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Children On-line: Emerging Uses of the Internet at Home†

This article explores how information and communication technologies (ICT) are mediating the increasingly blurred boundaries between home and work, education and leisure, public and private. Drawing on her research observing children's use of the Internet at home, the article focuses on the many differences between design/marketing and subsequent use at home. This has implications for the emerging expectations regarding optimal Internet use.

New Media, New Research Questions

This article focuses on children and young people's uses of the Internet, asking how the Internet is being used at home, in the family, by different kinds of household. There are of course many aspects to the Internet and its use by people in their everyday lives, as illustrated by this drawing of the Internet, by a 15-year old (Figure 1).

Information and communication technologies (ICTs) are increasingly widespread in the home, school, workplace and community. More and more, children in the world's developed countries are spending ever greater amounts of time working on and playing with computers of various descriptions. The computer desk, or computer room, has become a fixture of many middle-class and an increasing number of working-class homes; the cyber-café is a feature of more and more communities; the standard of school computer provision is a key measure parents use to evaluate their children's education. Yet public understanding of the significance and consequences of widespread adoption of ICT is often led more by the considerable hype surrounding these new technologies than it is informed by empirical research, there being rather little of this available as yet. This hype and speculation surrounding ICT tends to be strongly polarised:

- Optimists foresee new opportunities for democratic and community participation. ICTs are seen as encouraging global awareness and open communication, as enabling more independent, self-directed searching for information as well as facilitating teamwork skills and transferable technological expertise crucial to the workplaces of the future.
- Pessimists lament the end of innocence, creativity and respect for authority. ICTs are seen as undermining traditional print literacy, increasing social isolation and a passive, uncritical approach to learning and leisure, threatening childhood innocence by providing access to pornographic and/or exploitative materials and, lastly, increasing class and gender inequalities as employers demand a technological fluency to which social groupings have differential access.

If one reads the national newspapers, most discussion of the Internet is concerned with developments in technology, economy and policy. But in this article I want to open

Figure 1 A 15-year old's view of the Internet
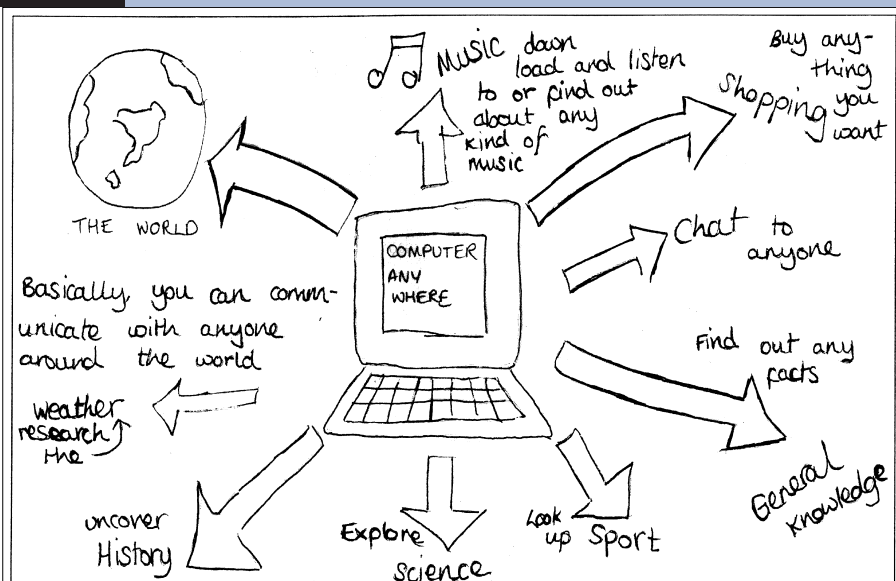
up what we may call the 'black box' of the home, exploring what the Internet means to children and their families at the start of the twenty-first century. The answers are inevitably provisional because the Internet—both as a technology and in its social contexts of use—is changing rapidly. And the answers are inevitably diverse, because however unified the medium may be (and of course it is not), families are certainly not homogenous. Exploring the provisional and diverse ways in which the Internet is actually being used leads us to question some of the hype—both optimistic and pessimistic—as we approach a more informed understanding of the significance and consequences of ICT adoption.

