The use of ICT by adults with learning disabilities in day and residential services

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Abstract
The use of Information and Communication Technology (ICT) by adults with learning disabilities has been positively promoted over the past decade. More recently, policy statements and guidance from the UK government have underlined the importance of ICT for adults with learning disabilities specifically, as well as for the population in general, through the potential it offers for social inclusion. The aim of the present study was to provide a picture of how ICT is currently being used within one organisation providing specialist services for adults with learning disabilities and more specifically to provide a picture of its use in promoting community participation. Nine day and 14 residential services were visited as part of a qualitative study to answer three main questions: What kinds of computer programs are being used? What are they being used for? Does this differ between day and residential services? Computers and digital cameras were used for a wide range of activities and ‘mainstream’ programs were used more widely than those developed for specific user groups. In day services, ICT was often embedded in wider projects and activities, whilst use in houses was based around leisure interests. In both contexts, ICT was being used to facilitate communication, although this was more linked to within-service activities, rather than those external to service provision.

Introduction

... if we are in the business of helping adults to lead dignified and fulfilling lives we must look seriously and critically at any strategy, including the use of new technologies, which can contribute towards this aim. (NCET, 1993, p. 34)
This statement from the National Council for Educational Technology (NCET, now the British Educational Communications and Technology Agency) provides some suggestions as to why it is important to research the use of Information and Communication Technology (ICT) by adults with learning disabilities. In the above quote, the focus is on how technology may contribute towards dignity and fulfilling potentials. Other authors have suggested that ICT may help adults with learning disabilities with empowerment (Renblad, 2003); literacy and numeracy (Busby, Jotham, Morgan & Field, 1988); ‘... access to their environment and opportunities for personal development which are otherwise denied them’ (Hegarty, Bostock & Collins, 2000, p. 199); and greater motivation, enjoyment, and self-control, as well as learning new social-educational skills (Hegarty & Whittaker, 1993). However, despite recognition of the usefulness and importance of ICT for adults with learning disabilities, there has been no large-scale systematic investment by the UK government in the provision of equipment, specifically for members of this group (Hegarty & Whittaker, 1993). Nevertheless, many care organisations have purchased ICT resources for service users in recognition of the potential benefits it may provide. The NCET report (1993) described an ideal future of how ICT would be embedded within a wide range of activities for a variety of purposes in day centres providing services for adults with learning disabilities. The aim of the present paper was to describe the use of ICT in the context of one organisation that has systematically implemented ICT resources in its day and residential services.

How relevant would the NCET vision be to the actual use of technology by adults with learning disabilities today? Is computer technology being used and, if so, what is it being used for?

This research was commissioned by the organisation involved, rather than by the organisation being chosen specifically by the research team for evaluation. The applicability of this research is wider than the organisation being studied, however, particularly since the publication of Valuing People, which underlined the importance of ICT in improving services for adults with learning disabilities (Department of Health, 2001), as well as people with physical and/or cognitive impairments (Department of Health, 2002). In Valuing People, technology is suggested as playing a key role in producing and disseminating information in accessible formats (especially for people with severe disabilities); in improving social and cognitive functioning; and in accessing opportunities in education, training, and employment. One of the four key principles of the paper is inclusion, defined as ‘enabling people with learning disabilities to do those ordinary things, make use of mainstream services and be fully included in their local community’ (p. 24). This reflects the wider inclusion agenda promulgated by the UK government, which aims to ensure that disadvantaged and minority groups are not denied opportunities to participate fully in society. Access to and the use of ICT play a key part in this policy.

Paveley (1999) suggests that ICT can be a vital tool in supporting advocacy and self-advocacy for people with learning disabilities and ‘... can be the means of bringing marginalized people back into their communities’ (p. 41). She suggests that ICT can help people take control over their lives by aiding choice making and providing oppor-
opportunities as citizens in local and global communities. However, she also notes that the ICT and inclusion route taken by the UK government by making ICT resources available in public spaces may not be appropriate for adults with learning disabilities:

ICT resources that are made available to the general public in places like libraries and supermarkets are often inaccessible to people with learning difficulties because they are set-up with an assumption that users will be able to read and follow on-screen instructions. (p. 42)

This means that ICT provision in specialist services like the one studied in the present paper may play a key role in promoting community participation and inclusion, in part, through the use of ICT resources. Notably, the commissioning organisation’s innovative work in gaining ICT resources for service users has involved actively seeking voluntary sector or charitable funding. Thus, it is timely and important to consider what and how ICT is being used in day and residential services. In a few papers published before the NCET report, some activities and specific uses of software and hardware are described. For example, Hegarty (1991), includes various case studies in particular settings, as well as information about computer hardware, and Jotham and Leicester (1989) provide a brief description of general activities, including the use of word processing packages, graphics, databases, educational software, and problem solving programs, in an adult-orientated ‘curriculum’. Whilst both provide useful snapshots of use from particular points in time, these pictures now require updating.

