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**Youthful experts?
A critical appraisal of children's emerging internet literacy**

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Introduction

‘Through confident use of communications technologies people will gain a better understanding of the world around them and be better able to engage with it’ (Ofcom, 2004, para 3).

‘Despite the growth in the numbers of internet users, a rather small minority of these users has the capability to use the internet in ways that are creative and that augment their ability to participate effectively in today’s knowledge societies’ (Mansell, 2004, p. 179).

The growing importance of the internet in our lives raises many questions for social scientists, policy makers and the public regarding the implications for work, education, community, politics, family life and social relationships. Yet the research literature provides only moderate evidence that the internet is bringing about any great changes; rather, the emerging picture stresses the (unequal) social conditions that influence how we fit the internet into our lives. As the contrast between these above quotations illustrates, there is a gap between the hopes held out for the internet and the present realities of people’s experiences. As research, especially in developed countries, begins to shift its focus from questions of access and diffusion to questions about the nature and quality of internet use, attention is focusing on the skills and competence that ‘using’ the internet implies. These are far from straightforward, and many people are struggling to come to terms with this complex and changing bundle of technologies that, supposedly, can deliver new opportunities for information, communication, entertainment or even, more grandly, ‘empower’ them in relation to identity, community, participation, creativity and democracy.

The speculation surrounding children, media and social change requires an especially critical stance from the academy, since all three terms seem to be catalysts for public anxiety. Children and young people are widely perceived, on the one hand, as the youthful experts or pioneers leading the way in using the internet and yet, on the other hand, as peculiarly vulnerable to the risks consequent on failing to use it wisely. This chapter draws on the ‘UK Children Go Online’ project (UKCGO) for empirical evidence regarding how young people are striking a balance between maximising opportunities and minimising risks as they explore the internet. By unpacking the nature of ‘use’, this chapter reveals some of the ways in which the internet poses significant challenges for its users, requiring the rapid development and continual updating of a range of skills, competences and knowledge, from the already-familiar to the very-new, and from the most basic to the highly sophisticated. As we shall see, despite considerable enthusiasm for going online and becoming ‘youthful experts’, children and young people (like many adults) are finding that access and motivation are necessarily but insufficient for using the internet in a complex and ambitious manner.

The skills and knowledge that underpin internet use are increasingly conceptualised in terms of ‘literacy’ (Marcum, 2002; Potter, 2004; Snyder, 1998; Tyner, 1998). In Livingstone, van Couvering, & Thumim (in press) we compare and contrast the analysis of media literacy from audiovisual studies, media education and cultural studies with the analysis of information literacy from information science, library studies and technology studies, arguing that these traditions are converging along with

the technologies. The former, we suggest, has strengths in researching audiences' understanding, comprehension and, particularly, their critical and creative literacies, this including a politicised account of their social positioning in relation to powerful media institutions and texts. Meanwhile, the latter has strengths in the analysis of access and use, particularly focusing on standards for and the evaluation of skills and abilities, resulting in a policy-oriented account of the barriers/enablers to access and use.

This is not just an academic discussion but also a growing area of policy-making. As the content available across media platforms expands greatly, policy-makers are asking whether people are competent to manage their personal media environment, including parents on behalf of their children (Livingstone & Bober, in press). In the UK, the Communications Act (2003) requires Ofcom, the communications industry regulator, to 'promote media literacy' among the population of the UK. Media literacy is also being addressed at the European level, with the Council of Europe (2005) seeking 'to give special encouragement to training for children in media literacy, enabling them to benefit from the positive aspects of the new communication services and avoid exposure to harmful content' (Resolution 3, para 17) and so to 'support steps to promote, at all stages of education and as part of ongoing learning, media literacy which involves active and critical use of all the media, including electronic media' (Draft action plan, para 20).

Before asking whether the internet does, in practice, facilitate significant opportunities for children and young people, we must look a little more closely at this generation of supposed 'youthful experts'.

The internet generation

"My younger cousins, they're all under the age of eleven – and they're now coming into an age where the internet is all they've ever known. Where we, really, when we were young, we were still doing all the [outdoor] activities, and the internet wasn't really around. So we've got balance. But maybe in five or ten years time that will change." (Lorie, 17, from Essex)

The first generation to grow up with the internet from early childhood, today's children proudly proclaim themselves to be the experts online, especially compared with the struggles of their parents and teachers to keep up with, let alone to inform and guide, their internet use. Amir, 15, from London, states confidently, "I don't find it hard to use a computer because I got into it quickly. You learn quick because it's a very fun thing to do." Nina (17, from Manchester) adds scathingly, "my Dad hasn't even got a clue. Can't even work the mouse ... So I have to go on the internet for him". Yet of the growing number of research projects exploring the social contexts and consequences of internet use surprisingly few include children and young people, even though those under 18 constitute a sizeable proportion of the total population and, in households with children, access is more common than in those without children, making young people the 'pioneers' of new media cultures (Drotner, 2000).

Responding to this gap in the literature, the research project 'UK Children Go Online' (UKCGO) conducted a thorough investigation of 9-19 year olds' use of the internet between 2003 and 2005. Through all phases of the research we worked with children

from diverse backgrounds in terms of socio-economic status, ethnicity, family status, geographic region, and so forth. The project combined parent-child paired interviews, in-home observations, group discussions, and a major national in-home face-to-face survey of 1511 9-19 year olds and 906 of their parents. The research followed a child-centred approach in regarding children as active, motivated and imaginative, though not necessarily knowledgeable or sophisticated agents, who contribute to shaping the meanings and consequences of the 'new' through the lens of their established social practices (James, Jenks, & Prout, 1998). For, whether information and communication technologies are incorporated into the ongoing stream of social life or whether they reorient or open up alternative trajectories, the perspective of their users plays a key role in mediating just how this occurs, notwithstanding the many and influential constraints which frame the choices and possibilities in children's lives (Bakardjieva, 2005).

