



## **Penceil Paper 12**

**I've Never Tried It because I Don't Like It: enabling technology choices**

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## **I've Never Tried It because I Don't Like It: enabling technology choices**

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### **Abstract**

This paper reports on findings from the Penceil Project (How People ENCounter E-ILiteracy), part of the ESRC's e-society programme<sup>1</sup>. This project explored the experience of non and minimal users of information and communications technologies (ICT) on a social housing estate in south London.

Non users of ICT rule out their use because it does not make sense in their lives and/or because a potent cocktail of fears and anxieties deters them from trying. There can be no forced answer that everyone must use ICT but much government and educational policy starts from an unvarying assumption that people must make use of the technology. Mandatory use derives from a techno-rational discourse of ICTs as the necessary route to a more efficient future. This discourse of use is sustained by claims that technology use empowers the citizen and consumer and sees technology as fixed and not shaped in use by the experience and dispositions of the user. However, any compelling proposition for use must start from tasks that people want to achieve for themselves, not from an individual contribution to an underspecified collective good.

Our research discloses a multi-faceted fear of computers; apprehension about inability to use and control it; and very considerable doubt about any benefit they may gain from becoming users of ICT but also an anxiety of 'being left behind'. We contrast this anxious approach with the certainties of the dominant discourse and explore the policies in place to bridge the gaps disclosed.

The research project designed and ran a pilot education programme based around the tasks that students wished to achieve rather than rote training of skills for office jobs. This paper argues for a policy analysis and evaluation framework from the point of view of the non-user rather than endorsing a compulsion that adds forms of digital exclusion to the social exclusion that many non-users already experience.

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<sup>1</sup> The Penceil Project, "How People ENCounter E-ILiteracy," is funded by the UK Economic and Social Research Council under grant RES-341-25-0036 as part of its e-society program (<http://penceil.lse.ac.uk/>). The project partners are the London School of Economics and the National Institute of Adult and Continuing Education.

## **Introduction**

We are commonly told that we live in the 'information age' or 'computer age'. According to the dominant techno-rational discourse ICT are not only the key to a better economic performance on the national level but also to a more fulfilled and richer life. Such a discourse presents technological artefacts as black boxes to be employed for prescribed purposes, not allowing that artefacts are shaped in use according to the experiences and dispositions the user brings to them (Ciborra, 2002). Certainly, IT-skills are fast becoming necessary for holding many jobs and the Internet does contain a wealth of information, may offer convenient means of conducting e-government and business transactions, as well as facilitating a different way of communicating and pursuing leisure activities. Yet, some people in the UK still do not own a computer nor do they (or can they) make use of one. Recent figures show that 58% of UK households own a PC (National Statistics, 2005) and 61% had internet access (Dutton *et al.*, 2005)<sup>2</sup>. Computer use and internet access at home are supplemented by that at work or local e-gateway centres (such as libraries, internet cafes or local colleges). Use is strongly linked to income: home access to the internet ranges from 15% for the lowest income decile to 89% for the highest (National Statistics, 2004). This describes a domestic, as opposed to an international, digital divide.

Despite increasingly sophisticated accounts of digital exclusion, recently reflected in UK policy, academic understanding of who is making little or no use of ICT, and why, remains weak (Selwyn, 2003a). Furthermore, there is limited understanding of how e-illiteracy and ICT non-use affect people in their daily lives or of people's aspirations for their use. Access, connectivity and skills are seen as critical to equipping the global citizen (Commission of the European Communities, 2002; Department of Trade and Industry *et al.*, 2000). However, many programmes teaching IT skills are based upon inadequate cognitive and learning models and conceptions of students' aspirations

Research reported in this paper proposes to address this problem through investigating the experiences of those excluded by technology, designing a revised basic ICT curriculum and piloting a course teaching it. The research was undertaken as part of the Pencil Project, on a south London housing estate.

In this paper, firstly we aim to consider how techno-rational discourse present in policy papers relates to experiences and needs of non-users of ICT. Secondly, to ascertain what non users need to know about ICT in order to make an informed choice about use. Finally, to suggest how the process of becoming a knowledgeable user (or non-user) can be facilitated. To this end address issues of curriculum policy and propose a curriculum based on needs of the users (those with little or no ICT skills) as expressed by them and on the review of different literatures.

To achieve these aims the paper starts by reviewing the literature on ICT non-use and motivations for use, policy discourse on bridging the digital divide, e-literacy and the provision of different courses. This is followed by sections on research design and research findings. The discussion section summarises our main findings: why people

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<sup>2</sup> Broadly in line with other economically developed countries, as shown by the country reports gathered by the World Internet Project <http://www.worldinternetproject.net/published.html>.

do not engage with technology, how we can facilitate the process of engagement. In the conclusion we summarise our main proposals for curriculum reform

### ***Understanding ICT non-use***

It is increasingly understood that physical access in itself is not enough to promote a digitally inclusive society (Selwyn, 2003b; Warschauer, 2004). Meaningful, or functional, access to technology such as access at home, work or college is considered by the learner, both anecdotally and empirically, to be critical to engagement. Evaluation of UK online centres for example stated that learners considered any new ICT skill to be of “limited use” unless supplemented by home access; this evaluation further discovered that inconvenience, perceived cost and low interest were the key barriers to uptake of provision for individuals, once issues of access had been resolved. (Hall Aitken Associates, 2004; Wyatt *et al.*, 2003) Confidence, inaccessible content, lack of physical access and adaptive technologies are barriers to the development of e-skills, coupled with less tangible factors such as lack of knowledge, awareness, skills, and social support (Digital Inclusion Panel, 2004; NIACE, 2005). A study reported by Georgiou (Georgiou, 2004) has shown that many learners had concerns about content, were not confident in the security of using the internet for financial transactions and often felt that technology was complex and that they would be unable to fix it if things went wrong. The Digital Inclusion Panel report suggests that there is a less consistent relationship between digital inclusion and wealth than was originally thought. Additional factors such as motivation, relevance and age are now recognised as likely to enhance the probability of an individual to experience exclusion from technology. This assertion however is not uncontested; the 2005 Oxford Internet Survey comments, “There is a clear relationship between economic status and Internet Use”. (Dutton *et al.*, 2005, p116) The OII study also found that age and education background were also explanatory variables. These findings are also supported in Selwyn (2004) and Selwyn *et al.* (2005).