In papers published more recently, the focus has been on the organisation and management of ICT use in day-service settings (Aspinall & Hegarty, 2001; Seale, 1998) and on training staff (Hegarty, Bostock & Collins, 2000), rather than use per se, although two internal reports of an ICT implementation project contribute some relevant information. Harris (2000) used a questionnaire approach to ask staff members in day-service facilities for adults with learning disabilities about what computer software and hardware they used and what purpose they served. Staff reported regular, scheduled use of modern computers by many service users including the use of CD-ROMS, email, and the Internet. However, there was limited information and detail about the kinds of activities engaged in by service users and results were based on the report of staff members only, with no opportunities for direct observation of activities. In the second report, Hegarty (2002) observed activities and interviewed staff members during visits to sites and the scope of the investigation was extended to include residential (service users’ homes) as well as day-service settings. Detailed excerpts from transcripts were usefully presented as well as some examples of ‘unusual and impressive’ ICT use, but it was not clear whether possible differences existed between day-service and residential settings. This is potentially important because the two contexts perform different functions for the people using them. Would this be reflected in the kinds of activities offered or supported with the wider implications this has for inclusion and access to information and opportunities?

The aim of the present study was to bring the information about ICT use by adults with learning disabilities up-to-date, taking account of positive policy developments and
building on the reports by Harris (2000) and Hegarty (2002) by considering the use of ICT within one organisation providing day and residential services. To recapitulate, the main questions of interest were:

• What kinds of programs are being used?
• What kinds of activities are they being used for?
• Does this differ between day-service and residential contexts?

Method

Sites visited
Nine day services and 14 houses were visited. All houses were either on the same site as the day service or within the local community, providing spaces for four to seven people. Day services catered for between 17 and 201 service users each week. All sites visited were part of a larger organisation providing a range of services for around 1000 people with learning disabilities and their families (see www.hft.org.uk for more information).

Background to ICT provision
Following a systematic implementation of ICT across the organisation since 1997, there are a number of computers in each day service (plus peripherals such as a scanner, digital camera, colour printer, and touch screen monitor) and one computer in every residential unit. In all cases, an Internet connection was available plus a ‘bundle’ of software provided as part of the set-up purchased from Research Machines (web site address: www.rm.com) and copies of CD-ROMS designed specifically for adults with learning disabilities [Out and About 1 & 2, Semerc, Granada Learning, (web site address: www.granada-learning.com)] and Writing with Symbols [Widgit Software Ltd. (web site address: www.widgit.co.uk)]. Thus, all sites had access to the same equipment and software. In the context of the present paper, ICT refers to personal computers (and related peripherals and software), digital cameras, and the Internet.

Procedure
This study forms part of a larger project into the use of ICT by adults with learning disabilities. The methodological approach is an ethnographic one comprising observations of ICT sessions during visits as well as unstructured and semi-structured interviews with staff members. Initially, 1–2 days was spent at each day centre, observing and participating in sessions and talking to staff and service users, with a further 2-day visit 6 months later. Observations and interviews in people’s houses took place on the first round of visits only, because of the ethical considerations regarding entering people’s homes (Stalker, 1998) and collecting observational data, less time was spent visiting each home compared with that spent in day-service visits (in some cases visits lasted 1–2 hr, in others less than 30 min). Visits proceeded flexibly according to the suitability and timing of the visits. As part of a project with additional research questions to those included in the present paper, many of the interview questions asked about issues not reported here (eg, beliefs of staff members about the usefulness of ICT and how ICT use was scheduled and managed). Therefore, detailed information about
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the interview schedules is not included. Staff and service users were asked about issues relating to the three main research questions: What kinds of programs are being used? What kinds of activities are they being used for? Does this differ between day-service and residential contexts?

Senior management at sites was consulted and allowed the visits to take place. Information and posters regarding the visit, including a photo of the researcher, were also sent beforehand so that staff and service users were informed about who was visiting and why. Participation in activities and sessions was negotiated with staff and service users on a more informal basis during visits, as it was not always possible to speak to everyone likely to be involved beforehand.

Participants were reminded about the project and the purpose of the researcher’s visit before any questions were asked and were told about their right to withdraw or stop at any time. Service users in residential units had usually been informed about the visit beforehand, but where this had not happened access to the house was negotiated with staff and service users on the day.