Just three years ago, in an earlier project funded by BT and others[1], we surveyed 1300 children and young people aged between six and 17 years old and found that one in five had not even heard of the Internet. Even among those who had, understanding of the Internet was often limited. As one little girl asked 'isn't it something you plug into the back of the TV?' Moreover, only one in five had ever actually used the Internet, only 7% had access at home and only 4% actually used the Internet at home. Most of these children were middle class, a finding which holds for early adopters of many, though not all, new technologies, but which is particularly important for a technology heralded as providing a new gateway for learning, communication and participation. At the same time, our colleagues in 11 other European nations conducted parallel surveys of the children and young people in their country, revealing that household access to the Internet (and other new ICTs) in Britain was on a par with that in

Germany, France and Spain, but significantly behind that of Sweden, Denmark, Finland and the Netherlands[2].

The NOP survey Kids.net[3] updates this account, for Britain, showing a rapid increase in both access to and use of the Internet among children and young people, with more than half the youthful population now having used the Internet at least once and a third now having access at home (see Figure 2). Doubtless this is just the beginning....

From Access to Use of the Internet

What are people doing with the Internet at home? Research more easily determines which homes have ICT than it identifies the nature and quality of use of such technology within the privacy of the home. Moreover, while surveys are invaluable for providing quantitative information about a representative sample of the population, they can be misleading in their interpretation. For example, the NOP survey shows that children consider 'information' the most valuable use of the Internet. Yet it also shows the most commonly visited web sites are TV and celebrity/pop sites for girls, and sports or games sites for boys! Clearly, young people's conception of information may not be that of adults concerned with their educational progress. Interviews with children make it clear that by 'information', children mean games cheats, football results, music releases, and so forth, and it is this which they value the Internet for.

In the research project, *Families and the Internet*, currently funded by BT, we aim to complement what can be learned from quantitative surveys by a small, in-
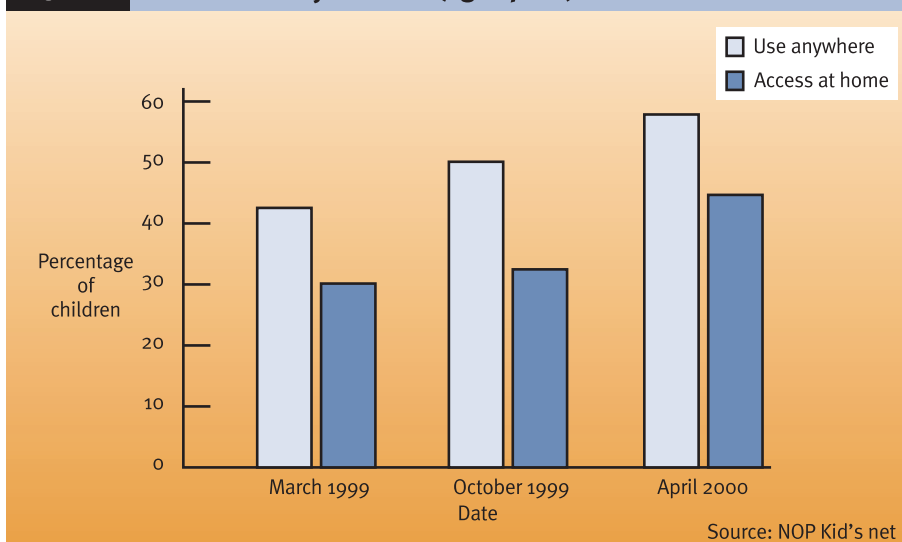
depth study of Internet use at home among 30 families†. Through interviews with children and their parents and, more importantly, informal observation over several visits to the home, the project combines a focus on everyday domestic routines, social contexts of media use and patterns of family interaction with an interest in the content of actual Internet use. So, we have been spending time sitting with children while they go on-line, observing their decisions about what to do and where to go, their skills in achieving their aims, and the social situation thereby generated—the interruptions from younger siblings, the advice from parents, the simultaneous monitoring of a favourite television programme, and so forth. A flavour of the 30 families visited can be given by noting that we have spent time with:

- Wilf, aged 10, who mainly uses *AskJeeves* and *Encarta* for his homework, while playing games on the cartoon-network site;
- Sally, aged 15, who whisks between multiple chat and e-mail identities to sustain a complex matrix of social contacts, all part of the fun of being a teenager;
- Anisah, aged 12, living in a notoriously deprived council estate with her highly educated but poor African parents, using the Internet very seriously to support her studies and so further the ambitions of her family;
- Charlie, aged 10, a boy whose mother manages his Internet use for him, although she has not yet figured out how to go beyond the AOL home page;
- Jim, aged 16, who uses the Internet mainly to find material which his teachers can't trace, which he alters minimally and passes off as his own; and
- Nadine, whose family has used the Internet for three months without discovering that you do not enter web site addresses into the search box.