### **Motivation for use**

According to Selwyn (2004) most adults seemed to be creating a use for technology rather than the technology filling deficits in their lives, questioning notions of learner motivation. Similarly, a survey of lifelong learning centres (Wyatt *et al.*, 2003) indicated that over 70% of users came to the centres to learn to use a computer. The second most common reason given was sending of e-mails to friends and family. Longitudinal studies discovered that meeting people, learning new skills, improving skills and confidence, increasing likelihood of employability/progression, re-entering learning and developing skills to help others were also motivating factors (Hall Aitken Associates, 2004), as well as accessing information and improving health (Bradbrook and Fisher, 2004). Email, shopping and learning for personal interests were also given as reasons for interest in the internet by non-users in the survey reported by Russell *et al.* (2002).

Despite this increased understanding of barriers to use and motivations for use, Selwyn (2003a) criticises existing accounts of non-use of technology for tending to be based on a number of assumptions, particularly that ICT use is inherently desirable and non-use is seen as ‘abnormal’ and is due to a deficit on the part of the non-user in: cognition, personality, knowledge, resourcing, social situation or personal ideology. He argues that we should avoid such assumptions and study the information needs of the individual rather than the perceived information needs of society. People may have legitimate and well thought out reasons for not engaging with ICT. Engagement

depends upon the individual creating their own contextual framework and motivation for adoption, which is unlikely to occur without the encouragement of a 'compelling proposition'. However, a process of making sense of technology is intermediated by institutions such as the school, workplace and by the wider political-economic environment (Selwyn, 2003a). Woolgar (2002a) suggests that the uptake and use of the technologies depend on local social contexts.

Furthermore, people might use technology at different points in time or choose to use only some aspects of it. Thus, there is no a single category of 'non-user'. Wyatt et al (2003) construct a taxonomy of non-users dividing them into four types. 'Resisters' are those who do not use the internet because they do not want to, 'rejecters' are those who have stopped using the internet voluntarily for some reasons, 'excluded' cannot get access to the internet for a variety of reasons and 'expelled' are those who have stopped using the internet involuntarily either because of cost or the loss of institutional access.

In the following section we focus on the government discourses about ICT, a discourse that seldom acknowledges these complexities.

### ***Government discourse about ICTs***

The government discourse has moved from a concern with the physical availability of computers to non-owners of equipment towards a concern with what makes that access usable by the groups seen as a priority. When UK Online was launched in 1999, 'access' to technology was understood to mean reasonable geographic proximity of the individual to the technology, enabling the promotion of learning. This definition of access, coupled with the need for learner support through considerations such as childcare, transportation and good quality staffing were seen as first steps towards bridging the digital divide and have characterised the approach to delivery adopted by subsequent initiatives. In the wake of the establishment of 6,000 UK online access points, there has been a notable shift in emphasis from physical access as the primary barrier to take-up towards the recognition that confidence, skills, relevance, content, trust and apprehension (of online insecurity and crime) are the concerns of the future.

In more recent documents, such as the 2004 Digital Inclusion Panel report, access has come to describe a potential of learners to physically engage with technology, which is inhibited less by external influences and increasingly by factors such as disability, low motivation and a lack of perceived relevance.

Discussion about the potential of ICT inclusion initiatives has been unclear about whether the underlying intent is to redress pre-existing inequalities or to redress an increase in inequality produced by the technologies being more readily adopted by the wealthier and more educated sections of the population. For instance in their report on ICT the UK Government Social Exclusion Unit state

When the Government set out its vision for the information age, it stated that the many must benefit, not just the few. 'A society of 'information have-nots' would not just be unfair - it would also be inefficient. Competitiveness depends on the skills and creativity of the whole workforce. The more people who have the skills and opportunity to use these new networks, at al work or at home, the richer those networks will become.' For people living in low-income neighbourhoods, gaining and exploiting ICT skills can lead to

opportunities to participate fully in the local and national economy (Department of Trade and Industry *et al.*, 2000 p 15).

At the same time as this optimistic vision the Prime Minister was saying:

My point is this: this technology is revolutionising the way we work, the way we do business, the way we live our lives. Our job is to make sure it is not the preserve of an elite – but an internet for the people (Blair, 2000).

A later Cabinet Office report see this as a continuing problem

..take-up of e-services remains an issue particularly for some groups who have most to gain. There is clear evidence of a digital divide which prevents those from low income backgrounds from benefiting (Cabinet Office and Department for Trade and Industry, 2005 p 22).

In the same year the Government set itself specific targets

We are committed to ending the digital divide for families with children by the end of the third term. The Prime Minister's Strategy Unit and the DTI, in partnership with industry, are setting out this strategy to make the UK a world leader in digital excellence and the first nation to close the digital divide. (Cabinet Office and Department for Trade and Industry, 2005 p 3)

But the same report noted that well intentioned initiatives could reinforce rather than combat inequality

However, the scheme [Home Computer Initiative] should be reformed further to benefit those most in need of Government help in accessing ICT. HMT [the Treasury] will review the impact and cost of the Home Computer Initiative to ensure that it is targeted most effectively at those with the lowest take up.

