

## CHILDREN and NEW TECHNOLOGIES AT HOME

Thank you for agreeing to take part in this survey on children's use of new technologies at home. We are particularly interested in children's use of computers and the internet, mobile telephones and interactive TV.

This study focuses on pre-school children - children who have not yet started primary school. Please answer the questions below in relation to your *oldest* pre-school child. All the information you provide is confidential to the project.

**First we would like to ask you a few questions about your *oldest* pre-school child.**

1. When was your child born? Day..... Month..... Year.....

2. Is your child a boy or a girl? Boy  Girl

3. How are you related to your child? Mother  Father   
Other

*If other, please state relationship with child:*  
.....

**We would also like some information about you and your family, and the new technologies you have at home.**

4. What is your home postcode?

5. How many adults (people aged 18 and over) and children (people aged 17 or under) live in your house?

*Please write the number in each space:* ..... **adults**  
..... **children**

6. Do you have the following new technologies at home? *Please tick for each item you have.*

mobile phone  TV with interactive facilities (e.g. Sky Active, Telewest Interactive)

computer with internet access

*If you have a computer with internet access please tick what kind of connection you have:* broadband  dial-up  don't know

*If you do not have broadband access, please say why:* too  too  not avail

other reason	<input type="checkbox"/>	Please give details: .....	expensive complicated able in this area
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**Our next questions are about your child's use of new technologies (such as the internet and mobile phones) at home and in the neighbourhood.**

7. Does your child use these new technology items? If so, please say if your child does so alone or with others.  
Please tick all relevant boxes for each row.

	My pre-school child doesn't use this	My pre-school child uses this...			My pre-school child watches others using this
		... on his or her own	... with friends or siblings	... with adult help or supervision	
internet/ websites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
email/ chat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
webcam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mobile telephone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
interactive TV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Where does your child use these technologies? Please tick all relevant boxes for each row.

	My pre-school child doesn't use this	My pre-school child uses this ...			
		... at home	... at the home of friends or relatives	... at a library, museum, internet cafe or community centre	... somewhere else
internet/ websites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
email/ online chat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
webcam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mobile telephone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
interactive TV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. What are your views on your children's experiences with new technologies? Please say whether you agree or disagree with the statements below.

Please tick one box only for each statement.

Agree    Neither agree or disagree    Disagree

I encourage my child to learn to use new technologies such as the internet, mobile phones, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't allow my child to use certain technological items in my house in case they get broken.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am worried that using a mobile phone may damage my child's health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is safer for pre-school children to spend time on the internet than outdoors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interactive TV is a useful source of games and activities for pre-school children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-school children are too young to text, email or chat online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I expect the internet to play an important part in my child's education.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Please give us some information about your own experience of using new technologies.**

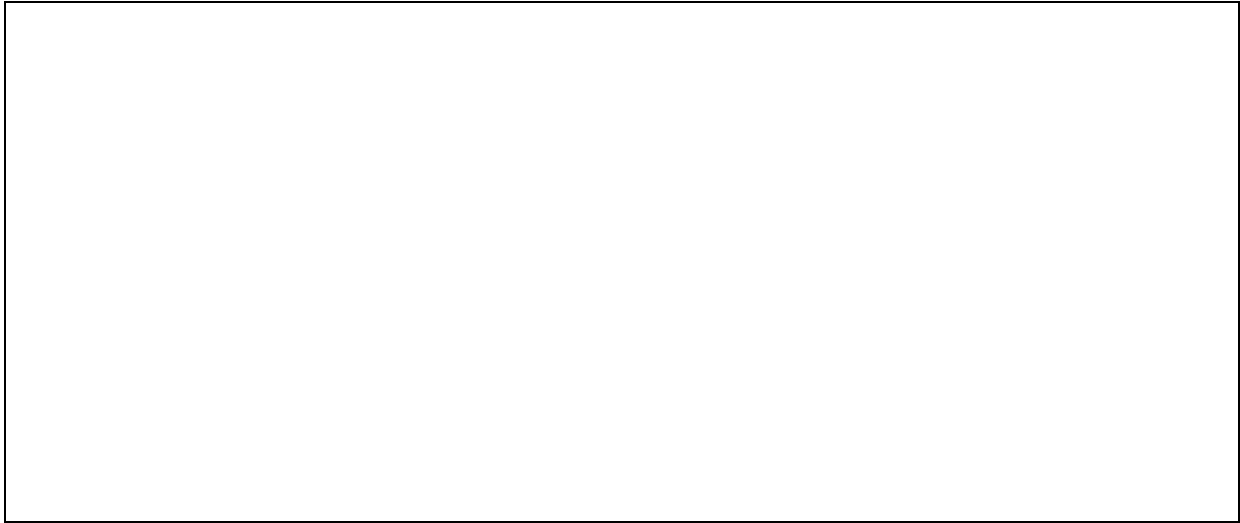
10. Do you use new technologies yourself, and if so, how often?  
Please tick one box only for each row.