The findings confirm that internet access and use is widespread among UK children and young people (Livingstone & Bober, 2004). Among 9-19 year olds, home access is growing: 75% have accessed the internet from at home and school access is near universal (92%); two-thirds have also used the internet elsewhere. Homes with children indeed lead in gaining internet access, since only 58% of UK adults had used the internet by February 2004 (Office for National Statistics, 2004), compared with 98% of 9-19 year old. This represents a dramatic increase in just a few years: in 1997, 53% of 6-17 year olds in the UK children had a personal computer at home, only 7% had internet access, and only 19% had used the internet anywhere (Livingstone, 2002). Today, 'access' is a complicated phenomenon, and continuing changes in the nature and quality of access indicate fast-rising expectations as well as placing considerable demands on households to 'keep up' (Facer, Furlong, Furlong and Sutherland, 2003). The pace of change sets a challenge not only for the general public but also for researchers, in keeping track of technological, market and policy developments.

Although "some people can't afford it, which is just a sad truth", as Steve (17, from Manchester) put it, few children and young people are wholly excluded. But variation in the breadth and richness of access and use requires a reframing of 'the digital divide' as a continuum of digital inclusion and exclusion (Livingstone & Helsper, no date; Selwyn, 2004; Warschauer, 2003). Access platforms are diversifying, with growing numbers accessing the internet not only through a computer but also via digital television, games consoles and the mobile phone. Homes with children and young people are also acquiring multiple computers plus broadband access to the internet, and one fifth have internet access in their bedroom, furthering a media-rich 'bedroom culture' and making internet use a highly privatised activity (Livingstone, 2002). Across Europe (EU-25), on average three quarters of 16-25 year olds had used the internet in 2004 (Eurostat, 2005), as had 49% of children under 18 years old (Eurobarometer, 2004), this confirming that households with children 'lead' in gaining Internet access. In the USA, 85% of 12-19 year olds had access at home though only 63% at school in 2003 (USC, 2004), contrasting with the UK's greater access at school (92% of 9-19 year olds) than at home (75%).

Significant inequalities persist, especially in home access, with more middle class than working class children accessing the internet at home (UKCGO figures show a difference of 88% versus 61%). Since technological innovation is a moving target,

requiring a recurrent rather than one-off investment, social stratification is likely to continue (Golding, 2000). These complexities of access mean that understanding 'internet use' is no easy matter for the quality of access affects, though by no means determines, the quality of use. We found that those from middle class homes not only have better quality of access but they also spend longer online and have greater online expertise (Livingstone, et al., 2005a). For low and non users, access and expertise remain significant barriers and, for children, parents' experience of the internet also matters, with more frequent users having more expert parents with more positive attitudes to the internet.

New technologies, new activities?

"If we didn't have the internet, we'd get everything we have on the internet somewhere else. And I don't think the internet is the solution to anything. And especially not education because there are too many distractions... I just think the internet can be an easy way of doing things." (Marie, 16, from Essex)

Children and young people are using the internet in many ways. Yet, Marie has a point: the internet makes a range of activities easier, altering the patterning of young people's social and leisure activities, but radical change is little in evidence. When this 'internet generation' was asked which medium they would most miss if it disappeared tomorrow, only 10% named the internet.

As of 2004 in the UK, half of all 9-19 year olds have been online for over four years and most use the internet frequently though for moderate amounts of time; most are either daily (41%) or weekly (43%) users; few use it less often (13%), and just 3% count as non-users (compared with 22% of their parents) (Livingstone & Bober, 2004). Most are online for less than an hour, meaning that more time is spent watching television and with the family, though time online is similar to that spent doing homework or playing computer games and greater than time spent on the phone or reading. They go online for a wide range of purposes. The internet is fast becoming central to the learning experience: 90% of 9-19 year old weekly users go online for school work, and 60% of pupils regard the internet as the most useful tool for getting information for homework.

Additionally, nearly all (94%) use the internet to get information for other things, most use it for email (72%) or games (70%), half send instant messages (55%) and download music (45%). As Nina, 17, from Manchester, told us: "You don't like buy CDs from HMV anymore. You just get them off the internet or off one of your mates who copies CDs". Further, many look for information on careers and further education(44%) or for products online (40%), while a quarter read the news (26%) and use chat rooms (21%). Some use it for less-approved activities: among 12-19 year olds who go online daily or weekly, 21% admit to having copied something from the internet for a school project and handed it in as their own, and a few claim to have hacked into someone else's website or email, to have visited an online dating site or sent a message to make someone feel uncomfortable or threatened, and 2% admit to having gambled online.

These figures chime with parallel surveys conducted elsewhere. In a European comparison (Larsson, 2003), 66% of 9-16 year old boys used the internet to play

games and 49% to download music, while the most popular activities for girls were email (58%) and using the internet for homework (43%). In Norway, Sweden and Ireland, 60% found downloading music acceptable, but only 4% thought the same about hacking. In the USA in 2003, 84% of 12-19 year old internet users went online to send/receive emails, 69% for instant messaging, and 51% for games (USC, 2004).