Most initiatives run by employers are run in conjunction with salary sacrifice. This has had an unforeseen impact, in that those on minimum wage cannot enter such an arrangement. **The Government is committed to exploring further how this might be resolved and will commission the Low Pay Commission to consider the problem as soon as possible.** (pp 51/2, emphasis in original)

Running through all these reports is a 'better mousetrap' fallacy. Reputedly Ralph Waldo Emerson claimed that "Build a better mousetrap and the world will beat a path to your door." This is a succinct framing of the belief that the benefits of technology are immanent and self-revealing; not that they are contexted in people's lives and the sense that individuals can or wish to make of the affordances of the technology in achieving the tasks they set themselves. Michael Wills when a junior minister responsible for ICT initiatives wrote

Deploying these new technologies should be as easy and natural to everyone as riding a bike. They are the bridge to the future and we cannot afford to leave anyone stranded behind as we cross over. (Wills, 1999 p 11).

This discourse allows only one future, one denominated by ICTs which all must join. This is a re-iteration of a recurrent theme for British Labour, and other, politicians. It parallels the future offered by Harold Wilson to the Labour Party Conference in 1963, "The Britain that is going to be forged in the white heat of this revolution will be no place for restrictive practices or for outdated methods on either side of industry." Technology demands our conformity – or maybe politicians demand our conformity

under the guise of technological necessity (Winner, 1989). This is, of course not uncontested terrain, debates over carbon emissions are one area of contest; the debate over identity cards is another and one to which ICTs are central (Whitley *et al.*, in press). An alternative to the conformist view of technology is that it requires domestication and securing to our purposes: “we may, or may not, make them acceptable and familiar” (Silverstone and Haddon, 1996 p 45). A view of technology as socially shaped does not deny the disciplinary power of technology, we are not free agents ascribing meanings arbitrarily, we are enmeshed in complex networks of more and less powerful actors with differential authority over the meanings inscribed and the purposes afforded by technology (Pouloudi and Whitley, 2000). A decision to reject technology is not without cost. The cost may be expressed: financially, in loss of access to the cheapest goods and services; in time, in standing in physical queues; in status or prestige, in not being able to engage in commonly practised activities. A rejection of one aspect of technology does not mean freedom from technology; a rejection of web access may mean entanglement in an endless sequence of ‘choose button one for sales, choose button two for enquiries ...’

### ***Engagement with Technologies: Necessary Literacies***

Our concern is with how people engage or might engage with ICTs and how the process of becoming a knowledgeable user (or a deliberate non-user) can be facilitated. To this end this section reviews literature concerned with e-literacy and the provision of different courses.

Although there is a great deal of interest in understanding the nature of digital exclusion and the importance of developing a meaningful experience, there is insufficient consideration of the necessary underpinning literacies that create this experience. In general, the evaluation reports deal with good practice, but the recommendations tend towards generic descriptions of the environment, staff and types of courses undertaken. Of 36 reports reviewed (Luger, 2005), only three noted the importance of these and this has not been incorporated into policy (Bradbrook and Fisher, 2004; Future Foundation Projects, 2004; Loader and Keeble, 2004).

It appears to be generally agreed that the appropriate, purposeful use of technology should be central to the development of any basic IT provision (Department for Education and Skills and Qualifications and Curriculum Authority, 2005; NIACE, 2005).

Learners acquired the skills to use technology, or learned through technology, in largely informal and unstructured ways. It seems to be that the effective initial use of technology is dependant upon the learners’ capacity to embed their new skills. This includes the ability to analyse and synthesise information located through the development of search and retrieval skills, and to gain straightforward access to technology after development of basic IT skills.

Bradbrook et al (2004) provide a breakdown of literacies required to explain ICT as skill for life. They include information literacy, technology-related literacies, ICT literacy, net/web literacy, supportive composite literacies, e-learning literacies and e-citizenship literacies.

Many of these competencies are also explored in notions of media literacy. For example, Livingstone (2003, p 6) uses a definition which proposes that media literacy, or more generally literacy, is the ability: “To access, analyse, evaluate and communicate messages in a variety of forms”. To this she added ‘content creation’.

This approach was adopted by Ofcom (2005 p 2) “We have defined media literacy as the ability to access, understand and create communications in a variety of contexts. At its simplest level it is the ability to use a range of media and be able to understand the information received. At a more advanced level it moves from recognizing and understanding the information to critical thinking skills such as questioning, analyzing, appreciating and evaluating that information.”

A recent definition of digital engagement, from the UK Cabinet Office (2004), includes the ability to perform the following functions:

- Send and receive voice messages, e-mails, photo-mails, video-mails or any other type of e-message;
- Access, consume and produce multimedia web content, ranging from informational and educational to entertainment; and
- Carry out transactions ranging from shopping to accessing government services.

This resembles, in many ways, a profile of consumption and the expectation is that, for many people, digital uptake will be market-driven, a process that is already evident in the proliferation of broadband services. Acquiring requisite skills for employment and engaging in web-based jobs seeking would also increase uptake.

The recently developed English Skill for Life ICT standard attempts a comprehensive coverage of e-literacy skills. The standards describe the skills and understanding expected at introductory and intermediary levels of ICT learning and aims to produce independent users of the technology (Department for Education and Skills and Qualifications and Curriculum Authority, 2005). The standards emphasise the link to purposeful use of ICT in everyday life and assume that learners use ICT to achieve differentiated tasks, according to their needs and interests. It acknowledges that learners have different interests and abilities and levels of knowledge of varied aspects of ICT (‘spiky’ profile). Nevertheless, conventional curricula promote a flat profile where all learners achieve the same level of competency in all aspects of ICT.

