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E-literacy and the grey digital divide: a review with recommendations

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Abstract

Purpose: Reviews e-literacy in the context of Internet use and non-use by older people. Discusses the perceived barriers to Internet use and provides suggestions as to how the "grey" digital divide can be reduced.

Methodology: Reviews literature but draws heavily on survey research conducted in Derbyshire and Scotland.

Findings: Although the United Kingdom (UK) population is currently ageing and the use of the Internet amongst adults is increasing, current national statistics indicate that older people make up only a small proportion of those online, resulting in what can be aptly described as a "grey" digital divide. Existing literature indicates that older people are missing out on the enormous potential the Internet has to benefit their lives. Without access, older citizens are rapidly becoming disenfranchised. Perceived barriers to e-literacy include lack of interest, feeling too old, fear of new technology, lack of access to IT, lack of IT skills and experience, cost, concerns about security, and problems associated with disability.

Originality: Previous studies have examined Internet use by different sectors of the population, including older people. This paper brings these findings together and offers recommendations for increasing e-literacy in the context of Internet use among older people.

Introduction

Information Literacy has been defined as "the set of skills needed to find, retrieve, analyze, and use information" ACRL (2007). The concept is medium-independent and covers both paper and electronic sources. Narrower and newer terms have been developed, however, that reflect an individual's ability to survive in the e-world. These include 'e-literacy' (Martin, 2003), 'digital literacy' (Jones-Kavalier and Flannigan, 2006, Martin, 2005), ICT literacy (International ICT Panel, 2002), 'multiliteracies' (Cope and Kalantzis, 2000), and technological literacies (Lankshear, 1997). As explained by Martin (2006) all stress the need for literate individuals to develop an "understanding of the cultures and the contexts of the digital environments in order to operate effectively within them". The term e-literacy, is more commonly used in the literature and is the term adopted in this paper. More specifically, it has been defined as "referring to the awareness, skills, understandings, and reflective approaches necessary for an individual to operate comfortably in information-rich and IT-enabled environments" (Martin and Ashworth 2004). The difference between having e-skills, particularly those related to Internet use, and not having them creates a new kind of information gap, which is generally known as a digital divide.

Being able to make effective use of the Internet is an important part of being e-Literate. Unfortunately, while internet use is increasing in the UK population as a whole, use among older people is still relatively low. This paper discusses the characteristics of older people in the UK, examines e-literacy in the context of the use

and non-use of the Internet by this sector, presents the perceived barriers of access to the Internet, and offers suggestions as to how to reduce the "grey" digital divide. It draws heavily on research reported in Morris et al (2006) which describes the results of two connected surveys: 120 structured interviews with over 55s in Derbyshire and 353 questionnaires and structured interviews with over 50s in Scotland, exploring computer and Internet use and access, internet awareness and reasons for use and non-use.

A Digital Divide?

Internet use is increasing in the UK. At the end of 1998 just nine per cent of all UK households could access the Internet from home. Yet, in the fourth quarter of 2003, this figure had risen to nearly half (49%) of all households (National Statistics 2004) and figures in 2006 indicate a further rise; two-thirds (67%) of households now have access to the internet (National Statistics 2006).

Although the majority of adults in the UK use the Internet, older people make up only a small proportion of those online (Dutton et al, 2005, Age Concern, 2004). In 2001, only 14 per cent of "elderly" UK households had access to the Internet at home compared with almost half (49%) of "non-elderly" households (Traynor 2003, p.11). Moreover, although 65 per cent of the population in the UK have used the Internet, only 15 per cent of those over 65 have done so (Age Concern 2004; see also (Selwyn, Gorard et al. 2003)). Additionally, a study by a specially commissioned Digital Inclusion Panel (2004) found that 48 per cent of people considered themselves to be digitally unengaged and most of these were people over 65 or were on low incomes. Internet use drops with age. Usage by people aged 45-54 is about 65%, whereas for those aged 55-64 and 65-74 it is between 26-31% and 26-31% respectively and for the 74+ group it is between 8-20% depending on the survey (Oxford Internet Institute 2005, Age Concern 2004, Morris et at 2006). Clearly, there is some way to go before the eEurope's objective of achieving "an Information Society for All" and ensuring and inclusive digital society can be met (Europe's Information Society Thematic Portal, 2006).