Clearly, research must continue to track the diversifying uses of the internet, both because learning how to use the internet is a cognitive and cultural process (Bakardjieva, 2005; Haddon, 2004) and because the opportunities afforded by the internet are themselves changing. But it is crucial also to make sense of this range of uses, and to identify the institutional and social influences on children's internet use. When Linda, 13, from Derbyshire, says, "I use it for like homework, emailing my cousin in Australia and keeping in touch with my friend in Cornwall", one wonders whether this what was meant by empowering young people or democratising participation? Do such uses reflect a growing breadth and sophistication of use? Do they justify the investment made by Governments, teachers and parents? What do we hope Linda will use the internet for next? And, will it be worth running the attendant risks for?

Before getting too ambitious, we should recognise that even these uses have not come easily to many households. Ethnographic research, following a 'domestication of new technology' approach (Miller, 1987; Silverstone & Hirsch, 1992), focuses on how families are appropriating the internet within domestic practices of space, time and social relations (Van Rompaey, Roe, & Struys, 2002) and integrating it within the already-complex media environment (Drotner, 2000; Livingstone & Bovill, 2001). This research finds that the internet remains a fragile and opaque medium for many families, being experienced as unfamiliar, confusing, easier to get wrong than right, far from taken for granted (e.g. Facer et al, 2003).

Thus Amir (15, from London) describes a fairly typical family when he says: "Well, my mum doesn't use the computer, she doesn't even log on. But my dad – he doesn't know how to use the computer as well – but he always asks me 'how do you do –?' It doesn't take a day to learn how to use a computer, it's very difficult to use it. But when you get used to it, you're able to use it." Indeed, although children usually consider themselves more expert than their parents, gaining in social status within the family as a result, neither children nor parents claim great expertise: in the UKCGO survey, 28% of parents, and 7% of children, who use the internet described themselves as beginners; 12% of parents and 32% of children considered themselves advanced users. Such findings lead some, therefore, to challenge the 'myth' of the young computer or internet expert (Facer, Furlong, Furlong and Sutherland, 2003), though within the home, the perceived 'reverse generation gap' in skills allows children to tease, or guide, or undermine, parental authority over children's internet use (Holloway & Valentine, 2003).

Such struggles are of growing importance not least because the home is changing, becoming the site of content production as well as reception, of education and work as well as entertainment and leisure. In other words, it is not only the technologies that are converging: the ways in which people use technologies are also converging, as people integrate information and communication services in their everyday lives. This raises new questions about the links between children's different activities, as learning

becomes fun, as play may (or may not) be educational, as online chat serves (perhaps) to sustain networks, etc. It also raises new questions regarding the links between the institutions (parents, teachers, government) that regulate children's lives (Livingstone & Bober, in press) as internet literacy increasingly mediates not just leisure but many aspects of cultural, economic and political participation.

Internet literacy

‘Literacy is not and never has been a personal attribute or ideologically inert “skill” simply to be “acquired” by individual persons... It is ideologically and politically charged – it can be used as a means of social control or regulation, but also as a progressive weapon in the struggle for emancipation’ (Hartley, 2002: 136).

I have suggested that the evident gap between the grand hopes held out for the internet and the more mundane realities of its day to day use (Lievrouw, 2004) can be framed in terms of internet literacy. This may be defined as the ability to access, understand and create information and communication online (Livingstone, Bober, & Helsper, 2005a), abilities that are, as Warschauer (2003, p.9) puts it, ‘critical to social inclusion in today’s era’. In what follows, I shall also show how internet literacy arises from the social knowledge that shapes people’s lives and, further, from the design and implementation of online contents and services.

In other words, literacy should not be understood purely in terms of the acquisition of individual skills. Rather, it emerges from the interactions among a motivated and skilled individual, a well-resourced socio-cultural context and a well-designed interface. In everyday life, the context is commonly stratified, serving to differentiate among people and so, often, to perpetuate and reproduce inequalities. The interface, similarly, can be understood in social, textual, technical and institutional terms and in each of these respects may hinder or facilitate the activities of those using the internet. Thus we need a broad ranging conception of literacy, one that mediates all aspects of access and use, not merely a tracking of specific skills or expertise. To sustain this, internet literacy must be theorised in relation to the long history of intellectual debate and policy initiatives regarding literacy - mainly print literacy though recently also (audiovisual) media literacy and, most recently, information literacy.

Internet literacy is of little value in and of itself; rather, its value lies in the opportunities that it opens up. Indeed, debates over literacy can be read as debates about the manner and purposes of public participation in society (Kellner, 2002; Livingstone, 2004; Luke, 1989). Critical commentators on literacy from diverse perspectives assert three broad purposes to which media and information literacies are expected to make a contribution (Livingstone, van Couvering & Thumim, in press):

- Democracy, participation and active citizenship: in a democratic society, a media and information-literate individual is more able to gain an informed opinion on matters of the day, and to be able to express their opinion individually and collectively in public, civic and political domains, while a media and information-literate society supports a critical and inclusive public sphere.

- Knowledge economy, competitiveness and choice: in a market economy increasingly based on information, often in a complex and mediated form, a media and information-literate individual is likely to have more to offer and so achieve at a higher level in the workplace, and a media and information-literate society is innovative and competitive, sustaining a rich array of choices for the consumer.
- Lifelong learning, cultural expression and personal fulfilment: since our highly reflexive, heavily mediated symbolic environment informs and frames the choices, values and knowledge that give significance to everyday life, media and information literacy contributes to the critical and expressive skills that support a full and meaningful life, and to an informed, creative and ethical society.

In the remainder of this chapter, I shall examine some of the online opportunities open to children and young people - focusing on communicating, interacting and participating - to illustrate their steps towards, perhaps, these grand ambitions. My purpose is to assess the gap between hopes and realities as this is mediated by internet literacy, in order to determine the challenges ahead.