During visits, the researcher always ensured that staff and service users were comfortable with the visit going ahead and reminded them that they could ask her to leave at any point, as well as ask any questions. In practice, most service users were happy for the researcher to visit their homes and in some cases service users specifically invited the researcher themselves. At other times, some service users made it very clear that they did not want to be involved; for example, one female service user would not come down the stairs and decided to have a bath instead! Staff members were also clear about suitability and timing of visits. Information sheets including symbols as well as texts were also produced to make information about the project more accessible to non-text readers or people with limited language skills; this included early information about the project as well as newsletters about the project’s progress.

The researcher made detailed field notes throughout and these form the evidence for the present study, from which the following data were constructed. Examples of data as well as categories and interpretation developed during coding were discussed during team and Steering Group meetings.

**Results**

*Use of ICT in day services*

Based on the information provided by staff, and from observations of service users within sessions, field notes were checked for references to particular programs/software/functions. Table 1 provides a summary of the number of sites (from a total of nine) mentioning specific uses.

This list provides an indication of the perceived relevance or usefulness of programs and functions as the most frequently cited at the top of the list are likely to be those that most readily spring to participants’ mind when they were asked about ICT use. Word,
the Internet, a digital camera, and MS Publisher were used at the majority of services. All could be considered 'mainstream' in the sense that none was specifically developed for, or targeted at, adults with learning disabilities. Note that the table makes reference to the Research Machines' version of Word (Talking First Word), which incorporates varying levels of difficulty ranging from very basic through to the standard version of Word. However, this program was rarely used in a way that differed from straightforward word processing. The only programs developed for more specific purposes to appear frequently were the 'Out and About' CD-ROMS and Writing with Symbols. The former was developed for adults with learning disabilities and the latter to facilitate written communication for people who have literacy difficulties.

**Classification of the use of ICT in day services**

To provide a more detailed view of ICT use, descriptions of activities provided by staff members as well as observations of use in sessions were analysed for function or type of use. Categories of use were developed and applied during careful analysis of the data (following Strauss, 1987) using the three categories from the NCET report as a starting point: Decision Making and Independence; Leisure and Creativity; and Communication and Literacy. Inclusion in a category was determined by the primary purpose of the activity as suggested by specific words used by staff members (eg, 'it's basic literacy and numeracy stuff') or by the interpretation of the researcher based on observations of the context of the activity. For example, newsletters produced in the day services undoubtedly had a communicative as well as a creative element. However, they were

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**Table 1: Number of sites mentioning specific software or functions in day services**

<table>
<thead>
<tr>
<th>Program or function</th>
<th>No. of sites mentioning use (n = 9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Machines (RM) Talking First Word</td>
<td>8</td>
</tr>
<tr>
<td>Internet (including Downloads)</td>
<td>8</td>
</tr>
<tr>
<td>Digital camera</td>
<td>8</td>
</tr>
<tr>
<td>Out and About CD-ROMS (Granada Learning)</td>
<td>7</td>
</tr>
<tr>
<td>MS Publisher</td>
<td>7</td>
</tr>
<tr>
<td>Writing with Symbols (Widgit Software Ltd)</td>
<td>6</td>
</tr>
<tr>
<td>Interactive CD-ROMS (various)</td>
<td>5</td>
</tr>
<tr>
<td>MS PowerPoint</td>
<td>3</td>
</tr>
<tr>
<td>CreataCard (Carlton Cards, web site address:</td>
<td>3</td>
</tr>
<tr>
<td><a href="http://www.carltoncards.co.uk">www.carltoncards.co.uk</a>)</td>
<td></td>
</tr>
<tr>
<td>RM Colour Magic</td>
<td>3</td>
</tr>
<tr>
<td>Games (Various)</td>
<td>3</td>
</tr>
<tr>
<td>Email</td>
<td>2</td>
</tr>
<tr>
<td>BookSpinner (Widgit Software Ltd)</td>
<td>1</td>
</tr>
<tr>
<td>Life Skills 24 Hours (Inclusive Technology, web site address:</td>
<td>1</td>
</tr>
<tr>
<td><a href="http://www.inclusive.co.uk">www.inclusive.co.uk</a>)</td>
<td></td>
</tr>
<tr>
<td>Basic Maths (supplied with RM computers)</td>
<td>1</td>
</tr>
<tr>
<td>TextEase (supplied with RM computers)</td>
<td>1</td>
</tr>
<tr>
<td>ClipArt</td>
<td>1</td>
</tr>
<tr>
<td>Word Search (various, free downloads from the Internet)</td>
<td>1</td>
</tr>
</tbody>
</table>
Use of ICT by adults with learning disabilities

included in the Creative category below because their primary function was as part of a wider project involving a variety of skills, techniques, and information; they were not produced for the sole purpose of communication. Exhaustive (‘saturated’) coding of the data resulted in six final categories of use: (1) Educational/instructional (eg, tutorial and problem-solving applications, tasks involving literacy and numeracy skills); (2) Communication (eg, email and the Internet for contacting others, specialist software to aid understanding); (3) Creative (eg, word processing, desktop publishing, paint or drawing tools); (4) Interactive (eg, CD-ROMS incorporating games and/or stories to encourage use of ICT); (5) Leisure (eg, email, Internet and CD-ROMS related to hobbies and interests); and (6) Recording (eg, digital camera used as a record of activities).