The diversity of households, and of uses of the Internet, is readily apparent. The remainder of this article offers a brief account, based on the research project, of the ways in which households are 'working'—symbolically, practically, socially, to

Figure 2 Internet use by children (ages 7–16)

Percentage of children

□ Use anywhere
■ Access at home

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Date

Source: NOP Kid's net

make this new technology variously meaningful in their everyday lives. This represents the next chapter in the more familiar story of technological development, marketing and diffusion. But also, the social and domestic context of present-day Internet use will, and should, inform future efforts regarding development, marketing and diffusion of yet newer ICT. Let us begin the story with the decision to get Internet access at home.

Awakening Interest in the Internet

For parents, it is often use at work that sparks their interest, or even creates a perceived need, for domestic Internet access. Moreover, adverts for most products now carry uniform resource locators (URLs), and promotion of the Internet itself calls on their responsibility as parents to provide the educational benefits for their children and to keep the family informed and up-to-date. Computers, they know, are the future. On the other hand parents do express some ambivalence. Our European study suggests that in Britain especially, the screen's association with entertainment is seen as undermining learning, print literacy and creativity. Moreover, entertainment content, as they see it, is not always created with the best interests of the public in mind; hence they worry about commercial exploitation of their children, and about pornography.

A family contains different people, and they don't always tell the same story. Often one parent is in favour of getting the Internet at home and one is neutral or even hostile. Mothers and fathers may take either role. But while children may be indifferent—and in many families we find a tendency for one child to be highly interested in the Internet while another pays it little attention—they are rarely negative, and most are broadly positive. Parents' concerns about potential access to unsuitable sites and the effects on reading are not shared by their children. They are rather blasé about pornography and often already disengaged from books. On the other hand they are thrilled with a medium that combines work and play, and stimulated by its very newness—for new is trendy, fun and status-enhancing. They are, however, frustrated by the time restrictions often imposed upon them for reasons of cost.

The Decision to Go for It

Though new platforms for Internet access are now becoming available, for most families the acquisition of a personal computer is still the start of the story. Thus, PC access and patterns of use—as a work machine, as something which might break, as an expensive purchase—frame initial experiences of the Internet. Given the considerable costs involved, parents often make the decision to get the PC first and acquire Internet access later. In particularly, those with teenagers can be influenced by the suggestion that the Internet has educational advantages, an argument which is often used as a persuasive strategy by children.

People are accessing the Internet at home from a considerable diversity of machines. Some computers arrive at home as cast-offs from work—and the software, the set-up, even the bookmarks may remain unchanged from their office days. Other computers have been updated but remain too slow, too cumbersome for efficient Internet access. The need for continual upgrading of both hardware and software represents a challenge many parents are ill-equipped for—either financially or in terms of IT skills. Hard discs are cluttered with old files, no-one remembers how to change the background, the cache is barely known, it is hard to diagnose whether it is the computer or the modem which is too slow, and so on. In short, while the decision to go for it is currently seen as a one-off decision, it should instead be recognised as a continuing commitment.

Once access has been acquired, families face three 'W' questions regarding Internet use: Where? Who? What? We as a society might then add a fourth question—still unanswered—namely, Why?

Where to Put the PC and Internet?

There is no obvious place for the PC at home—unlike the television set, which quickly found pride of place in the living room. We've found the computer everywhere—under the stairs, by the front door, in the parents' bedroom and, mainly for middle-class children, in the child's own room (Figures 3a, b and c).

Why does location matter? Just as putting the television in the living room created an informal hierarchy of control across genders and generations, the location of the computer is not a purely practical matter. Rather, it affects the social contexts of use, facilitating (or otherwise) levels of parental monitoring and support, of users' privacy and independence, of individual or communal uses, and so forth.