The two most popular qualifications in IT literacy in the UK are CLAIT (Computer Literacy and Information Technology) and ECDL (European Computer Driving Licence). Early CLAIT curricula focused on teaching office skills, and Microsoft Office was often central to their delivery. New CLAIT, designed as a foundation level qualification, has been updated to include modules beyond narrowly defined office skills, including: electronic communication, web design and living online. However, these are not given high priority (they are not mandatory core units). Not all of the modules are on offer by different providers. For example, the Learndirect website, the main UK government e-learning gateway, does not list Living Online, although electronic communication and web publishing are. A review of sample assignments has revealed that they remain task-based and little reflection is demanded.<sup>3</sup>

The ECDL have added an e-Citizen qualification to their portfolio with a wider curriculum. Alongside a necessary introduction to files and menus, this qualification includes learning about the internet and the web, including email. The syllabus aims to prepare the learner to be able to function in an increasingly digital world – to fulfil their functions as a consumer of public and commercial services (such as being able to

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<sup>3</sup> Sample assignments can be viewed online at [http://www.ocr.org.uk/Data/publications/specifications\\_syllabuses\\_and\\_tutors\\_handbooks/Sample\\_Ass75657.pdf](http://www.ocr.org.uk/Data/publications/specifications_syllabuses_and_tutors_handbooks/Sample_Ass75657.pdf)



carry out tasks as filing in a tax return, finding out about new legislation, making a doctor's appointment or purchase goods online). It also teaches skills to become more active citizens by, for example, participating in a policy discussion or opinion poll and engaging in online interest groups.

While the e-Citizen qualification has significantly widened the ambit of ECDL most courses maintain a relatively narrow focus on office skills.

Nevertheless, there are signs of change; the designation of ICT as a Skill for Life alongside literacy and numeracy has induced a closer attention to the links between the three skill areas. ICT literacy is seen as enabling on-line learning of other basic skills. Reading ability is crucial to any use of a computer as is a good command of English unless programmes and materials in other languages are available. However spelling skills are not, as often supposed, made redundant by spell-check utilities but are fundamental to effective web searching: search engines are resilient in the face of minor spelling errors but cannot always decode major mistakes

Moreover, there are severe limitations to any such initiatives in terms of eliminating the digital divide. A study reported by Gorard et al. (2000) discovered that ICT alone has been unable to attract educational non-participants for reasons of lack of access, lack of competitive cost, remaining institutional barriers, ineffective content targeting, communication obstacles, and long-term socio-economic background characteristics. The evidence shows that incorporation of ICT into education is not doing anything other than appealing to those who are already very likely to be participants in adult learning. This was born out by the UK online reports that most centre users were already engaged in learning. This indicates that the context requires change if courses are to be seen as relevant by learners new to formal adult learning (NIACE, 2005).

One of the aims of our research, described in the following section, is to find out from those who do not use computers or are light users with minimal skills, their: attitudes to ICT; expectations; motivations for use; and, more generally, their experiences of using and failing to use ICT.

### **Research design**

In this section we briefly discuss our study design. Our aims included addressing the questions of: what inhibits people who experience social exclusion from becoming competent and confident users and how can this be addressed? As Chatman (1996 p 205) observes, "The process of understanding begins with research that *looks* at their [outsiders] social environment and that *defines* information from *their* perspective" (emphasis in original). Woolgar (2002b p 7) also stresses the need to see how people interact with technologies: "We need to focus much more on bottom-up experiences, on the nitty-gritty of actually making the damn modem work." Thus, our research includes both an investigative element and action-research.

The field work for the study was conducted on and around a social housing estate in Lambeth, south London. The estate is typical of many in London being characterised by: high, but not extreme, levels of social deprivation; low income and qualification levels; and an ethnically and linguistically diverse population (Cushman, 2004). Interviewees were recruited from users of a number of local agencies including a local community centre; students attending local basic education and basic IT courses;

parents at the local primary school; members of the estate's older people's club; and residents of an adjacent bail hostel<sup>4</sup>.

Our interviews covered both total non-users of ICTs and people who were occasional and highly unconfident users. The interview extracts that follow are drawn from the 47 interviews conducted to date.

In setting the ethical policy for this research, which concerns people with little power, we identified a responsibility not to limit ourselves to studying but also striving to ameliorate the lives of people whom we investigate. For this reason action research is a major component of our study. Based on the information collected during the interviews and drawing on the literatures from the fields of education, social and digital exclusion and information systems we designed and ran an introductory IT course called *Living with Computers*. The course was evaluated at the end via a short questionnaire. Every second week (6 times) a researcher from NIACE observed the lessons and made detailed notes. At the end of lessons 6, 8, 10 and 12 some learners agreed to speak about the course and its potential influence on their pattern of use. Feedback from the participants and our experience of running the course has been used to revise the curriculum for future courses and to inform practice and policy in this area.

In designing the action research element of our study we sought not to set unrealistic goals. Reducing individual digital exclusion allows participants to achieve their life tasks more easily and maybe more cheaply, important for people on low incomes. Such interventions might at the limit of their ambitions allow excluded people to involve themselves, digitally and otherwise, in collective action aimed at changing the social conditions that define their life chances. Discovering better ways of teaching participants digital skills may also allow them to engage in the e-consumption of government services – to their benefit and to the benefit of service providers. This, however, is far from participating in an e-enabled democracy.

## **Case study findings**

### **Attitudes to using ICT and understanding their potential**

It was only among older interviewees that we met people with no contact with these technologies and no interest in using them. However it is important to acknowledge Selwyn *et al's* (2003), warning against identifying older people as a homogenous group. Through our field work we contacted a range of older people, from early 60s to 90s and from would-be enthusiasts to total refuseniks.

The most negative attitude towards new technologies was expressed by a woman in her 70s. It is worth noting that her attitude to life in general (i.e. to people, council, TV and even her children) was negative too:

Int     You don't use computers at all?

DH     No.

Int     And have you ever wanted to?

DH     No. What would I want it for? I don't know.

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<sup>4</sup> A hostel for people recently released from prison, run by the probation service

Int So the idea of sending them emails isn't something you need to do to keep in touch?

DH Got a phone, ain't I?

Int Do you think there is anything people do with computers that would have interested you, if you had one?

DH Like what?

Int You get all this Internet stuff thrown at you on the television, what do you make of it?

DH I don't think I watch that channel. I don't watch much of that bloody television anyway. I go upstairs and sit on my bed and read.

[...]