The low usage of the Internet by older people is of particular concern when you consider that the UK population is currently ageing. In 2003, the UK population was around 59.5 million and 11 million of this figure (18.5%) was over pensionable age but it is estimated that this will rise to 12.2 million in 2011 (Age Concern 2004). Age Concern (2004) estimate that 50% of the population will be over the age of 50 by the year 2030. The rising proportion of older people is largely the result of low birth rates and declines in mortality due to advances in medicine, nutrition and health care (Seabrook 2003, p.5). Today a 60-year-old woman in the UK can expect to live to 83 years of age and a man to 79.4 years (Age Concern 2002a). Further, the number of people living beyond the age of 100 years is expected to increase from 36,000 today to approximately 142,000 in 2055 (Department of Work and Pensions, 2003).

Despite the fact that Internet usage amongst older adults is low compared with other age groups, recent research in the US also indicates that people aged 65 and over are currently the fastest growing segment of the Internet community (Burwell 2001, p.40; Fox 2004; Laurich 2002, p.174; Mates 2002), bringing the proportion of those over 65 who use the Internet in the States to approximately 22 per cent (Fox, 2004). This is higher than that reported in the UK; the Office of National Statistics (2004) puts usage of the Internet by older users at 15 per cent. Nevertheless, this is a rise of six per cent from the previous year. Surveys by the Claritas UK consumer research group (Jeffery 2003) and Morris et al (2006) also provide evidence that a growing number of over 60s are online in the UK. However, this growth comes from a very

low starting point. There remain many people who do not use the Internet and much further growth is needed before older adults are adequately represented online.

The inequality of access to the Internet, which is correlated not only to the age of the user but also by their level of income and education attainment, is frequently referred to as the "digital divide" (Dutton et al 2005; Hargittai 2002; Loges and Jung 2001; Millward 2003; Timms 2003, p.38; Wellman and Haythornthwaite 2002, p.17). More specifically, Millward has described the low use of the Internet by older people as a "grey digital divide" (2003). Foley et al also claim that there is a strong correlation between non-users of the Internet and social exclusion and disadvantage (2003, p.16). This is hardly surprising because age is correlated with non-use and older people are often regarded as being socially excluded because they tend to have lower incomes and participate less in social and economic activities.

The existence of this divide may be unsurprising given that this generation of older people have lived the majority of their lives without the Internet and that older retirees are unlikely to have experienced using computer technology during employment (Loges and Jung 2001, p.542). While it is possible that this "grey digital divide" is simply a generational phenomenon that will disappear over time as the next generation of seniors spend more of their working lives surrounded by computers and the World Wide Web, the immediate future of the divide remains unclear. Loges and Jung warn that certain patterns of Internet behaviour may survive this generation of seniors. They suggest that older people in the future may continue to be wary of guarding their privacy and finances which would mean that they would be less likely to purchase products or services online than younger people (Loges and Jung 2001, p.559). Timms (2003) even predicts that the digital divide could actually worsen in the UK before it improves, although there is evidence to the contrary, as discussed above.

Even though there is some evidence of the divide closing, the "silver surfer" is currently a rare breed, which is unfortunate given that, as a technology that can be accessed from inside the home, the Internet has enormous potential to benefit the lives of older people. Online services such as e-mail, banking, discussion lists, general interest websites and chat rooms can facilitate in the learning and socialising of this age group and can help older adults preserve their independence (see, for example, McMellon and Schiffman 2002). The Internet can also enable people to take an active part in social and political processes. The UK government, for example, has stated that all citizen interactions with central and local government should be capable of taking place online by 2008 (Selwyn et al. 2005). Without access, older citizens may become disenfranchised.

It is essential therefore, that, as the population ages and society becomes increasingly dependent on computer technology and the Internet, the disadvantaged and the over 50s must be actively encouraged to get online, otherwise they will miss out (Timms 2003, p.38). We live in a society where information and knowledge is power. Hence those without Internet access are increasingly being recognised as the "information poor".