While the television arrived in the home as the sole screen medium, the computer

Figure 3a PC under the stairs

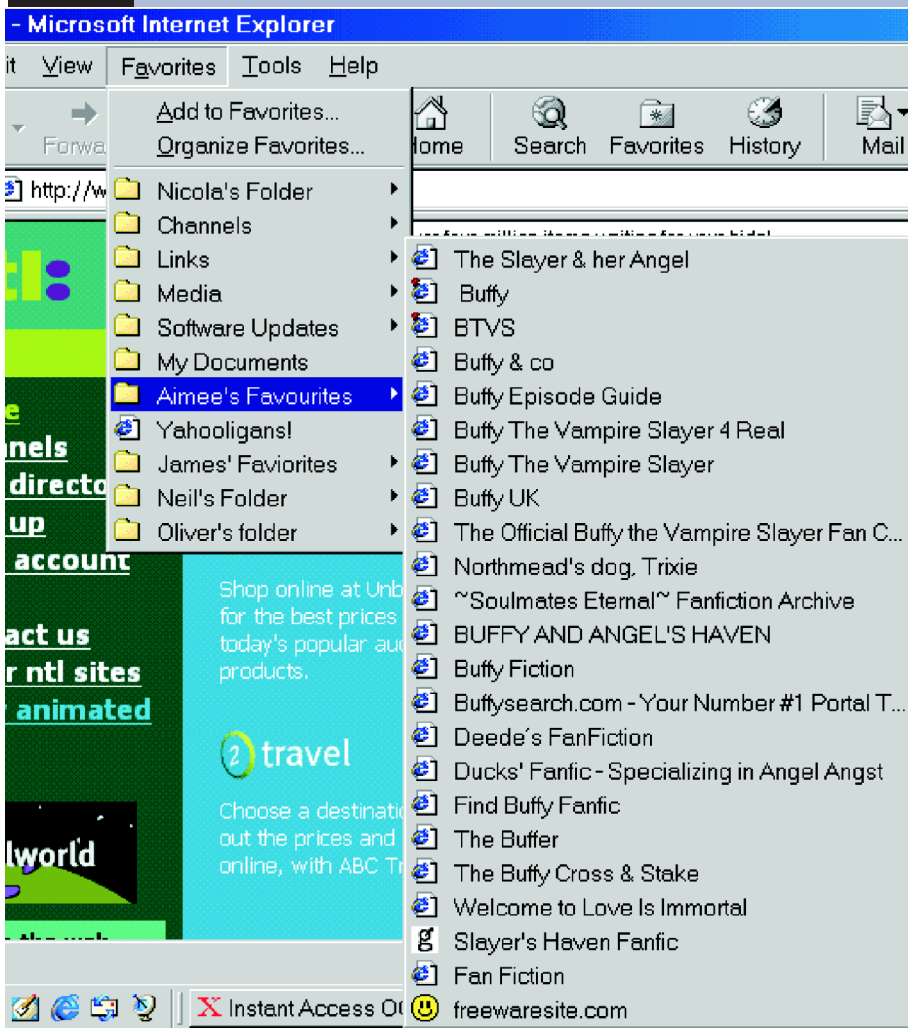**Figure 3b** PC by the front door
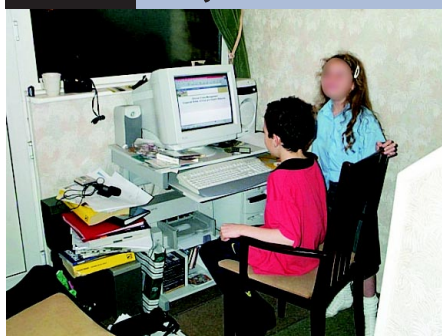
Figure 3c PC in Mum's room

Figure 4 Multiple screens in use

Figure 5 **A 10-year-old girl's interests as shown her by bookmarks**

Figure 6 **A youngster's e-mail**

Figure 5 contents (browser screenshot):

- Microsoft Internet Explorer

View | Favorites | Tools | Help

Add to Favorites...
Organize Favorites...

Nicola's Folder
Channels
Links
Media
Software Updates
My Documents
Aimee's Favourites
Yahooligans!
James' Faviorites
Neil's Folder
Oliver's folder

The Slayer & her Angel
Buffy
BTVS
Buffy & co
Buffy Episode Guide
Buffy The Vampire Slayer 4 Real
Buffy The Vampire Slayer
Buffy UK
The Official Buffy the Vampire Slayer Fan C...
Northmead's dog, Trixie
~Soulmates Eternal~ Fanfiction Archive
BUFFY AND ANGEL'S HAVEN
Buffy Fiction
Buffysearch.com - Your Number #1 Portal T...
Deede's FanFiction
Ducks' Fanfic - Specializing in Angel Angst
Find Buffy Fanfic
The Buffer
The Buffy Cross & Stake
Welcome to Love Is Immortal
Slayer's Haven Fanfic
Fan Fiction
freewaresite.com

Figure 6 contents (e-mail):

From: T.B.************@aol.com
Sent: 13 April 2000 09:31
To: A****@aol.com;
s*****@talk21.com;
m******@freeserve.co.uk;
j****@hotmail.com;
n********@yahoo.com;
h****@talk21.com;
n*******@yahoo.com