Communication

Children and young people's main interest in going on line is the new opportunities to communicate with peers. 'Communication' here must be read broadly, for as Clark (2005: 206) observes, despite the apparently mundane nature of much online conversation, it is through online (and other) communication, teens engage in a protracted, sometime experimental, sometimes cautious negotiation with their peers over 'everything from appropriate attire to appropriate academic and career aspirations' (see also Turkle, 1995, on identity play online). This is to extend life offline to the online domain, albeit with, arguably, more freedom to experiment away from the adult gaze, to exercise control and also to save face.

Consensus is emerging that the popular opposition between online and offline, or virtual and real, communication was misguided. Young people integrate on and offline communication to sustain their social networks, moving freely between different communication forms (Drotner, 2000; Pew, 2001; Slater, 2002). Most contacts are local rather than distant (or 'virtual'): "even if you've just seen them at school like, it'll be like you're texting them or talking to them on the phone or on MSN" (Kim, 15, Essex). Since the perceived benefit is being in constant contact with one's friends (Clark, 2005), there is rather little interest in communicating with strangers, although 'friends of friends' whom one has not met (and whom parents may consider 'strangers') are popular. Despite the early findings of the HomeNet project (Kraut et al., 1998), it seems that for all but the already-isolated, the internet fosters rather than undermines existing social contacts (Mesch, 2001), permitting a continuation of, rather than an escape from, face-to-face communication in daily life. In the US, 45% of 12-19 year olds said their online use has increased communication with their family and 54% thought it has increased the number of people they stay in touch with, though others considered that the time spent with family and friends is unchanged (USC, 2004). Pew (2001) found two-thirds of US teens thought the internet keeps them from spending time with their family while half said they use it to improve relationships with friends, suggesting a shift away from familial to peer relations for this generation.

Whether the quality of relationship remains the same is contested (Kraut, Kiesler, Boneva, & Shklovski, in press). Significantly, rather than seeing face to face communication as automatically superior, as do many adults, young people instead evaluate the different forms of communication available to them according to distinct communicative needs, often making careful choices among these forms depending on their characteristics – cost, control, temporal and spatial constraints and conventions, etc (Livingstone, in press-a). Talking online is seen as less satisfying than face-to-face conversation, and can raise problems of trust: “if you’re talking to someone on the internet who’s a friend, you actually talk to them saying stuff, but feelings and everything are real...but if you’re talking to someone you haven’t met, how do you know if what they’re telling you is the truth?”, asks Mark (17, from Essex). It has its advantages, however: half of email, instant message and chat room users think that talking to people on the internet can be as much or more satisfying as talking to them in real life and a quarter identify significant advantages to online communication in terms of privacy, confidence and intimacy (Livingstone & Bober, 2004). As Cameron (13, from Derbyshire), confessed, “I once dumped my old girlfriend by email ... Well, it was cowardly really. I couldn’t say it face-to-face”. Pew (2001) found that 37% of US teenagers had used instant messaging to say something they wouldn’t have said in person, and 18% had looked for sensitive information and advice online. In the UKCGO project also, we found a growth in teenagers seeking advice online. A quarter of 12-19 year olds who use the internet at least weekly say they go online to get advice, this being more common among older teens and, interestingly, boys; again, though, some worry about the reliability and privacy of online advice-seeking.

Online communication is not always a positive experience for children and young people, and the benefits must be balanced against the risks. One third of children and young people report having received unwanted sexual or nasty comments via email, chat, instant message or text message. For example, Laura (13, from Essex) told us that “my friend’s family kind of used to send me horrible messages. I gave my email address to my friend, and then she used it, and somehow her friend got it, and half of her mates did...”. Since far fewer parents think their child has received sexual or hostile comments online, they may underestimate children’s potential need for guidance. Further, contacts made online may not be safe, a risk that many have become aware of from media information campaigns. As Rosie (13, from Derbyshire) says, “I’ve got about five buddies on my thing, but you can’t really say, oh, this is a young girl, she’s got brown hair, blue eyes, ’cause she could be an old – she could be a he and it’s an old man but I suppose it’s quite nice to just say, oh, I’ve met someone on the internet.” Yet her pleasure in making such friends suggests that fun may override good sense on occasion.

Indeed, 1 in 3 have made an online acquaintance, and 8% say they have met face to face with someone whom they first met on the internet. Similar figures are reported across Europe (Larsson, 2003). In the US, 24% of 12-17 year old teens have pretended to be someone else in chat room, 60% have received and 50% exchanged messages with a stranger (see also Mitchell, Finkelhor, & Wolak, 2003; Pew, 2001). The Chatwise, Streetwise Report (Internet Crime Forum, 2000) charted mounting evidence of actual crimes against children, suggesting that incidents of adult sex offenders meeting children online and gaining their trust are increasing in both the

UK and USA (see also Arnaldo, 2001). Beyond the use of opinion polls, however, little research has explored the nature or consequences of unwanted sexual contact. In consequence, many parents seek to manage their children's internet use through restriction, although one in ten parents say they do not know what their child does on the internet, and a fifth say they do not know how to help their child use the internet safely, suggesting a clear need to improve and extend the reach of awareness and internet literacy initiatives. Specifically, in the UK, many parents ban such interactive uses as chat rooms, downloading, instant messaging and email. Understandable though such strategies are, these rules, and the anxieties behind them, also restrict children's freedoms to explore online communication in creative and satisfying ways (Livingstone et al., 2005a).