Characteristics of older people and potential benefit of Internet use

A universally agreed definition of what constitutes "old age" does not exist. There are significant variations in the literature and the popular media as to the precise age a person becomes an "older adult". Hawthorn suggests that an appropriate definition is those over 45, since it is from the mid-40s that the effects of ageing become noticeable (Hawthorn 2000). Several popular websites targeted at "older people", such as *Age-Net, Baby Boomer Bistro* and *Laterlife.com,* promote themselves as

sites for the “over 50s”. On the other hand, many studies of older people start from age 60 or 65 plus, with the advent of retirement (Opalinski 2001, pp.203-221; Virokannas 2000, pp.491-495). In this paper, “older people” refers to adults aged 55 years of age and over, unless otherwise stated. This was chosen because it enables “younger” age groups (55-64) to be compared with “older” ones (65 plus). In general, the “young” old and the “old” old have had vastly different experiences of using computers and the Internet.

Older people are a heterogeneous group; indeed, they vary dramatically from fit, independent-living retirees to the frail elderly in nursing homes with multiple disabilities (see Carmichael 2005). They also vary enormously in their interests, education, fitness levels, lifestyles, levels of income and ages. Despite this, it is worthwhile to distinguish a number of common features:

Poverty

Although older people belong to a heterogeneous group there remains a strong association between age and poverty. Age Concern (2002a), for example, found that approximately one in five pensioners live in low-income households and are more likely to live in houses that are substandard and difficult to heat. Help the Aged (2004) have also showed that females, ethnic minorities and older pensioners are those groups most liable to be impoverished. Consequently, it is possible that older people might find the cost of purchasing computers and telecommunication access prohibitive even if some of these costs could be offset against savings that might be obtained from taking advantage of discounted products offered online.

Health

Health problems become more common with age. Common health problems include: musculoskeletal disorders like arthritis, heart and circulatory problems like hypertension, strokes, dementia and Parkinson’s disease. Changes in hearing and vision are a normal part of ageing, and some people suffer severe hearing difficulties or visual impairment. Many of these conditions affect the ease in which older people can access computers and the Internet (Hawthorn, 2000). Many tools are available, however, to help older people with health problems and these are discussed later in the paper.

Retirement

Retirement is an aspect of life shared by the majority of people over 65 in the UK. For many older people, the spare time associated with retirement provides an opportunity to explore new horizons and to develop their interests (Blake 1998). However, by the same token, retirees without a job can experience a lack of purpose and structure to their daily routine and reduced social contact. Research has found that use of the Internet can be beneficial to retirees. ICM Research found, for example, that two thirds of the computer users aged 55 years and above surveyed thought the Internet had had a positive impact on their lives (ICM Research 2002).

Changing Expectations

The ageist stereotype of the dependent “elderly” has been challenged in recent years as health and lifestyles have improved and retirement is no longer viewed as a period of decline. As society has evolved, so have older people’s expectations and attitudes. The over 50s, or so-called “baby boomers”, expect more from life, work and retirement than the previous generation (Age Concern 2002a). Hence increased leisure time and social involvement are now another characteristic of the ageing population. If accessed the Internet can provide opportunities to enjoy this leisure time and to participate fully in society. It provides new ways of obtaining and sharing information and it can also enable older people to make more informed decisions. In

addition, it can provide a part solution to the isolation that many older people feel by enabling them to keep in touch with friends and relatives and to make new relationships. There is some evidence that the skills and the confidence gained from using the Internet can also help boost self-esteem of older people, keep them more mentally alert and "contemporary" and give them increased confidence to try other new technologies (Mates 2002, McCarthy 2003, Age Concern 2002b, p.3; Morris et al 2006).

Given this background, what use of the Internet is currently being made by older people? We know that Internet usage overall by older people is low compared to other age groups but what are the usage trends of those who do use the Internet?

