but there's no question that things have been moving quickly. Many of these changes have taken place over the last few years, long since today's parents were children.

Parents often draw on their own experiences of being a child to guide them in making choices about bringing up their children. For some aspects of regulating childhood, such as mealtimes, pocket money or bedtimes, parents' decisions may be a reaction against what they experienced when they were being brought up. At other times, they may choose to reproduce aspects of their upbringing in the households they live in now as adults. In my case, for instance, my parents had strict rules about finishing all the



food on our plates and punishments were meted out on the rare occasions that my sister and I failed to comply. I rejected this approach to child rearing when I became a parent as I felt it promoted an unhealthy relationship with food. My parents were also strict with me about bedtimes. In this case, I chose to adopt a similar regime with my daughter because I felt that there were benefits to imposing a structure on the day.

But today's parents don't have childhood memories of how their parents regulated use of the technologies that are now commonplace. In the UK, most families now have their own PC with broadband and more than one mobile phone. Leisure technologies are transforming the ways we spend our free time. Even parents who are now in their early twenties had very different experiences in their own childhoods. The domestic reach of digital technologies means that 21<sup>st</sup> century children are growing up in homes radically different from those just a decade before.

As new applications and technologies are developed, new opportunities and challenges emerge. For parents who like to feel that they have a reasonable level of control over their young children's activities, keeping up with all these changes can seem daunting. It's not surprising, then, that the role of technologies in the home lives of young children is a subject of debate and prompts strong feelings, both for and against.

### Fact or folklore?

Our research explores the role of technology in the everyday lives of young children in the UK by describing and examining their experiences at home and in preschool settings. We have identified how factors such as their own preferences, the people in their lives, cultural practices and different environments shape their encounters with technology. We are particularly interested in children's learning, drawing on a sequence of research projects (see the list below) to examine the ways in which technology can support or hinder learning in the different arenas of home and preschool.

Given its centrality in the lives of young children and the level of public interest, it's surprising that there hasn't been more research on this topic. What does exist tends to look at technology rather narrowly, concerning itself primarily with the use of computers rather than other digital technologies. Such research typically concentrates on older children, and often looks at its use at school rather than at home.

This lack of evidence means that some of the widely held opinions on children and technology go unchallenged. Parents don't have their own childhood experiences to draw on, but they don't have research to draw on either. This means that folklore, in the sense of popular beliefs, is based on a mixture of what people pick up from the media

and elsewhere, cultural norms, hearsay, common sense, instinct and conviction. In this briefing we have set out fact and folklore as opposing positions. This makes it easier to see the big issues but the topic of childhoods, technology and parenting is more complex than that.

It is against this backdrop that we are discussing digital childhoods. As a starting point, some of the popular beliefs in circulation are outlined here in three statements that sum up different views. For each one, there's a response based on what we know from a decade of our research about three- and four-year-old children's play and learning with technology.

### Statement 1: When it comes to technology, children are naturals

Many people believe that children have a greater proficiency with technologies than adults. The belief in this 'natural' ability is based on what parents perceive as children's greater confidence and affinity for technology and their willingness to 'have a go', undaunted by the prospect of breaking the device. This apparent ability to learn by trial and error means that adults see themselves as being overtaken and needing to keep one step ahead of their children's growing abilities.

This is an unsettling position for parents to be in. They see it as their role to guide children in developing life skills but we often heard nursery staff or parents claiming that the three- and four-year-old children in their care could pick things up more quickly than they could. On the face of it, this seems unlikely - most adults will be able to figure things out, if only because they can look it up in an instruction manual. The beliefs about children's competencies were more likely to be based on adults' underestimation of their own expertise and role in supporting the children's learning. Nevertheless, this perceived lack of know-how may have contributed to a reticence by some parents to be involved in showing the children what to do, especially if their other children could perform this role for them.

The notion that children are 'naturals' when it comes to technology underlies the concept of digital natives that we hear so much about. Originally coined by Marc Prensky in 2001 to describe school and college students who have grown up with digital technology and feel comfortable using it, the term has become ubiquitous. It is contrasted with 'digital immigrants', people such as their teachers who were born before the introduction of digital technologies. They have adopted technology later in life and learned to adapt to their technological environment but do not assimilate fully. The terms have captured the popular imagination, perhaps because they simplify these generational differences and chime with the oft-stated belief that children know more about technology than adults.

We think it's not as straightforward. The notion of being a digital native has been contested recently but, even if we go along with the idea, it doesn't work as well for very young children. While we might expect young children born in the technological 'country' of everyday family life to demonstrate know-how very readily, our research suggests that they do need guidance in the early years. What we call guided interaction is needed from older people, often brothers and sisters, to help them get started and overcome the difficulties they encounter as a result of not yet having highly developed reading skills or the manual dexterity that some applications require.

### **Statement 2: When it comes to technology, children need protection**

Those who promote the idea of children as 'naturals' claim that new ways of learning, participating and attaining global citizenship will follow on from playing with technology. Children who do *not* have access to digital technologies, they say, will be disadvantaged in their social and emotional development and the development of new literacies. Since the introduction of the Wii has allayed some of the fears about a link between technology and inactivity in the minds of families, this even extends to physical and mental wellbeing.