Interactivity

The interactive character of the internet (McMillan, 2005) supposedly encourages its users to 'sit forward', click on the options, find the opportunities exciting, begin to contribute content, come to feel part of a community and so, perhaps by gradual steps, to shift from acting as a consumer to acting as a citizen. Indeed, the UKCGO survey found that over half report at least one form of interactive engagement with a website (out of sending an email/ SMS to a site, voting for something online, contributing to a message board, offering advice to others, filling in a form or signing a petition online), suggesting a high level of interest and motivation among children and young people to be active online. Yet, on average, notwithstanding the many invitations to interact or 'to have your say', each individual has interacted in just one or two of these eight possible ways. Those who engage the most interactively with websites are also most likely to have made their own webpage, this being 34% of internet users aged 9-19. Yet of these, one third never managed to get their webpage online and a further third have not maintained the site.

Interactivity and website creation are more common among boys and among middle class youngsters. Since they are also the most privileged in terms of domestic access and use of the internet, they have developed their online skills, discovering the advantages of the internet not only for communication, games and music but also for advice, news and content creation. In short, these young people are more likely than some others to spread their interests in using the internet widely, being ready to take up new opportunities as offered.

Online skills mediate online opportunities and risks: children and young people's level of online skills has a direct influence on the breadth of online opportunities and risks, over and above the effects of demographics, access and use (Livingstone et al., 2005a). Perhaps surprisingly, more skilled young people do not avoid the risks, quite the contrary. It is often assumed that, as children become more skilled and experienced internet users, they simultaneously embrace more opportunities and manage to avoid the risks, so that 'expert' children can be more-or-less left to their own devices while attention is devoted to more naïve users. The UKCGO findings contradict this assumption, finding that opportunities and risks go hand in hand – the more children and young people experience the one, the more they also experience the other, pointing up a dilemma for parents and regulators since reducing risks also reduces opportunities.

As already noted, parents are particularly likely to restrict the interactive uses of the internet, notwithstanding that interactive engagement is essential for peer-to-peer connection, participation, identity play and creative experimentation. Hazel (17, from Essex) recounts one among many such instances when she reports that “my dad... doesn’t let me go on the internet very often because we had an incident one day where my sister... she was on MSN, and someone sent her something through. And it was actually like – it was like porn. So my dad saw it, and he was like very angry, so he doesn’t let us use MSN now”. Toby (13, from Derbyshire) similarly tells us: “We have different names to log on to the computer, it’s not just one. You can set up your own thing. So my dad’s got hardly any [restrictions] on it. I’ve got, you know, quite a bit. But my brothers, they’ve blocked out most of the stuff, so they can only go on very limited sites.”

Hence, parental concerns serve both to protect children and also to limit them, and UK parents seem more restrictive than others in Europe (Eurobarometer, 2003), being closer to American parents (Pew 2001). For example, 86% of parents whose child has home access to the internet do not allow their children to give out personal information online, although 46% of children and young people say that they have given out personal information. Significantly, the existence of a parental rule bears little or no relation to whether or not the child has given out such information (Livingstone et al., 2005a). Still, parental concerns have some justification. For example, coming into contact with pornography is, the UKCGO survey shows, a commonplace but often unwelcome experience for children and young people. Among 9-19 year olds who go online at least once a week, 57% have come into contact with online pornography. Most exposure is accidental and much is unwelcome, at times disturbing or upsetting, particularly when encountered unexpectedly. As Tanya (15, from London) explains, “yeah, these boys, they just go onto the internet, they download it [porn], they put it on as screensaver It’s just disgusting.” Similarly, Stuart (17, from Manchester) complains: “What annoys me is when you get into something like ‘Open this website, it’s a good website’ ... You open it, it’s something highly illegal.”

Parents and children are clear that pornography and other forms of undesirable content are more available online than via other media. However, unwanted or undesirable content varies considerably, from the mildly distasteful to hard core or illegal material, and too little attention has been paid to the definition of pornography. While acknowledging the ethical issues involved in researching this with children, it remains the case that the consequences of exposure to unwanted or inappropriate content is a key research gap: little is known of how children and young people respond to exposure to different kinds or levels of content or, especially, whether or when this has adverse consequences for their sexual or personal development (Feilitzen & Carlsson, 2003; Thornburgh & Lin, 2002).

Participation

The possible role of the internet in facilitating the step from communication and interactivity to civic participation has attracted considerable attention, especially given the apparent crisis in youth participation (Coleman, 2003; Dahlgren, 2003; Livingstone, in press-b). The Center for Media Education in the USA has argued strongly for the creation of an economically viable ‘youth civic media’ that asserts

children's rights to self-expression, creativity and participation, in effect to cultural citizenship online as well as offline (CME, 2000).

The UKCGO research identified several ways in which the internet encourages civic participation: 54% of 12-19 year olds who use the internet at least weekly have sought out sites concerned with political or civic issues, although two fifths are not interested. However, only one in three of those who have visited such sites responded to or contributed to them in any way, the other two thirds claiming merely to 'check out' the site. Also evident, however, were ways in which traditional factors - age, gender and social background - play a part in supporting some and hindering others, with girls, older and middle class teens visiting a broader range of civic and political sites (Livingstone, Bober, & Helsper, 2005b). Although one middle class 15 year old girl declares, with some despair - "I really don't understand how people could have said that they aren't interested in politics! What about the 'Don't attack Iraq' rallies and marches? There was a massive under-18 turn out!" - many of her peers express a lack of interest, asserting that "politics is boring". And as Lorie (17, from Essex) adds wisely, "At the end of the day, you're going to look at what you're interested in. And if you haven't got an interest in politics, you're not going to get one from having the internet."