Subject: (no subject)
Yo ladz,
Most of u r away, but yesterday (Wednesday) I listened 2 Capital FM for 7 hours!!!!!!!! Itz a new record! (By the way, I did do other stuff while listening)
I heard 'Fill Me In' 6 times and I only heard Westlife twice! U 'll be happy Ned.
I also heard Britney's new song: 'Ooops I Did It Again' 3 times.
We're gunna whop Leeds on da weekend!
How r Ipswich doing Haz? I wonder if they'll survive in the Premier League! hmmm.....
Oh hurray! Jake is off 2 America. He can't keep sending us e-mails just saying 'e-mail me'
I aint started revising yet. have any of u?
c u guyz
tobztobztobztobztobztobztobztobz
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must compete with other sources of screen entertainment. Yet this is rarely seen as problematic. Indeed, families seem quite at ease with multiple screens in simultaneous use (Figure 4). Clearly, this facilitates the multiple parallel activities of the modern family, with their individualised preferences and interests. The technical possibility of combining multiple functions through a single screen would seem, as a result, to represent a return to the old family arguments over what to watch on the single television set—but time will tell.

Who Uses the Internet?

Patterns of use vary by age and gender. Young people often know more than their parents about the Internet and, given the chance, they use it more. Use peaks in the early teens, partly because younger children lack the required skills or know few sites to visit, while older teens have more access to the outside world. Older teenagers do increase their use of the Internet to support exam revision. A few lonely young people with few alternative social options seem to use it the most. Girls and boys seem to spend similar amounts of time on-line, though for different content.

Within each household, family members can readily identify their 'expert' user, as one key user seems to emerge within each household. They can also identify their external guru—the occasional visitor (neighbour, relative, colleague) who can install, fix or advise on hardware and software problems.

Given only one point of access to the Internet, a set of rules and expectations is emerging which reflect families' hierarchy of importance in Internet use. First, parents' work takes priority, then children's homework. Next comes information and lastly entertainment. Also emerging are parents' strategies for managing their children's use of the Internet. While not all are used by all families, they are relatively consensual. These strategies are:

- limit use to off-peak times;
- charge the child for time on-line;
- keep passwords secret;
- locate the PC in a family-accessible space;
- monitor—explicitly or casually—the child when on-line;
- check the history file;
- forbid/limit time in chat rooms; and
- teach children never to disclose identify-ing information.

At the same time, a set of tactics on the part of children is also emerging! For example, here Gita (12) and Aziz (15) chat with the interviewer (Int) about how they fool the monitoring parent:

Gita: *Okay, if my dad's standing there he'll read it* [Exam revision on BBC Bitesize]. *As soon as my dad goes, he'll put that down, like put it down there, he'd look at his Formula One stuff. And (when) dad's coming back up, he'll put it back up and pretend to be reading. (Laughs)*

Int: *Sounds fairly reasonable. (Laughs)*

Aziz: *Minimise and maximise. (Laughs)*

What are Children Doing with the Internet—and Why?

Perhaps the most interesting question of all, beyond lists of top web sites, very little is known about what content children

access on the Internet. Clearly, the focus of young people's interest changes with age. Most entertainment uses are structured around *fandom*: In Figure 5 a 10-year-old girl, with an unusually organised set of bookmarks, displays her interest in Buffy the Vampire Slayer and in Figure 6 a 12-year-old public schoolboy sends a lively and highly communicative e-mail to his friendship circle, illustrating how sport and music are especially potent in providing widely appreciated content for such contacts. The allusion to Jake's problem points up the difficulties of sustaining e-mail communication without adequate content.

In general, we found that younger children visit a few well-known sites again and again—games and sports sites for boys, fan and TV sites for girls. Teenagers favour communication, through chat rooms, instant message and e-mail, as well as following up existing interests in sport, fashion or stars. And, as already noted, those preparing for exams value information and revision aids. Generally, however, it must be said that educational use is often less than that hoped for by parents. Moreover, 'educational' uses are not always occasions for learning. For example, we watched Jim, aged 15, spend several minutes carefully tinkering with the phrasing of a downloaded article, explaining that:

Int: *You said to me before that you would rather use the Internet, and that you found you were using it much more than you used Encarta for this sort of stuff.*

Jim: *Yeah, much more.*

Int: *And why's that?*

Jim: *Because everyone's got the same on Encarta, so if you sent two (pieces of) work in about Rousseau then you might have the same thing on Encarta, wouldn't they? Like if they're on the Internet it's quite unlikely they're going to have the same.*

Int: *So you mean you don't want them to be the same. Why?*

Jim: *Because otherwise if they were the same then the teacher would definitely know you copied it, wouldn't they?*

Int: *All right, so in other words what you're saying is the Internet is great because nobody can tell you've copied it?*

Jim: *Yeah.*

Int: *Right, and have you ever found that when you've put something in from the Internet that....*

Jim: *No. Never found it. I don't think teachers read it that much.*

Despite his apparent attempt to deceive, one might still ask whether such attention to phrasing constitutes serious attention to the content of the article, whether it is substantially different from tinkering with the phrasing of a book chapter, and whether anything educational has indeed been gained. One suspects that neither parents nor teachers are clear on the answer to such questions.