DH That's why I don't want to use those bloody machines. It's taken me ages to get used to that. I don't want to learn anymore. I can read and write, what more do I want? I can count my money, what more do I want? [Female, 70s]

Some of the older people have admitted to having little knowledge of what the Internet is or what it might offer:

ML2 I don't know what a computer has got on it, so I have to learn first how to use it and if I learn how to use it I will learn what is in the computer, so I can make choice. ...[Female, early 70s]

A retired clerical officer in his 80s and an owner of a PC (without Internet connection) focused on one particular image of the Internet:

FW I am not really interested in going on the Internet, or all that.

Int Do you think there is anything that would interest you?

FW Not really. I have got everything I want so I don't have to go on there to buy things. I don't actually want to talk to these weirdoes you get on there. [Male, 80s]

However, after prompting, he reluctantly admitted that he might potentially be interested in using the Internet:

Int So it seems to me that every time I see a programme on the telly it says at the end of it - for more information get in touch with [www.something.com](http://www.something.com). Wouldn't you want to follow any of that up?

FW Well I suppose I would, if I knew how to do it. Because there is a lot of information you can get.

Int But not enough to make yourself get connected up and to chase it up?

FW Well I read and hear about people where they set it up and talking to other people, I don't think I could do that. It might be interesting, I don't know, I have never done it. But I do like discussing things with other people. I do like conversations.

Most of the sample under retirement age had some, although often very restricted, experience with ICT. Nevertheless, all those, even with no experience expressed a

wish to use computers. However, lack of knowledge about ICT was not confined to older people:

Int What sort of things would you want to do on the Internet? If you could.

ZR I don't know, because it's the first time [using computers], so when I seen the Internet, then can I choose to do Internet." [West African female, working age]

The vast majority of our interviewees expressed a belief that computer skills are becoming necessary in daily life.

AA If you don't know how to use a computer you are lost. Everything is changing so fast and you need to know how to use it. Very soon everything will be on the computer, it is almost on the computer anyway [Ghanaian female, early 40s]

AT Soon everything will be run by computer. So you can't really get too far behind because you won't even be able to live. [English male, late 30s]

FA If you have a couple of friends and every one of them could use a computer and you couldn't, how would you feel? You would feel like an illiterate, you can't read and you can't write. This is the age, computers and everything now, it is the main thing. If I couldn't use computers there are a lot of things I would have missed out on. (Female, Nigerian origin)

Interestingly, even those who did not use computers nor have plans to use them in a near future shared that belief; even if they could not articulate activities for which they could potentially use computers.

DA Well, it makes you feel like, you know, I don't know if I am using the right words, but as if you are in the Dark Ages. [Ghanaian female]

### **Motivations and aspirations for use**

Many interviewees of working age considered learning to use computers in order to increase their chances of getting a job or improving their position at work. However, many had other goals too and felt the need to learn, either to enrich their lives or to respond to a pressure from a changing society.

Int So do you think it would change your life very much if you could use this box in the corner?

SR Make it more interesting." [Scottish middle aged female]

Parents of school age children gave several reasons for wanting to know about computers. These included, having once purchased a computer for their children to use, wanting to know what their children were doing. As one parent explained:

AA: Sometimes they are on the computer, internet, and you don't know what they are doing. [Ghanaian female, early 40s]

Others had acquired computers so that their children could use them for their homework and they wanted to be able to support them.

CM: She [my daughter] has been quite bad at IT at school, and she's struggled with it quite a bit, because she's not been able to practice. So I'm hoping that now we've got this, and when we get it up and running she will be on it quite a bit ... And I want to be able to help her.  
[English female, 30s]

Others wanted to be able to communicate with children or 'keep up with children'. Even grown up children were one of the motivators for parents to learn computing.

Most respondents envisaged some activities they could potentially perform using a computer. Communicating via e-mail was most commonly mentioned. Many respondents were born outside the UK and had identified e-mail as a way of keeping in touch with family and friends abroad, while avoiding high telephone bills.

Int: What sort of things do you use it for?

VR Just check my mail, and I send mail to people in Africa, in the US, my friends in Canada. [Nigerian female, 40s]

Searching for information was sometimes mentioned spontaneously and frequently provoked an interested or even enthusiastic response, when prompted, but it was also an area of anxiety:

Int: Why haven't you tried to look at the web?

AA Maybe I am a little bit scared. Not to do the wrong thing and maybe to affect her [daughter's] work or whatever it is. Just to leave it alone. Until I have more confidence.

Int: Would you like to look at Ghanaian newspapers and things like that?

AA Oh yes. Yes. I would like to. I have a friend, just across, and the children go there and they go on Ghanaian web, and football and all that in the news. And it would be great to see what is going on.

[Ghanaian female, early 40s]

Some interviewees expressed a wider list of aims

DA There are so many things you can do with them, like shopping, research, and other things. [Ghanaian female]

Nevertheless, common to the total non-users of ICTs and the occasional users were their limited aspirations for the use of ICTs. Many interviewees knew about e-mail and were using it or wanted to use it for communicating with distant family and friends; none mentioned instant messaging as a way of achieving the same goal. VoIP, which had much media coverage during the later interviews, was not even recognized as a possibility.

Most respondents were familiar with the idea of e-shopping (surprisingly often identified as eBay) whether they wished to engage in it or not but e-government services were almost totally unknown. Only a few were aware it was possible to use the internet to contact local or central government. Even when the possibilities were described few people responded enthusiastically – most wished to continue to use the phone or visit offices in person. They appeared to mistrust the responsiveness of these services and feared loss of agency and believed it necessary to apply verbal or emotional pressure to gain their desired response, believing internet messages would

be ignored. The benefits of not hanging on the phone or waiting in an office, although recognized, would not compensate for the perceived loss of efficacy.

Int How about using it to sort out problems with the council and things like that?

DB Um, I never thought of that, actually. I just get the local Council News, and they send the thing to you, so you read it and you know the only thing you have really dealings with the council is to pay them the council tax. [African-Caribbean female, 70s]

Int How about getting in touch with the council about home helps or social services or something like that?