Online participation, it seems, tends to be short-lived. Young people are enthusiastic about interacting with the internet but they often do not follow through, taking up only a few opportunities to visit civic sites, tending just to check out the sites rather than contributing to them, rarely discussing civic or political topics with their peers (Livingstone, et al., 2005b). This is partly because young people are cynical towards the offer to have their say as they feel their contributions are not taken seriously and they are not listened to. Anne (15, from Essex), complains: "young people's opinions are not at all valued, especially not by politicians." Since many have 'tested the water' but taken few steps beyond this, there is a challenge for policy makers in developing a more genuinely interactive environment in which young people's contributions are directly responded to in such a way that their efforts at participation can be sustained and experienced as rewarding. For the shift from providing opportunities to 'have your say' to also providing opportunities for two-way engagement depends less on young people than on the adults who seek to engage them. As Hazel (17, from Essex) asks, "you can email your MP, but is he going to listen?" Thus the online opportunity structure available to young people may be no better than that established offline. And in everyday life, as the sociology of childhood makes clear, the trends are more towards the sequestration of children away from adult society, the commodification of childhood being perhaps a key exception (James, et al. 1998; Livingstone, 2002).

Nonetheless, young people are more likely to participate online than take part in more traditional forms of politics (Gibson, Lusoli, & Ward, 2002): while only 10% of 15-24 year olds in the UK took part in any form of political activity offline, three times that many did something political on the internet. In the US too, 38% of 12-17 year olds said they go online to express their opinion (Pew, 2001), and 26% of the UKGCO teenagers go online to read the news. The lower commitment required for online participation, compared with attending meetings or other offline activities, may yet encourage young people. As Poppy (16, from London), reported, "there's a Greenpeace website which had a petition about like global warming and stuff and we

should do something about it. And I signed that just because it's easy and you might as well put your name down."

Countering optimistic visions of public participation online are the critical accounts of the privatisation or commercialisation of online content targeted towards young people (Buckingham, 2005; Kinder, 1999). The Center for Media Education identifies several new forms of online marketing practices targeted at children, including 'branded communities', 'viral marketing', etc, expressing particular concern over the economic pressure towards alliances between civic sites and commercial ventures (Montgomery, 2001; Turow, 2001). Little research, however, has yet examined the user's perspective to discover how teens respond to such sites and whether they can recognise and/or distance themselves from commercial approaches. The UKCGO survey found that young people who rate themselves as beginners in using the internet lack critical skills and so are more distrustful towards internet content than those who call themselves experts (see similar findings from the OxIS survey for adults, Dutton & Shepherd, 2004).

Yet still little is known of how children and young people's critical literacy skills develop as they become experienced in a greater range of types of online content, whether they can identify the new forms of promotion, sponsorship, paid-for-content and merchandising on the internet, and whether they extend distinctions – of reliability, trustworthiness, credibility - learned in relation to broadcast or print media or whether they are developing a new approach to content evaluation. Seiter (2005) is sceptical on this point, not because children cannot gain such skills but because, without decisive intervention, it seems that in practice they do not. Arguing provocatively that computers and the internet are, in key ways, 'fundamentally unsuited to children's needs', drawing them into an invidiously commercialised and branded environment for which their critical literacy skills are (- even, are designed to be) insufficient, she joins many who call for greater critical literacy interventions.

Conclusion

For most children and young people, the internet is not yet used to its full potential. As an information medium, the internet has rapidly become central in children's lives, and as a communication medium, it represents a significant addition to the existing means of communication available to them. In a plethora of ways, children and young people are taking steps towards deepening and diversifying their internet use, many of them gaining in sophistication, motivation and skills as they do so. But many are not yet taking up the potential of the internet. These young people worry about the risks, visit only a few sites, fail to upload and maintain personal websites and treat sites more as ready-made sources of entertainment or information than as opportunities for critical engagement, user-generated content production or active participation.

As noted in the definition of internet literacy offered at the outset, and as developed especially by work on information literacy and the digital divide, literacy first and foremost includes the ability to access media and information technologies. Construing access as a dimension of literacy means focusing not only on the economic, educational and social resources to know which domestic goods and services to acquire and how to appropriate them at home, but also on the skills and competences required to maintain and upgrade domestic ICTs, together with knowing

how to ensure they provide access to desired contents (from installing software to knowing how to access, search and navigate complex databases effectively and efficiently) and also how to avoid undesired contents (i.e. regulating for content and contact risks, whether through technical or social practices). No longer are children and young people only or even mainly divided by access, though 'access' is a moving target in terms of its speed, location, quality and support, and inequalities in access do persist. Increasingly, children and young people are divided into those for whom the internet is an increasingly rich, diverse, engaging and stimulating resource of growing importance in their lives and those for whom it remains a narrow, unengaging, if occasionally useful, resource of rather less significance.

Hence, a new divide is opening up, mapping out a continuum in the quality of use in which middle class children, children with internet access at home, children with broadband access and children whose parents use the internet more often are more likely to be daily users and to gain more internet skills. Consequently, they experience the internet as a richer, if riskier, medium than do less privileged children. This is because literacy also includes the ability to understand media and information technologies. This includes knowledge of the range of technologies, contents and services available so as to make meaningful choices, an awareness of the institutional, economic and political contexts of production in order that the choices available can be critically appraised, the know-how to ensure that the available facilities match one's own interests and needs, and the critical literacy to evaluate and, if necessary reject, problematic, biased or otherwise flawed information and communication. Now that almost anyone can produce and disseminate internet contents, with fewer and different kinds of filters, critical literacy requires skills of searching across a wide range of heterogeneous sources, evaluating them, identifying what is authoritative, trustworthy and relevant.