Those who believe that children need protection and that childhood should be a time of innocence and play take a different view. From this position, technology is seen as responsible for children's lack of social skills and emotional development, the loss of pleasure in books and reading, and attacks on their physical and mental wellbeing. Technology, it is considered, has particularly adverse effects on young children because they are still developing cognitively and socially. Advice gets issued from time to time that children under a certain age should not be exposed to computers or television because this will be detrimental both at the time and later in life. But proving a causal link with developmental delay is difficult when technology takes so many different forms and there are so many potential ills associated with its use. Similarly, proving a causal link between developmental benefits and technology is difficult for the same reasons.

Much of the debate pivots on these apparently irreconcilable positions. However, the aspects of daily life that we saw combined with what parents told us suggest a need for more caution in the conclusions that we come to. We found a more ambiguous situation, one in which parents had some uncertainties and were aware of some of the arguments but still felt mainly comfortable about the decisions they made regarding their child's use of technologies.

### **Statement 3: Technology dominates children's lives**

Regardless of which of the two positions outlined above is adopted, most people feel that technology dominates

children's lives – as the theme of digital childhoods implies. However, our research showed that although the technology is ever-present for inhabitants of the developed world, it does not necessarily influence day-to-day life for children of this age as much as its ubiquity might suggest.

We conducted an exercise in which parents from eleven families used mobile phones to send us picture messages and a brief text description of their child's weekend activities multiple times over three separate days. For these children, more than a third of the activities recorded in this way took place away from home, including domestic routines such as shopping, outings such as visits to parks, and regular activities, such as sports and visiting nearby relatives. We also looked at all the references to play and found that it was mentioned in a quarter of responses. We cannot infer from this that children spend a quarter of their time playing, but it does indicate that children are perceived by their parents to be playing across a wide range of activities, sometimes with technology, but often not, and at different times of day. The rest of the time – at weekends, at least – is spent eating, napping, shopping and cooking, or going on outings with the child's enjoyment in mind. A study on this scale is not conclusive, but it does suggest that it would be mistaken to think that technology dominates the lives of these children.

Combined with other aspects of our research, we are confident in saying that, for three- and four-year-olds, technology is not a defining feature of their lives but just one of a range of activities they engage in on their own or with others. There is no doubt that it is an important feature of family life in many households but technology and technological toys provide one of a number of available resources, including people such as parents, siblings and grandparents, that children have access to and benefit from at home. All of the children used some form of screen technology everyday, with television being most commonly reported. Many used an internet-connected computer for a range of activities, such as going on CBeebies, Club Penguin and Bin Weevils



websites, looking at YouTube with other family members, talking to relatives via Skype or MSN Messenger, or using Spotify to play music.

All of the parents were relaxed about the amount of time their children spent on the computer or playing with games consoles, although some were more guarded than others about the pros and cons of technological play. However, we did find unanimity about one thing: it was not so much technology that dominated their lives as 'stuff'. All parents felt that their children had too many things – toys and games - whether these were technological or not. They struggled to find room for it all, became anxious at the prospect of another influx of stuff at Christmas and arranged and rearranged their living quarters to accommodate it.

### Where we stand

Researchers sometimes fail to make their own positions clear and present their work as if it's objective – the facts rather than the folklore. Most of our work is based on detailed case studies of families or particular technologies. This gives us lots of rich detail about how and why technologies are used but we acknowledge that we can't claim that all families are like the ones we visit. The choices available to the case-study families are influenced by factors such as their geographical location, household income, the experiences and values of the parents, and the preferences of the children. Surveys can tell us more about what technologies people have and patterns of use and behaviour across much larger groups of people, but they're not so good for telling us about the day-to-day life in which this use is rooted.

It isn't as straightforward as fact or folklore. If we are interested in parenting and childhoods in a digital age then we have to acknowledge that any conclusions we may want to draw are complicated because family decisions are made on the basis of a complex web of factors including people's values and how they inform the actions they take. It is likely that children's experiences with technology – for play, learning, and communication – will have significant implications for their future lives. Our aim in this series of events is to engage a range of interested parties in conversations about what we have called digital childhoods, to formulate interesting questions and, perhaps, to propose some answers.

## 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.

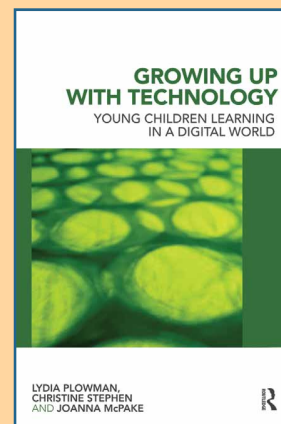
*Young children learning with toys and technology at home* aims i) to use household case studies to produce a richly detailed account of young children's encounters with technology in the home and ii) to extend methods for examining children's experiences of technology in their domestic environments. 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 the 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



More information and publications may be found at [www.ioe.stir.ac.uk/research/projects/toys-and-tech/](http://www.ioe.stir.ac.uk/research/projects/toys-and-tech/)  
Plowman L., Stephen C. and McPake, J. (2010)  
*Growing Up with Technology: Young children learning in a digital world*. London: Routledge.

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