Current Use of the Internet by Older People

The majority (70 - 87%) of older users in the UK (aged 55 plus) access the Internet from their own home, while less than 15% access it from a public library (Morris et al, 2006; and Age Concern 2002b, p.2). This may indicate that the cost of access is not a significant factor for current users, or, as Selwyn et al (2003) suggest, that many people are unlikely to feel that libraries are part of their lives or communities. Since Internet access is currently associated with wealth, (Millward 2003; Timms 2003, p.38) this raises the question of whether the concerns of current web users can be extrapolated to describe the perspective of non-users. It may be that different approaches are needed to persuade the majority of older adults, who do not use the Internet, that there are potential benefits to going on-line.

Since most older people aged 65 and above are retired, it is not surprising that they are motivated to go online for more personal reasons than other age groups. For many older people who are new to computers and the Internet, a prime reason to go online is to communicate with their family, particularly children and grandchildren (Fox 2001; Coyne and Nielsen 2002, Morris et al, 2006).

There is some discrepancy in the literature regarding the scope and type of activities older people engage in when using the Internet. For example, ICM Research indicates that older computer users (aged 55 plus) use the Internet for a wide range of activities including: contacting family and friends, managing bank accounts, looking at websites of interest, researching holidays and flights, checking the news, researching family history and looking at local information (Age Concern 2002b, p.1). Morris et al (2006) support this claim, although the range of activities declines with age. On the other hand, Loges and Jung claim that their research has shown that older users exploit the Internet for only a small range of activities compared to younger people (2001, p.556). They attribute this to the fact that retirees do not need to go online for work related tasks and that they tend to be more concerned about issues of privacy, which might lead them to be less inclined to shop online (2001, p.557).

Another survey by the Pew Internet and American Life Project (Fox 2001) shows that older people are likely to engage in activities like playing online games and checking financial news, but are less likely to download music, participate in chat rooms or carry out their banking online. Furthermore, evidence is put forward to suggest that the more experience an older user has in surfing the Internet, the more activities they are likely to engage in and the longer the time spent online (Fox 2001).

Information seeking and research is a popular Internet activity amongst older people. Sixty-seven per cent of Internet users, for example, in the Derbyshire survey detailed by Morris et al (2006), looked for information on their hobbies or interests. The survey respondents also liked to look up local information (53%) and information on travel or

holidays (50%). In general, the youngest age group (55-64 years) searched the Internet for more types of information than the 65-74 year old age group. Both men and women used the Internet to obtain information on hobbies or interests and travel or holidays. However, more men (41%) than women (16%) sought information related to finance, and a slightly greater number of women (32%) than men (24%) looked for health information and medical advice.

Given that older people are more likely than other age groups to suffer from ill health, it might seem logical for older Internet users to search the Web for medical advice and health information. While Silbajoris (2000, p.2) and Fox (2004) have provided evidence that this is the case, this conflicts with Milward's (2003) findings and Morris et al (2006) who found less than 28% of their sample over 55s searched for health information or medical advice online. Becker (2004) has shown that most health-related sites aimed at seniors are inappropriately designed and difficult to access, which may in part explain this apparent contradiction (Becker 2004).

There is mutual agreement amongst several authors that a large proportion of older people do not value online shopping. This may be linked to a lack of confidence in security for financial details (Flatten et al 2000, p.12; McCarthy 2003, p.20). Finally, there is a general consensus that the most popular online application amongst older people is e-mail (Mates 2002; Morris et al, 2006).

Research conducted by ICM Research for Age Concern and Barclays indicates that men and women aged 55 and above tend to use the Internet for different purposes (Age Concern 2002b, p.2). Men of this age group (78%) are more likely to use the Internet for finding information and pursuing hobbies, whereas women (86%) tend to exploit Information Technology for communicating with friends and family in the UK and abroad (Age Concern 2002c; see also Selwyn et al., 2003). Millward found no difference in levels of Internet use between older men and women (2003, p.6), although Selwyn et al. (2003) found a difference in computer use rates between men and women. Morris et al (2006) found that more women than men used the Internet for email and online games, whereas more men favoured information seeking, Internet banking and online shopping.