	I don't use this	I use this ...			
		... every day	... two or three times a week	... once a week or less	... once a month or less
internet/ websites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
email/ online chat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
webcam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mobile telephone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
interactive TV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. What do you think about new technologies in your own life? Please say whether you agree or disagree with the statements below.  
Please tick one box only for each row.

	Agree	Neither agree nor disagree	Disagree
I would never leave home without my mobile phone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm not convinced of the value of the internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am confident about communicating via email, texting and internet chat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Webcams and video messaging make it easier to keep in touch with friends and family around the world.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technologies such as the internet and interactive TV have changed the way in which our family spends its leisure time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Do you have any other comments on new technologies in your own life or in your child's life? *Please use the space below for any comments you have.*

A large, empty rectangular box with a thin black border, intended for the respondent to write their comments on new technologies in their own life or their child's life.

**Now, we would like to know a little more about you and your family.**

(We need this information to find out if different kinds of households use technologies differently. The information you provide is strictly confidential to the project.)

13. What is the highest educational qualification held by you and any other adults living in your house. In each box, please write in the highest qualification, such as Standard Grades, Highers, SVQs, HND, degree, professional qualifications. If none, write none.

	Adult 1 (You)	Adult 2	Adult 3	Adult 4
Highest educational qualification				

14. What is the work situation for each of these adults? Please tick the most appropriate box in each case.

	Adult 1 (You)	Adult 2	Adult 3	Adult 4
Employed or self-employed Full-time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employed or self-employed Part-time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Looking after home/ family full-time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In full-time education or training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long term sick or disabled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retired	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unemployed and seeking work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. What is the total annual income for your household (including wages and benefits, but after tax and national insurance)? Please tick the box which is closest to your household situation.

£8 500 or less per year	<input type="checkbox"/>	£8 501-£10 000 per year	<input type="checkbox"/>	£10 001- £12 000 per year	<input type="checkbox"/>
£12 001 - £15 000 per year	<input type="checkbox"/>	£15 001 - £20 000 per year	<input type="checkbox"/>	Over £20 000 per year	<input type="checkbox"/>

We are looking for some families who would be willing take part in interviews about children's use of ICT at home, and are offering a £20 voucher for those who take part. If you are interested, please give us

your name: .....

telephone number: .....

Thank you for taking the time to complete the survey.  
Please return this form in the envelope provided within one week.

## 1. Non-Technical Summary

### **Interplay: Play, learning and ICT in pre-school education**

#### ***The context***

Our earlier research showed that nurseries and playgroups focus on desktop computers when they think about information and communication technologies (ICT) and that practitioners tend to respond to problems rather than be proactive in the ways that they offer support. Pre-school settings value learning through play and child-initiated activities but this approach to ICT can be unproductive when young children are unable to follow written instructions and they can encounter operational difficulties if they do not have adult support. We wanted to identify ways in which adults can support three- and four-year-old children's learning with ICT in the playroom and to carry out the study with the active participation of pre-school practitioners.

#### ***The study***

*Interplay* investigated ways of balancing both child-initiated and adult-led activities to enhance the value of encounters with ICT. The researchers worked with a total of sixteen practitioners from eight pre-school settings in a process of *guided enquiry*, a collaborative approach in which the research team provided the stimulus for practitioners' identification of the issues that were important to them in their practice. Researchers and practitioners shared observations based on video recordings of children using ICT and jointly identified ways in which practitioners could provide support within a pre-school setting.