In addition to access and understanding, the third dimension of literacy is the ability to produce or create media and information contents, crucial since the changing media environment potentially serves to democratise content creation and dissemination in hitherto unprecedented ways. This stresses the knowledge and competence required to participate as a creator as well as a receiver of information and communication contents and services, ICTs representing a key route to participation in a modern democratic society. Just as writing as well as reading has long been required of a print-literate person (and society), so too is the know-how required to undertake successfully a wide range of activities concerned with content creation and dissemination deemed central to an internet- or ICT-literacy individual (and society). Here too, children and young people face challenges, though not primarily because their skills are limited. Rather, more critical attention is needed to the social contexts that sustain skills and competence, and to examining how interfaces are designed to invite and illuminate or obscure and impede (Isaacs & Walendowski, 2002). Literacy depends on an effective interaction between people and the internet, and this process may be both enabled and undermined by individual or societal factors as well as by the institutional, textual and technological factors which shape the interface with the user or audience.

References

Arnaldo, C. A. (2001). *Child Abuse on the Internet: Ending the Silence*. Paris: Berghahn Books and UNESCO Publishing.

- Bakardjieva, M. (2005). *Internet Society: The internet in everyday life*. London: Sage.
- Buckingham, D. (2005). The Electronic Generation? Children and New Media. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Updated student edition*. London: Sage.
- Clark, L. S. (2005). The constant contact generation: exploring teen friendship networks online. In S. Mazzarella (ed.), *Girl Wide Web*. New York: Peter Lang. (pp.203-222).
- CME. (2000). Citizen Youth: CME Looks Beyond Election Day. *eCME News*, 1(2).
- Coleman, S. (2003). *A Tale of Two Houses: The House of Commons, the Big Brother House and the people at home*. London: Hansard Society.
- Council of Europe. (2005, 10-11 March). *Integration and diversity: The new frontiers of European media and communications policy*. Retrieved 25 April, 2005, from http://www.coe.int/T/E/Com/Files/Ministerial-Conferences/2005-kyev/texte_adopte.asp
- Dahlgren, P. (2003). Reconfiguring civic culture in the new media milieu. In J. Corner & D. Pels (Eds.), *Media and the Restyling of Politics* (pp. 151-170). London: Sage.
- Drotner, K. (2000). Difference and Diversity: Trends in Young Danes' Media Use. *Media, Culture & Society*, 22(2), 149-166.
- Dutton, W. H., & Shepherd, A. (2004). *Confidence and risk on the Internet*. Oxford: Oxford Internet Institute.
- Eurobarometer (2003). *Eurobarometer 59.2: European Commission, Directorate-General for Information, Communication, Culture and Audiovisual Media*.
- Eurostat (2005). *The Digital Divide in Europe*. Statistics in Focus, Industry, Trade and Services. Retrieved 23/1//2005 from <http://europea.eu.int/comm/eurostat/>
- Facer, K., Furlong, J., Furlong, R., & Sutherland, R. (2003). *ScreenPlay: Children and Computing in the Home*. London: RoutledgeFalmer.
- Feilitzen, C., von, & Carlsson, U. (Eds.). (2003). *Promote or protect? Perspectives on media literacy and media regulations*. Goteborg, Sweden: Nordicom.
- Gibson, R., Lusoli, W., & Ward, S. (2002). *UK Political Participation Online: The Public Response. A survey of citizens' political activity via the Internet*. Salford: ESRI, www.ipop.org.uk.
- Golding, P. (2000). Forthcoming features: Information and communications technologies and the sociology of the future. *Sociology*, 34(1), 165-184.

- Haddon, L. (2004). *Information and Communication Technologies in Everyday Life: A concise introduction and research guide*. Oxford: Berg.
- Hartley, J. (2002). *Communication, Cultural and Media Studies: The key concepts*. London: Routledge.
- Holloway, S. L., & Valentine, G. (2003). *Cyberkids: Children in the information age*. London: RoutledgeFalmer.
- Internet Crime Forum (2000). *Chat Wise, Street Wise: Children and Internet Chat Services*. UK: The Internet Crime Forum IRC sub-group.
- Isaacs, & Walendowski. (2002). *Designing From Both Sides of the Screen: How Designers and Engineers can Collaborate to build a Co-operative Technology*. Indiana: New Riders.
- James, A., Jenks, C., & Prout, A. (1998). *Theorizing Childhood*. Cambridge: Cambridge University Press.
- Kellner, D. (2002). New media and new literacies: Reconstructing education for the new millenium. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media* (pp. 90-104). London: Sage.
- Kinder, M. (Ed.). (1999). *Kids' Media Culture*. Durham: Duke University Press.
- Kraut, R., Kiesler, S., Boneva, B., & Shklovski, I. (In press). Examining the impact of internet use: Details make a difference. In R. Kraut, M. Brynin & S. Kiesler (Eds.), *New Information Technologies at Home: The Domestic Impact of Computing and Telecommunications*. Oxford: Oxford University Press.
- Kraut, R., Lundmark, V., Patterson, M., Kiesler, S., Mukopadhyay, T., & Scherlis, M. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, 53(9), 1017-1031.
- Larsson, K. (2003). Children's on-line life - and what parents believe: A survey in five countries. In C. Von Feilitzen & U. Carlsson (Eds.), *Promote or Protect? Perspectives on Media Literacy and Media Regulations*. Goteborg, Sweden: Nordicom.
- Lievrouw, L. (2004). What's changed about new media? Introduction to the fifth anniversary issue of new media & society. *New Media and Society*, 6(1), 9-15.
- Livingstone, S. (2002). *Young People and New Media: Childhood and the Changing Media Environment*. London: Sage.
- Livingstone, S. (2004). Media literacy and the challenge of new information and communication technologies. *Communication Review*, 7, 3-14.