More generally, young people's emerging preferences for Internet content may be summarised as follows:
- commercial and fan sites;
- entertainment and fun sites, more than educational sites;
- communication more than information;
- pictures and visually interesting sites (or aurally interesting) rather than reams of printed text;
- games and interactivity rather than passive reception;
- local rather than global contacts (friends from school rather than virtual e-pals); and
- both local/national and global sites (depending on purpose, and with little distinction made).

Cause and effect is difficult to disentangle. Do young people prefer commercial sites because they are more technically and visually interesting? Would they be less keen on communication if none of their face-to-face contacts were also accessible on-line? Probably, yes to both.

Why is Young People's Use of the Internet Interesting?

I have suggested that fandom provides a key point of entry to the Internet for children and young people. Fandom is interesting for several reasons—listed below.

- Being a fan provides a rationale for the key modes of Internet use—communication, information, entertainment, consumption; and it provides content for two issues which preoccupy children and young people, namely developing a sense of personal identity and establishing social relations with others.
- At least for the present generation, coming to the Internet as older children or teenagers, it is their pre-existing interests that tend to guide their use of the Internet. Already fans of something or other, they are motivated to pursue their interest using the Internet. If not already a fan, they are bemused by the possibilities of the Internet but insufficiently motivated to pursue an exploration of the net just because it is there. As yet, we have not found any new interests specifically stimulated by the Internet (which could not be said, one suspects, for either television or books); nor any interests solely pursued through the Internet.
- Fandom crosses media and even non-media leisure: sports fans play football, watch their team play, watch football on the television, buy the associated clothing and bedroom décor, and visit football web sites. Thus the Internet becomes one of a number of ways—all interlinked but none of pre-eminent importance—in which an interest is pursued.
- Faced with the overwhelming scale of the Internet, and the commonplace frustration of finding any specifically desired site, fandom provides a convenient and precise set of keywords to guide access. Hence the teacher's task—find five facts about space—is surprisingly difficult, but the child's task—search for Manchester United, or Boyzone, or Barbie—is relatively easy.

Two more general points arise from this consideration of fandom: the first concerns the relations between Internet and other media; the second concerns the challenges, skills and literacy required to make effective or optimal use of the Internet.

Replicating the history of the adoption of previously new media, it would seem that as yet the Internet is stimulating little displacement of prior interests or prior patterns of media use. Rather, it supports a considerable expansion in content options, supplementing rather than supplanting older media.

Moreover, if the Internet is analogous to any print medium, it is to comics and magazines, rather than to books. These also mix visuals with brief text, combining diverse genres and layout, so as to draw the eye rather than sustain the argument, stressing the up-to-date, the personally relevant, on a need-to-know rather than an exhaustive basis.

Internet content is generally engaged in a purposeful manner: children tend to be scornful of aimless 'surfing' but can be highly motivated to search for, or create, what they want. Nor are they fazed by the multiplicity of forms and styles supported by the Internet. Rather, they take a positive pleasure in the diversification of these means of communication. Just as the Internet blurs those key social boundaries that once organised our physical spaces—intermingling work and home, learning and play, producing and consuming—it also blurs our symbolic spaces. For example, note how John, aged 13, relishes the juxtaposition of diverse communication media and styles within a single e-mail message (Figure 7).

Others achieve such juxtaposition through multi-tasking—chatting or instant messaging to several people at once, playing games while waiting for music to download, switching between researching some homework and e-mailing a friend, and so forth. And, more pragmatically, multi-tasking keeps things moving, keeps the user interested despite slow technology and frustrating or boring tasks.

Frustration and boredom are, however, common themes in young people's talk of the Internet, for this is still a fragile medium. Being a new medium, it is not yet taken for granted. It is experienced as complex, unfamiliar, liable to be incomprehensible, easier to get it wrong than right. Unlike television, or a book, it is far from transparent: one cannot focus straightforwardly on the content, for the technology gets in the way. Unsurprisingly, as young people see it, it can quickly become boring, the activity may collapse, your friends log off, the game crashes, the search doesn't deliver results, the page cannot be displayed, the music takes forever to download. And other media remain attractive. Children will readily switch off and relax in front of the television, with a visible sigh of pleasure. They will cheerfully return to the guaranteed satisfactions of their comic or music CDs. A friend comes to the door and they are off and out in a moment.