GR Can you do it online then? Does it cost you as much or not? [...]

Int You would rather use the telephone then to try to sort things out. Talk to people rather than send them messages.

GR Yeah, because they might not be there. [English female, mid 80s]

The local council tries to promote the use of the Internet for contacting services, and its newsletter, referred to by interviewee DB, carries many articles about, and advertisements for these channels but they appear to have little impact on non-users. It is only engagement with the technology that transforms these from unknown possibilities into appreciated opportunities.

At the beginning of the *Living with Computers* course participants were asked about their experience of computers and their aims. Respondents mostly expressed their aims either in generalised terms, 'to learn how to use a PC'; as a wish to perform some activity (mainly sending e-mail); or identified specific skills, like using a mouse (c.f. Wyatt et al. 2003). Only four participants out of 13 gave other answers; "help me at work and use computer for football programme"; "advance in life and get a job in an office"; "advance my business"; and "help work on my finances".

### **Barriers to use**

Our research indicates the nature of the complex relation that people have with computers. For the majority of our interviewees, computers appeared to offer a challenge that other domestic electronics did not. Most respondents described frequent use of mobile phones and many had surmounted the complex interface to send text messages. Most used VCRs for playing tapes and often for immediate recording of programmes; however, few were able to programme a VCR for deferred recording. Most also, occasionally or regularly, used ATMs to withdraw cash.

For many, physical access to computers did not represent the greatest barrier to use. Many have computers in their homes and there are free-to-use public computers locally. The barriers are skills and confidence.

Int So, how much have you used computers in the past?

AT Never.

Int Have you ever wanted to?

AT I get as far as PlayStation games and that's about it. So it's not really computers. I just find them hard to work, hard to understand. I've tried. I just can't do. [English male, 30s]

AA They [computers] scare me a bit really, but I can understand the technology is important.

Int Why do you say they scare you?

AA Well, you know, not being terribly bright, I find it a bit awesome. It fascinates me though. [Ghanian female, 40s]

Another recurring theme from the interviews was anxiety about the technology itself. A number expressed the fear, "I might break it." Some people did not use the computers they had at home because they feared destroying their children's or partner's work. This contrasts with the reaction of experienced users that the technology frustrates them because it breaks down on them. Respondents reported that they would ask a relative or a neighbour (or often their child) to fix a breakdown. There was little knowledge of commercial repairers or of manufacturer or supplier helplines. This indicated that social isolation was a factor enabling or preventing use of these technologies, distinct from social exclusion.

Many of our interviewees have expressed fear of technology, either in general way or more specifically fear of breaking the computer.

SR I had a fear - all I did was play cards. I was terrified. Thought if I touched it I would mess it up.

Int What's to mess up?

SR I don't know, you are frightened, people talk about losing this and losing that. [Middle aged female]

Even those who felt comfortable with other technologies perceived computers as much more difficult, frightening even:

Int So, you can set the video to record it. That's at least as difficult as doing anything on a computer.

ML2 Oh rubbish. Rubbish. That's easy. [...] I never thought you could mess video up. I mean it's just something that's there. And you use it.

Int How about a mobile phone? Do you use one of those?

ML2 I've got one of those.

Int And do you text on that?

ML2 Oh yeah. [...] It's just this thing, sitting in front of me. And I'm doing things, and it's not doing what I ask it. When I text, that phone does what I ask it to do. I touch the wrong button on that computer, and [blows raspberry]. [...] Um, that's what I had a horror of. Doing something that - and messing up the computer. [Female, early 70s]

However, even younger people in their 30s and 40s with at least basic skills in reading and writing (and in one instance with a degree) felt that computers were 'complicated' and learning them felt hard.

CM The longer you leave it the more complicated it feels to you. And, you know, the more hurdles you have to jump over. It means it is just off putting, and yes, I ought to do it, but you don't and you just leave it. [English female, 30s]

Many interviewees revealed an amorphous fear that something might happen to their computer from out there – an ill-digested mixture of partly understood news items about viruses, phishing and spam. Some perceived the internet as a source of threat, particularly for children who might access inappropriate information or engage in chats with unsuitable people. It was difficult for them to evaluate trustiness of information on the internet. E-shopping raised further anxieties:

Int: Why shop with the computer?

DA Oh, I think it is nice to go out and about shopping. But when you have got little ones sometimes it can be difficult. So to go online shopping ...

Int Right, you have credit cards and everything.

DA Yes, but I don't normally use them.

...

Int Would you be worried about security if you shopped online, do you think?

DA Yes, that's one thing.

Int What would you worry about?

DA About somebody getting to your details.

[Ghanaian female]

EH For some reason, I may be wrong, but when you read about fraud and so on, and if you don't really understand it you could find yourself in a situation where you are trying to fly like an eagle and you are a sparrow, you know? And you get stuck somewhere. I just think I am passed it. [Jamaican male, 80s]

Int Do you hear about things like viruses and spam? And do they worry you?

SR Yes, yes.

Int And do you know what they are?

SR No. [Middle aged Scottish female]

Int Do you have any idea if you can trust things that you read on the Internet or don't you know?

EW I don't know. [Jamaican female, early 40s]

Use of the internet for shopping requires possession of a credit or debit card and, further, a willingness to use it under unfamiliar conditions, against a background of media stories about internet fraud and theft. The resulting issues of trust are important in understanding people's willingness or reluctance to use the Internet for transactions. Dutton and Shepherd (2003) describe the Internet as an *experience technology* and that it is only through use that people develop trust.

Some respondents admitted that they lacked skills to deal with simple activities related to having and maintaining a PC. For example, even if they were aware of a threat posed by viruses they did not know how to install virus protection software.



One person admitted that they didn't know how to plug in the computer or connect 'other wires' to it.

Int So do you know about viruses and things like that?