Slight regional differences in Internet usage are also evident. There is a higher take-up of Internet use amongst the over 60s in the South East of the country (Jeffery 2003). Also, older users in the North prefer to use the Web for pursuing hobbies (78 per cent compared to 69 per cent in the Midlands and the South) and older surfers in London are more likely to bank online than those who live elsewhere (38 per cent in contrast to 32 per cent) (Age Concern 2002b, p.2).

In addition, there is diversity amongst the older adult age group in Internet usage (Schofield 2003, p.19). From his research in Wigan, Millward found that those aged 55-70 were higher users of the Internet than those aged 71 years plus (2003, pp.6-7). Cody *et al* also found that "young" older adults are more likely to participate in online chat than "old" older adults (1999, p.278). Selwyn confirms these findings: in his survey those over 70 were significantly less likely to use computers (13%) than those between 61 and 70 (35%); differences were also found for marital status and education (Selwyn et al 2003). Married older people and those with higher educational levels were more likely to be online. Similarly, Morris et al (2006) found Internet use dropped significantly with age from 50% for 55-65 year olds to approximately 10% for over 85s. Gender differences were also found, more men than women used the Internet. These findings may be unsurprising since many recently retired older people are quite likely to have used PCs and the Internet during their working lives, unlike those who have been retired for some years.

Perceived Barriers of Access to the Internet

Many perceived barriers of access to the internet by older people have been reported in the literature. These include the following:

Lack of Interest or Irrelevant

According to a study for Age Concern, 41 per cent of older non-computer users do not use the Internet due to a lack of interest (2002b). Laurich (2002, p.174) and Morris et al (2006) also provide evidence of the perceived lack of relevance of the Internet by older people.

Feeling too Old

Millward (2003), Selwyn (2004) and Morris et al (2006) suggest that there is a commonly held perception that the Internet is the preserve of the young. The hesitance of elders to try out this new technology can, therefore, be seen as a "second level digital divide" (Hargittai 2002, pp.1-28). This may manifest itself as a perception amongst some older people that they are "too old" to use new technologies (Oades *et al.* 2004; Morris et al 2006). Alternatively, it could mean that older people think web design does not take into account their needs, as suggested by Vuori and Holmlund-Rytkőnen (2005). Research conducted by the Library and Information Commission found that women viewed age as a greater barrier to Internet use than men, who saw lack of experience and cost as greater barriers to usage (Flatten et al 2000, p.7). "Feeling too old" was also seen to be more of a barrier to using the Internet as people became older.

Fear of New Technology

According to Cody *et al.* (1999, p.269); Opalinski (2001, p.219) and Morris et al (2006), computer anxiety is common amongst older people, who are unlikely to have had an in-depth acquaintance with computers before. Some of them worry that they will break a computer by pressing the wrong button (McCarthy 2003, p.23), while others have simply not learnt any new skills for a long time. The literature on this is divided, however, with many authorities arguing that older people are not especially technophobic (see (Morrell, Dailey et al. 2004) for a review). Older people are, however, less likely to be obligated to use a computer.

Lack of Access to IT

In a survey carried out by the Library and Information Commission in 1999, a lack of access to both computers and the Internet was seen as the main barrier to take-up of the Internet amongst older people (Flatten et al 2000, p.11). Since then, the Government has set up over six thousand UK online centres across the country in Internet cafés, public libraries, colleges, community centres and village halls, in response to its commitment to give everyone in the UK the opportunity to get online by 2005 (UK Online, (n.d.)). In addition, all public libraries now have Internet access (Museums Libraries and Archives Council, 2004**)**. Consequently, one might expect far higher Internet take-up levels across the UK today. However, it would seem that the digital divide is more complex than simply a matter of physical access. Awareness is important too: both of the opportunities for access and of the reasons to use the Internet. A survey in 2005 still found that 29% of respondents gave "lack of access to a computer" as the reason for not using the Internet (Morris et al 2006). Although it is possible that "lack of access" was given as a convenient excuse for their non-internet use.

Lack of IT Skills and Experience

Millward (2003) argues that barriers to Internet use go beyond merely access to technology, to a lack of computer and Web skills. He is critical of government initiatives that have mainly focused on the problems of access, but which have largely overlooked the lack of older people's information skills. Consequently, he recommends that increased access should be tied to IT training programs. Morris et al (2006) also provide evidence of lack of computer and web skills among older people. They found that the majority of older people attending IT centres for the first time, for example, were completely computer illiterate.