The frustrations—which may in some respects be temporary, as noted at the outset, being specific to the present stage of Internet adoption and appropriation by British households—are threefold. These frustrations—as experienced by today's young people and their families—might be reframed as challenges for society more generally.

• The first challenge is *practical*. It concerns the technology and affordability. Children and young people use the Internet more successfully if they have a reliable computer and a speedy connection to the net, if their parents are relaxed about the costs or if they have agreed a deal which is seen as affordable. These practicalities are primarily significant in that financial concerns are, of course, socially stratified. Having sufficient disposable income to purchase a PC, having the room to put it somewhere, having the funds to pay the telephone bill for the Internet represents a threshold factor without which a household cannot even gain access.

While access is often—but not exclusively—a practical matter, frustrations associated with use are subtler. Middle- and working-class parents may practice 'benevolent neglect', leaving the child to manage the Internet themselves, for better or worse; others offer more intervention—again, whether this constitutes guidance or interference can be difficult to say.

• So, the second challenge is social, concerning what is often termed *social capital* or *social support*. The focus here goes beyond access to the question of use, itself often fraught for this fragile new medium. Is there a knowledgeable family member ready to help? Are your friends on-line and keen to chat? If the software needs updating, does someone in, or accessible to, the household know how to do it? Do parents fuss and worry if the computer crashes or things go wrong? Has someone shown you how to get started, to set up your own folder, store your bookmarks? Interestingly, these various kinds of social support—which can make the difference between use and non-use, confident or limited use, sustained or lapsed use—are not stratified simply by social class or gender. But nor are they generally available and while some children are sufficiently skilled to provide the social support for others, rather more find their use restricted by the lack of social support.
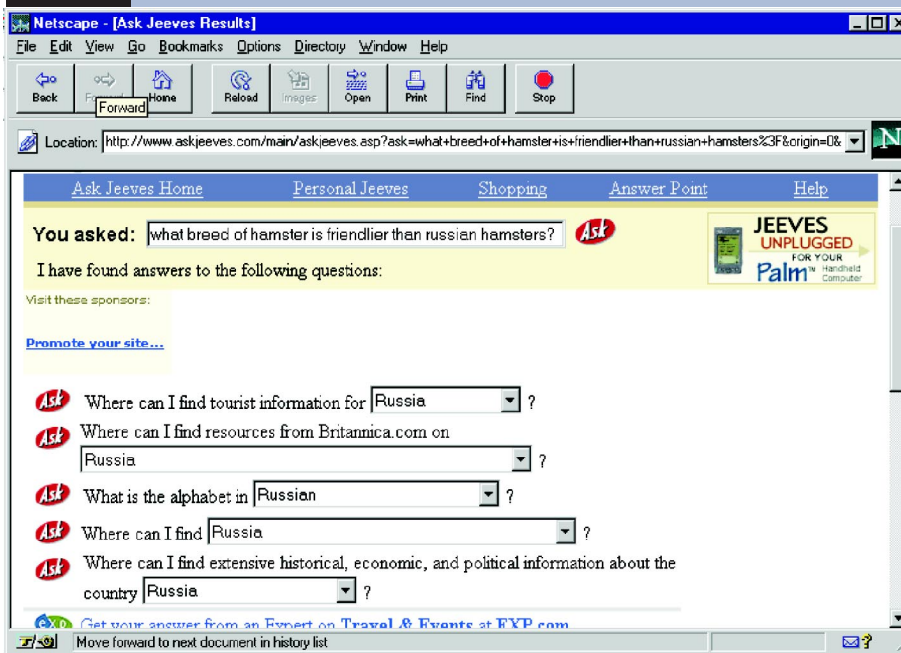
• The third challenge is cultural and cognitive. It is not enough that families know how to make the technology work, get the system running and the child on-line. Children need to be Internet literate; that is, they need to know how to make the Internet work for them. It is the variation in current levels of Internet literacy (as well as the limitations of interface design, which can perpetuate problems of literacy) which most contributes to the continued fragility of the medium. While many factors influence Internet literacy, one that clearly differentiates across households, introducing a further source of inequality, is that of *cultural capital*. In a manner strongly but not entirely related to social class, parental variation in levels of education, knowledge, and access to learning resources clearly mediates their children's ability to use the Internet constructively.