#### ***How can practitioners support children's learning with ICT?***

The key strategy for supporting children's interactions with computers and other forms of ICT was *guided interaction*, a concept which describes the ways in which children are actively supported by others. Guided interaction has two main forms: direct and indirect. Direct guided interaction takes place in a face-to-face situation involving adults and children and may be achieved through gesture, touch, language or emotional support. It can include an adult placing their hand over a child's hand on the mouse or directing a child's attention with conversation and questions. Indirect guided interaction refers to the ways in which practitioners prepare for and think about events in the playroom. It includes activities such as planning, the provision of resources and recording children's progress with ICT.

#### ***What types of learning can be promoted with ICT?***

Children's learning with ICT goes beyond developing skills such as using a mouse or developing hand-eye coordination. Researchers and practitioners have tended to focus on these skills in the past, but when their encounters with ICT are supported by guided interaction there is potential to promote three main areas of learning: (i) developing dispositions to learn, (ii) extending knowledge of the world and (iii)

acquiring operational skills. We found that ICT can help to develop children's *dispositions to learn* by increasing self-esteem and confidence, or by supporting independence. It also has potential for promoting pleasure in learning by enhancing engagement, motivation and the desire to learn. *Extending knowledge of the world* includes learning in areas such as mathematics, language, and knowledge of living things and places as well as exploring the role of ICT in leisure, work and play. This is an opportunity to recognise the experiences children encounter at home and elsewhere, and to develop their ability to harness ICT for social and cultural purposes, such as communication and entertainment. *Operational skills* includes understanding the functions of items such as the keyboard and on/off switches as well as the ability to operate them. Using ICT also develops children's concepts of technological interactivity, by showing that taking an action can produce a response.

### ***What kind of ICT is best suited to this sector?***

Desktop computers were originally designed for adults to use individually in the workplace. They are not suited to very young children because of their size, position and fixed location. Their reliance on text and the fine control required to use the mouse can make them difficult to use without adult help. Extending the definition of ICT to include digital still and video cameras, mobile phones, electronic keyboards and toys that simulate technologies such as laptops and barcode readers has a number of advantages. These technologies can provide better support for mobility and collaborative use, are easier to integrate into play activities, support learning in all areas of the curriculum, are more affordable for nurseries and give children the opportunity to build on competences and knowledge that they may develop in the home.

### ***How did practitioners benefit from involvement in the study?***

The research team provided no training for practitioners but confidence in using ICT grew as the process of guided enquiry enabled them to share experiences and to observe children's use of ICT more closely than hitherto. They also developed pedagogical knowledge about the value of particular resources and ways of recording, assessing and integrating ICT activities into nursery planning. Changes were also evident in identifying areas where they had previously both over- and under-estimated children's capabilities, questioning the role of ICT in the playroom and recognising that ICT can be used to access and support learning throughout the curriculum.

### ***Educational importance***

*Policy* needs to take account of the three different dimensions of learning and the value of ICT within a framework of play. A checklist approach to assessing children's learning does not capture this richness and the instructional model associated with the use of ICT in schools is inappropriate. Enhancing learning includes providing support not just for operational skills but also for less measurable positive dispositions towards learning such as persistence, engagement and pleasure. A broad definition of ICT is central to achieving this.

Practitioners have a rich repertoire of pedagogical actions to support learning, but need help to extend this expertise to enhance children's encounters with ICT in ways that are compatible with the dominant role of play in young children's learning.

*Professional development* opportunities should enable practitioners to share knowledge and experiences and build on and value their existing competences.

Our expanded definition of ICT has implications for providing resources in *nurseries*. Practitioners were able to look again at existing technologies, such as the listening centre or toy telephones, and think about integrating them into the resources on offer

in different ways. Including ICT in nursery development plans will help to ensure that it is perceived as central to learning rather than as the province of one or two members of staff. Nurseries also need to increase awareness of children's developing competence with ICT at home, and to liaise with the first years of primary school to ensure children's progression with ICT.