Currently, older people have various opportunities to gain IT and Internet skills. In addition to UK Online, as mentioned above, various organisations, including Age Concern, run mobile taster sessions for the over 60s in different areas of the country (Niace 2005). Age Concern, in conjunction with Microsoft and Cable and Wireless, also run festivals such as their Silver Surfer Festival, to encourage the over 50s, who are not online, to try out the Internet (Age Concern 2006). In addition, they provide online chat facilities. These Age Concern projects are often highly successful, resulting in the empowerment of the individuals involved. Another especially noteworthy opportunity is ACE (Age Concern Edinburgh 2006) where older users involved in a training programme produce and maintain their own website. Public libraries also sometimes offer IT training and support, although Selwyn et al. (2003) and Morris et al (2006) found evidence in their surveys that older people rarely thought of libraries in this way and rarely retrieved the Internet from libraries. Other opportunities for training include local colleges, Learn Direct and, possibly, friends and family.

A new initiative is the "*Cybrian Project: myguide*" launched by the Department for Education and Skills in the UK (DfES 2006). This project which seeks to provide an accessible and usable entry point to the web for users in danger of digital exclusion. As stated on the website, "*myguide*" is a new online facility to provide a "radically simple" way of using the Internet. It will act as a companion to give people step-by-step support and guidance. This will consist of "an uncluttered interface that people can personalize to suit their needs and tastes, an equally simple and intuitive email facility, and support in searching for information and using services of interest to them" (DfES 2006).

Cost

Age Concern (2004) has shown that older people are more liable to be impoverished, as mentioned earlier, therefore one might assume that the cost of connection and computers would be considered to be barrier to using the Internet. Flatten et al (2000, p.11) found this to be the case, however, there are other studies that have found cost not to be a prohibitive factor. Eastman and Iyer (2004), for example, suggest that the current older generation may have more disposable income than other sectors of the population and research from the Oxford Internet Institute reveals that cost is not a significant factor or barrier in going online for most older people (Timms 2003, p.38). Findings from Morris et al (2006) support this as very few people in their surveys cited this as a reason for computer/internet non-use.

Concerns about security and privacy

Surveys by Morris et al (2006) and Olphert et al (2005) found that a high proportion of both older users and non-users expressed concern about security and privacy issues. Concerns, fuelled by the media, include other people being able to get access to their data, people being able to spy on their activities, and getting viruses and fraud, especially when shopping online.

Disability

As well as providing many advantages for people with disabilities, IT and the Web also introduce new barriers of access (Blake 1998; Disability Rights Commission 2004). Many older people are held back from using the Internet through physical and cognitive disabilities. Visual impairment, strokes and Parkinson's disease, for example, can all be barriers to using technology. Dexterity related problems like arthritis are also common amongst many older people which may hinder a person from using a keyboard or a mouse.

A large number of older people are blind or partially sighted, as eyesight naturally deteriorates with age. By the age of 65, most people have lost at least some of their ability to focus, resolve images and distinguish colours (Lescher 2000, p.16). Some websites are illegible for the visually impaired. To help tackle this problem, the *World Wide Web Consortium* (W3C) and the *Royal National Institute of the Blind* (RNIB) have issued a set of formal guidelines for creating and designing accessible websites (RNIB 2005; W3C 1999).

Several tools also allow visually impaired people to access computers and the Web. These include: magnifiers, large print screens, oversized monitors with glare reduction, screen readers (programs that convert a web page into speech) and specialist software like speech recognition (Lescher 2000, p.16; Independent Living Aids 2006; Adapt-IT 2006; Usability First 2006a) In order for these tools to work, web pages must be designed appropriately (Milne et al 2005; Usability First 2006b). Other equipment, like large print key tops and trackballs also aid those with physical disabilities in using IT. Interestingly, IT trainers have reported that, while trackballs are available at centres, some older people prefer not to use them because they want to become familiar with a standard mouse so they can use it at home (Morris et al, 2006).