SS I've heard about them. I heard you can buy a program, a CD thing. And then you have to install it. But, again, that's - I wouldn't know how to install it. [English female, 30s]

Our interviewees vocalised some frustrations with different courses they have attended in the past, including fast pace of teaching (even in some introductory courses), emphasis on typing and lack of explanations of what you should do when things go wrong.

SS I need someone to physically sit down and say, 'You do this and this, and if this goes wrong, you do this'. [English female, 30s]

PJ The problem was I spent most of my time typing things. [English male, 70s]

EC If you got stuck on something and you don't know how to get out, you put your hand up and they just come and click, and they are gone. [...] And still I didn't know how to switch on and switch off, because you go and it is on. [Jamaican female, early 60s]

Our findings indicate that the needs and aspirations revealed by our interviewees mapped poorly onto existing basic ICT curricula. Drawing on our interview findings and the available literature we have designed a course syllabus<sup>5</sup> that places emphasis on discussion of different ways and reasons for engaging with IT, analysing and evaluating varied sources of information and their content, as well as communication and content creation (e.g. through blogging). It brings the activities, such as e-mail, that people have identified, during interviews and in course entry questionnaires, to the start of the programme rather than relegated to the end. In addressing the fears of our respondents, the syllabus also outlines the key aspects of managing computers at home. This includes buying and setting up a computer for use at home, connecting to the Internet, security issues (firewalls, viruses, backups, etc.) and ways of dealing with breakdown.

The course evaluation (questionnaire and interviews) indicates that the learners enjoyed its content and delivery mode. Some learners wanted more lessons in a week or longer lessons to practice what they have learned. The majority had learned what they wanted and only three learners wanted to learn additional things (about costs of computers and being online, desktop publishing and using webcam). When asked if they had learned something they did not expect to, the most common answer was: weblog, spam and viruses.

The following quotes provide more insights into their experience on the course and its influence on their use of ICT outside the course.

My sister had a computer at home, she teaches me a few things and thought I would learn Internet more on this course and this is way more than I expected, beyond my expectations. I liked to learn how to send and receive emails and

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<sup>5</sup> The outline for the course is available at <http://penceil.lse.ac.uk/documents/CoursePlan.pdf>. We gratefully acknowledge the support of Lambeth adult learning service in funding the course.

use chat rooms, the printing and copying was good too, I was eager to learn that. I don't like writing letters and CVs. (Sharon in week 6)  
Internet access has been useful, I use it outside but it's quite expensive. I'm using a computer now whereas I didn't before. [...] Exploring the Internet has been good. I had no expectations but I use the BBC website now for news. (Michael)

However he also added:

I'm still not sure about the expense of a computer and there is a problem with getting use in libraries, free access is not as available as you might think.

I like emails because I've just got an email address and I also want to know more about Microsoft Word and how to put a photo on a letter. [...] I do go on the computer more at home, and the Internet; my son sent some football pictures and I was able to open one but I want to make it smaller so it uses less ink when I print it out. (Emily, week 8)

For me its personal use: Email, basics about how a computer works and that sort of thing. I have enjoyed the setting up of the blogs most of all. Different types of websites were also interesting to see. I didn't expect to learn about chat rooms – there maybe other things I'd like to learn in the future but for now this is all I need. For me it was good course – I don't want an elaborate course. I can follow it up if I need to. (Ali in week 12)

However they also experienced difficulties and voiced dislikes:

I found the stuff on folder last week quite hard though. (Steven in week 6)

I didn't really enjoy the file management – I understand that courses have to have these things, so it's OK but I only need this for email I don't have anything to put in files. So, you know, I'd never use it. (Ali in week 12)

Our experience of teaching the course has led to a number of modifications including: introducing study skills component, adding an hour to the start of each lesson to allow for reinforcement and assessment activities; extend the use of personal projects; and to cover using computers for calculations.

## **Discussion**

ICT non-use in the domestic environment is a little researched topic. Research has been concentrated on the user rather than the non-user. The work reported here allows us to start to understand the needs and demands of non-users and to engage in strategies to address their needs.

Not surprisingly, our research supports claims in the literature that lack of confidence is an important barrier to computer use and that there is a link between personal circumstances (e.g. parenthood, age, income) and computer ownership (Digital Inclusion Panel, 2004; Dutton and Shepherd, 2003) or the use of the Internet (Selwyn et al., 2005). For example, it appears that people with school age children are more motivated to buy a computer. However, not all parents actually use the computer they have purchased. The non-users of family owned PCs were more likely to be female, reflecting complex household micro-politics, also reported by other researchers (Habib and Cornford, 2002; Richardson, 2006; Selwyn *et al.*, 2005).

The motivation – and sometimes – the pressure to acquire computing skills were not predominantly linked to job prospects. It often originated with children (e.g. grown up children encouraging or coxing elderly parents to use computers), sometimes friends, and was expressed in terms of ‘being able to communicate with children’ or ‘help children’ but also more generally as the need to ‘fit in’ in the society.

As in previous research (Chanan, 2000; Georgiou, 2004) our respondents expressed concerns about the Internet content and we have found that wishing to be able to supervise children motivated learning. They also worried about security of financial transactions and thus generally were not enthusiastic about e-shopping.

Zuboff (1988) described the multifaceted nature of IT in organizations. She described the ability of the technologies to enable staff to undertake a wider range of tasks and to offer independence in the execution of these tasks; however she also noted the simultaneous panopticon effect of technologies allowing far greater scrutiny by managers of the activities of each employee. So power was both devolved and centralised by the same technologies. We can observe similar processes in the domestic environment. While an individual can now book their own holiday without needing the help of a travel agent, or can complete their tax return without consulting an accountant, their actions are recorded in databases at each stage and patterns to their lives may become apparent from the assembling of these traces that were previously kept discrete (and discreet). The same technologies that allow Amazon to suggest books we might like to read can also allow scrutiny of our intellectual and political lives: a database system claimed to promote co-operation in the area of child protection may result in unwarranted intrusion into family life and reduced protection (Anderson *et al.*, 2006). This context of use is reflected in many of the concerns of our interviewees about use of computers and the internet which, while imperfectly understanding the nature of the risks, were far from groundless fears. The privacy leak from AOL in August 2006<sup>6</sup> was an example of the potential problem both because of what was disclosed about identifiable individuals and what it revealed as lying in the records of Google and the other search engine companies about all their users (Brown, 2006).