Livingstone, S. (in press-a). Children's privacy online. In R. Kraut, M. Brynin & S. Kiesler (Eds.), *New Information Technologies at Home: The Domestic Impact of Computing and Telecommunications*. Oxford: Oxford University Press.

Livingstone, S. (in press-b). Interactivity and participation on the internet: A critical appraisal of the online invitation to young people. In P. Dahlgren (Ed.), *Young Citizens and New Media: Strategies for Learning Democratic Engagement*.

Livingstone, S., & Bober, M. (2004). *UK Children Go Online: Surveying the experiences of young people and their parents*. London: London School of Economics and Political Science.

Livingstone, S., & Bober, M. (in press). Regulating the internet at home: Contrasting the perspectives of children and parents. In D. Buckingham & R. Willett (Eds.), *Digital Generations*.

Livingstone, S., Bober, M., and Helsper, E. J. (2005a) *Internet literacy among children and young people*. London: LSE Report, February 2005. www.children-go-online.net.

Livingstone, S., Bober, M., & Helsper, E. (2005b). Active participation or just more information? Young people's take up of opportunities to act and interact on the internet. *Information, Communication and Society*, 8(3), 287-314.

Livingstone, S., & Helsper, E. J. (no date) *Gradations in digital inclusion: Children, young people and the digital divide*. Manuscript under review.

Livingstone, S., & Bovill, M. (Eds.). (2001). *Children and their Changing Media Environment: A European Comparative Study*. Mahwah, N.J.: Lawrence Erlbaum Associates.

Livingstone, S., van Couvering, E., & Thumim, N. (in press). Converging traditions of research on media and information literacies: Disciplinary and methodological issues. In D. J. Leu, J. Coiro, M. Knobel & C. Lankshear (Eds.), *Handbook of Research on New Literacies*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Luke, C. (1989). *Pedagogy, Printing and Protestantism: The Discourse of Childhood*. Albany, NY: State University of New York Press.

Mansell, R. (2004). The internet, capitalism, and policy. In M. Consalvo & e. al. (Eds.), *Internet Research Annual* (Vol. 1, pp. 175-184). New York: Peter Lang.

Marcum, J. W. (2002). Rethinking information literacy. *Library Quarterly*, 72(1), 1-26.

McMillan, S. (2005). Interactivity: Users, documents, and systems. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Updated student edition*. London: Sage Publications.

- Mesch, G. (2001). Social relationships and internet use among adolescents in Israel. *Social Science Quarterly*, 82(2), 329-339.
- Miller, D. (1987). *Material Culture and Mass Consumption*. Oxford: Blackwell.
- Mitchell, K. J., Finkelhor, D., & Wolak, J. (2003). The exposure of youth to unwanted sexual material on the internet: A national survey of risk, impact, and prevention. *Youth & Society*, 34(3), 330-358.
- Montgomery, K. (2001). The new on-line children's consumer culture. In D. Singer & J. Singer (Eds.), *Handbook of Children and the Media* (pp. 635-650). London: Sage.
- Ofcom. (2004). *Ofcom's strategy and priorities for the promotion of media literacy: A statement*. London: Ofcom.
- Office for National Statistics. (2004, April). *Internet Access: 12.1 million households now online*.
- Pew (2001). *Teenage Life Online: the Rise of the Instant-Message Generation and the Internet's Impact on Friendships and Family Relationships*: Pew Internet & American Life Project.
- Potter, W. J. (2004). *Theory of Media Literacy: A Cognitive Approach*. Thousand Oaks: Sage.
- Seiter, E. (2005). *The Internet Playground: Children's access, entertainment, and mis-education*. New York: Peter Lang.
- Selwyn, N. (2004). Reconsidering political and popular understandings of the digital divide. *New Media & Society*, 6(3), 341-362.
- Silverstone, R., & Hirsch, E. (Eds.). (1992). *Consuming Technologies: Media and Information in Domestic Spaces*. London: Routledge.
- Slater, D. (2002). Social relationships and identity online and offline. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media* (pp. 534-547). London: Sage.
- Snyder, I. (Ed.). (1998). *Page to Screen: Taking Literacy into the Electronic Era*. London: Routledge.
- Thornburgh, D., & Lin, H. S. (2002). *Youth, Pornography, and the Internet*. Washington, DC: National Academy Press.
- Turkle, S. (1995). *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.
- Turow, J. (2001). Family boundaries, commercialism, and the Internet: A framework for research. *Journal of Applied Developmental Psychology*, 22(1), 73-86.

Tyner, K. (1998). *Literacy in a Digital World: Teaching and Learning in the Age of Information*. Mahwah, NJ: Lawrence Erlbaum Associates.

USC. (2004, September). *The Digital Future Report: Surveying the Digital Future Year Four - Ten Years, Ten Trends*: USC Annenberg School, Centre for the Digital Future (www.digitalcenter.org).

Van Rompaey, V., Roe, K., & Struys, K. (2002). Children's Influence on Internet Access at Home: Adoption and use in the family context. *Information, Communication and Society*, 5(2), 189-206.

Warschauer, M. (2003). *Technology and Social Inclusion: Rethinking the Digital Divide*. Cambridge: MIT.