Many older people have some form of cognitive impairment. Research found that one sixth of those aged 60 to 64 rising to one quarter of those aged 70 to 74 were relatively impaired, for example, in standard tests of memory and concentration (National Statistics 2003). Although Jarmin.com (2006) explain that people with cognitive difficulties will benefit from clear, simple and jargon-free language, clear organisation of websites, consistent design and navigation, sensible use of graphics and having control over scrolling and animated content, software designers often fail to make their systems usable for seniors (SOCITM, 2004; Kelleher 2003). For example research carried out by the Disability Rights Commission found that 81 per cent of 1,000 websites investigated that covered a wide range of services, failed to meet the W3 Web Accessibility Initiative basic accessibility.

The barriers that exist to access represent not only technical and logistical, but also societal barriers: Internet use is an information resource that tends to be accessed and used by those who are, anyway, information rich.

Conclusions and recommendations

Since older people represent a large and growing sector of the UK population it is disconcerting that a high proportion of older people in the UK do not use the Internet and therefore lack e-literacy skills. It would seem that there are a number of different reasons for this: lack of motivation, of feeling too old to learn new skills, having a fear of technology, not having access to IT, not having e-literacy skills, not being able to afford going online, having concerns about lack of security and privacy, and not having the dexterity needed to use computers because of disability. Although the

"grey" digital divide *may* eventually disappear or reduce of its own accord, if this current generation of seniors are to exploit the benefits of Internet access, then ways need to be found to address these reasons for non-use.

Lack of motivation is a big problem. Many older people simply do not how and what the Internet can be used for. They, therefore, need to be better informed. One way of doing this might be to implement a targeted marketing campaign by the *Government,* alongside organisations concerned with older people, *like Age Concern.* The provision of information and activities relevant to older people need to be stressed. While seniors may be less interested in activities like chat rooms, they are likely to recognise the benefits of online pensions advice, communicating with family and friends via e-mail and the value of online food shopping. Media that are popular with older age groups, like the television, could be used to deliver this message.

After stimulating interest, more opportunity for e-literacy training must be made more available. Appropriate and sympathetic training would go a long way to resolving issues relating to "feeling too old", having fears about security and technology use, and the lack of e-literacy skills. Many public libraries, Age Concern and *UK Online Centres* offer e-literacy courses specifically designed for older adults, these should be further encouraged, together with "buddy" schemes whereby older people are paired up with someone who can teach them e-skills and e-literacy on a one-to-one basis. Initiatives, such as the "*Cybrian Project: myguide*" should also be encouraged.

Having access to IT is essential for older people to become e-literate. While there are plenty of access points across the country in public libraries and elsewhere, they may not be convenient for everyone, especially those without transport or who have mobility problems. Ideally, older people need to have access to a computer in their own homes if they want to have the benefits of Internet access. With the cost of computers and broadband access falling, the expense may not be so prohibitive to older people. However, advice and help with the purchase of computers and their installation is needed and this should be made readily available. Perhaps a network of voluntary advisors could be set up by local charities or the University of the Third Age that would be willing to take on this role.

More help needs to be made available to people with disabilities to enable them become e-literate. Currently, provision for disabled people in *UK online centres* is sporadic; only some centres have facilities for people with a physical disability and those with visual impairments. Ideally all centres should have access to specialist equipment like trackballs and speech reading software that would help people with common age-related conditions like arthritis and sight loss. Accessibility would be further increased if websites were better designed. All major UK organisations, who have an online presence, should be encouraged to adhere to the RNIB and the *World Wide Web Consortium* (W3C) web content accessibility guidelines when designing their sites. Simple sites are often best and should be promoted because while they benefit all, simple designs are especially helpful for people with cognitive impairments.

To summarise encouraging more older people to go online, providing specialised training and suitable equipment, and making websites more accessible should help to combat the "grey" digital divide in the UK and reduce the information gap between the "haves" and the "have nots". However, it should not be assumed that the Internet is of necessity a positive force, nor that everyone will want to use it. What is important is that everyone who wants to can use it without barriers to access.

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