Our findings point out to a dilemma many people are still facing: they might know little about new ICT, sometimes they fear them or reject them yet they believe (to some extent rightly so) that ‘if you don’t know how to use a computer you are lost’ and that things will get more difficult for those without computing skills in the near future and ‘you would feel like an illiterate’. This suggests that even those who do not engage with ICT accept the dominant discourse of the need to be ‘connected’ and computer literate, present in the policy papers, business materials and popular media.

Our findings demonstrate that our respondents only imagined narrow uses for computers, largely shaped by popular media. The interviewees did not consider using the Internet to contact local or central government (actively encouraged in the UK). They did not envisage engaging in civil activities on the Internet nor building or joining any ‘virtual communities’. This implies that the UK government’s vision of e-citizens is over-optimistic and excludes many groups of people, even in its very minimal form: picturing people as consumers of governments’ e-services rather than active participants in e-democracy. The way that consumer ICTs are presented in the

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<sup>6</sup> <http://www.vnunet.com/vnunet/news/2162753/aol-cto-leaves-privacy-leak>

media and in advertising – as black boxes to achieve pre-described ends – makes this imagining of potential more difficult and sets a challenge for educators.

However, it is clear that our interviewees valued the communication aspect of these technologies and wished to engage in communicative actions not data management. They were also aware that communication entails risk, and new and unknown (and to them unknowable) risks are generated when the communication is mediated by ICTs. This demands assistance in explanation, management and reduction of technology amplified risk. They had little understanding of how to manage computers and relied heavily on social networks for support.

The office productivity courses, so popular in the UK, rest on an assumption that students' overwhelming aspiration is to learn computing to gain an office job. While IT competences are increasingly essential for employment, this is not the only reason to learn. Many of our interviewees were interested in gaining employment skills, but others – and not only those above retirement age – centred their aims on using computers for personal purposes. The conventional curricula, based on discrete skills, do not promote discussion to explore possible uses nor the ways these technologies can be enrolled in changing forms of domestic life.

Often, they do not foster learners' active engagement with ICT and do not develop their ability to explore different options and solutions. Instead learners are expected to follow the material step by step. Hence, outside the lesson environment such learners might have little capability of dealing with ICT in their homes when events on the screen do not occur in the same order as on the worksheets and potentially even less ability to keep up with future changes in hardware and software. A lack of appropriate programmes for learners who require skills and knowledge for using ICT at home, as well as the need to cover a wider range of ICTs, including digital cameras, mobile phones, mp3 players, has also been identified by NIACE (2005).

We argue, however, that responding to immediate and often practical problems of learners, although very important, is not sufficient for a programme teaching ICT. The majority of learners at the beginning of *Living with Computers* course expressed their reason for attending it as 'to learn how to use computers'. Similar findings are reported by Wyatt et al. (2003) and NIACE (2005). However, we agree with Kvasny (2005) who suggests that community technology centres should not only teach basic computing skills but also ways of using the internet for consumption, civic engagement, communication and self expression. To challenge social exclusion an e-literacy curriculum must also, respond to Livingstone's (2004) demands to enable people "To access, analyse, evaluate and communicate messages in a variety of forms". As Warschauer (2004) suggests, we should see literacy as a set of social practices rather than of narrow cognitive skills. The aspects of analyse and evaluate are frequently minimised or absent, and creation, which Livingstone (2003) sees as central, often marginalised. Equally, the role of critical literacy and critical evaluation in relation to shifting notions of quality, authority and standards needs to be debated (Livingstone, 2004).

## **Conclusions**

Developing competence and confidence with ICTs is a matter of engagement and a re-imagining of individual potential for action rather than a skills acquisition process. While CLAIT, to some extent, and ECDL, more extensively through their e-citizen programme, have expanded the skills they see as relevant to beginning users they do

not demand a change in pedagogy. Seeing use of computers as a catalogue of skills provides a poor base for enabling use of technologies that are changing at an accelerating rate. At the start of this research project web 2.0 (British Computer Society, 2006) was a barely heard term, two years later YouTube, blogs, podcasts, Flickr and MySpace had transformed what one can do over the Internet. They have also made computers one node in an assemblage of domestic technologies: digital cameras; video cameras, mp3 players etc.

While the possibilities for internet use have expanded so has the complexity of maintaining safe and secure use (Kaelin, 2005). Both these aspects increase the necessity to focus on understanding rather than merely skill acquisition and thus a more discursive pedagogy than has been usual in ICT classrooms. The gap between a discourse of opportunity promulgated by the Government and service providers and a discourse of anxiety and fear exhibited in our research interviews cannot be resolved by instruction. Debate, discussion argument and joint activity must feature in a successful ICT learning environment. Further, to enable effective engagement and application of ICT, educators need to encourage a discourse that discloses the possibilities of the technologies rather than trains people in an externally prescribed set of uses, an experiential discourse to displace a techno-rational one.

While better constructed curricula and classrooms can enable more people to engage with new ICTs and use them to achieve their own purposes and thus reduce their exclusion and feelings of isolation these will only assist those people who are willing to join classes or visit online centres. Those most excluded socially are also those least willing to engage in such ventures (Chanan, 2000; Georgiou, 2004). A belief that reducing digital exclusion will, of itself, lead to reduced social exclusion is naïve; often programmes that reduce other aspects of social exclusion will be a necessary pre-condition for people to be prepared to take part in activities that will reduce their digital exclusion.

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