Notwithstanding their skills at multi-tasking and having fun with the Internet, we have observed many children (and their parents) challenged by the task of searching for what they want on the Internet. Many know little about searching, search engines or search directories. Nor are they skilled at the appropriate use of keywords. They often do not know how to use bookmarks to help retain what they have found or learned. Most hold web addresses in their heads, some type full URLs into search term boxes. They may not comprehend the precision required in formulating search terms. Nor, it must be said, is the interface always helpful in providing appropriate guidance and it is not always appreciative of children's own precision. We have found two thought-provoking examples among the many in our observation sessions. Megan, aged 8, a bright child, a precocious reader and keen hamster-lover, found *AskJeeves* less than helpful when she asked for advice on the breed of hamster her friend should buy (Figure 8).

The intelligence behind her question was clearly underestimated by Jeeves. But Megan did not know how to find the answer to her question, whether from this search engine or by other means. Her father knows little about the Internet. Her mother would rather take her to the library. Her teacher, Megan says, scorns information gained from the Internet. What exactly does Megan need to know? And how could AskJeeves be improved?

Figure 8 Results from Megan's search

Figure 9 Picture of the Internet

Biography

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Sonia Livingstone (B.Sc. Psychology, UCL; D.Phil. Social Psychology, Oxford) joined the LSE in 1990 and is now Professor of Social Psychology and Convenor of the Social Psychology Department. Her research interests centre on media audiences, particularly audience response to television genres (talk shows, soap opera, crime media). Recent work focuses on the domestic contexts of media access and use, especially in relation to children and young people's use of new media. Sonia Livingstone directs the M.Sc. Media and Communications, and teaches on several media and communications courses at M.Sc. and Ph.D. level. Her books include: *Making Sense of Television*; *Mass Consumption and Personal Identity*; *Talk on Television*; *Young People, New Media* and *The Handbook of New Media*.

A similar set of questions arose when Anisah, aged 12, looking for pictures to illustrate a school project on China, searches using the keyword 'China' on Metacrawler. As is common, she fails to pay attention to the text on the sites she chooses, and fails to notice that this produces, as well as sites on China the country, other sites about china/porcelain. Consequently she ends by selecting a picture of some colourful plates from Maine in the United States to include in her project.
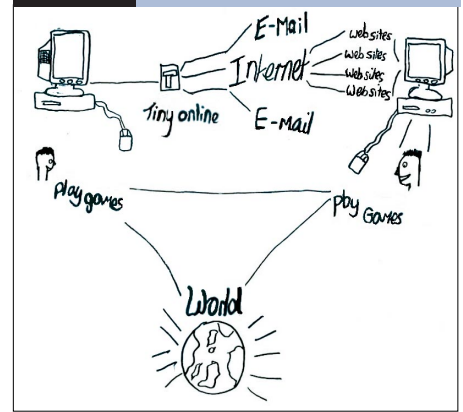
As the Internet develops, the skills and understanding required to use it will also change, making Internet literacy difficult to define. Putting it in another way, web design and Internet literacy are inter-dependent. We usually take for-granted the 'user interfaces' of old media—books, television, video, music—which have evolved in ways now forgotten, often through trial and error, use and redesign, over years. As a result we focus on the cognitive skills necessary for optimal use: can children read, programme the video recorder, decode a television drama? However, for the Internet, the design of the technology is still, relatively-speaking, in flux and needs to be questioned as much as

As the Internet develops, the skills and understanding required to use it will also change, making Internet literacy difficult to define.

children's skills and knowledge. Especially as literacy—'good use', effective use, empowering use, of a medium—is generally construed in public service terms, aligned to education, participation, communication, although many of the sites favoured by children are commercial.

From this discussion, it will be readily apparent that, as yet, we lack a language adequate to conceptualising, and talking about, the nature of Internet use. Research-ers, parents, teachers, children—all as yet are unsure of the potential of the medium, of the criteria for 'good use', of how to frame or define continuing problems and uncer-tainties. However, these daily struggles to manage and benefit from the Internet are themselves contributing to establishing the Internet as a meaningful, variable, chang-ing part of 'the communication infrastruc-ture of everyday life'.[4] What I hope to have illustrated in this article is that there is little evidence as yet that the Internet is bringing about any dramatic change in children's lives. Rather, the emerging and evolving nature and quality of Internet use is shaped by the meanings, practices and lifeworld contexts of children, young people and their families in all their diversity. Thus, while the introduction of the Internet has added a key element to the daily mix of learning, informing, playing, communicat-ing, enjoying, these are all social processes, dependent on their cultural contexts. Consequently, the pace and processes of change with which we should be concerned are less about technological development and more about social change. Children, at least, are optimistic about such change. As one 15-year-old schoolboy said of the Internet, 'it feels as if the world is actually at your finger tips' (Figure 9).

References

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