Educational/instructional
A number of services scheduled regular ICT sessions run by local college tutors focusing on literacy and numeracy skills, as well as generic IT skills, to help service users gain qualifications (eg, with the Open College Network). Other services provided similar sessions less formally (eg, developing skills in using Word like cutting and pasting, understanding the Print icon, learning keyboard skills, and checking spelling). Some services kept clear, documented records of tasks so that progress could be monitored, skills assessed, and relevant activities planned. Web sites were accessed for activities on literacy, numeracy, problem solving, and current affairs, and some CD-ROMS were used for learning (eg, coin recognition on ‘Out and About 1’). Talking First Word was suggested as a helpful program for checking and correcting spelling.

Communication
Some services used Writing with Symbols to display notices (eg, hot water at the sink) and produce daily schedules, menus, shopping lists, and recipes for service users with limited literacy skills. Some service users wrote letters to people or organisations, such as the chief executive to petition him about current issues. Service users were also helped to make choices about the kinds of activities they wanted to do using questionnaires about holiday and activity preferences. One service displayed a new symbol around the building every week to help service users and staff in their recognition and understanding of symbols. Another service encouraged service users to create a PowerPoint presentation to show to family members at an Open Day. The digital camera was often used to take pictures of, for example, the inside of a room, which was then displayed on the door so that people could see what room it was, or photographs of staff members for shift rotas so that service users could clearly see who was on duty.

Creative
Many services worked on themed projects (eg, Valentine’s Day, Easter) or topics of personal interest involving Internet searches as well as the use of word processing and desktop publishing software. A card-making program was used to create invitations and flyers for events, and ClipArt was used to create pictures for some projects. Drawing and painting software, in conjunction with a touch screen monitor, was used to produce
pictures and was especially useful for people with higher support needs. The most common creative use of ICT was the production of a newsletter that usually contained information about past and future events and information about staff members (eg, births, holidays, new members). An impressive, but atypical, use of ICT in this category was by a group of service users who had displayed some digital photography in a local art gallery. The display drew local media attention and was very positively received in the community. Some of the photographs were sold and there have now been requests for the display to be exhibited more widely.

Interactive
This category refers mainly to the use of ICT for people for whom the value of ICT lies primarily in its facility for providing immediate feedback to the user (often people with higher support needs), usually via a touch screen monitor. Interactive storybook CD-ROMS and painting and drawing packages were popular. Some services had sourced different products from the Internet that were usually free to download and found to be engaging and motivating for people with more severe learning disabilities. The common aspects of these programs or CD-ROMS were the strong use of colour and the inclusion of sounds and music.

Leisure
This category describes the uses of ICT that are solely for the purpose of leisure activities, compared with other kinds of use that could be considered leisure based (eg, looking up particular shops on the Internet) but are embedded in activities with a broader purpose (eg, checking which of those shops have disabled access for a project on ‘accessing the community’). Examples of use included finding pop groups and TV programs on the Internet, as well as other web sites of personal interest. Game playing was also mentioned at some day services (eg, Solitaire and Freecell).

Recording
Whilst some staff mentioned that ICT was used at the day service for planning and recording sessions, the majority of examples were based on the use of the digital camera, which was often incorporated within other activities (eg, shopping in the local community, gardening, drama, etc). The cameras were viewed very positively as something that was immediate and interesting, as well as easy and reasonably cheap to use. The main value was that the pictorial records could then be used in a number of ways, including contract reviews for service users, displays, and in communication back to families (eg, printing off pictures to send home; emailing pictures to distant family members).

Uses of ICT in service users’ homes
Field notes were checked for mention of different types of use in residential units and a list of uses and functions mentioned is included in Table 2.

Email and the Internet were the most frequently cited uses of ICT in the houses, but MS Publisher, the digital camera, Writing with Symbols, and ‘Out and About’ CD-ROMS were less frequently mentioned in residential compared with day services. Again, the
most frequently mentioned uses of ICT involved ‘mainstream’ rather than those that were developed for more specific user groups.

Classification of use and function of ICT in service users’ homes
Data were coded in the same way as described above for day services, resulting in four main categories of use: (1) Leisure (eg, using the Internet to find information, using painting, drawing and writing packages); (2) Communication (eg, using the Internet and email to contact friends and family, as well as people in other contexts and organisations like local radio stations); (3) Creative (eg, using the digital camera or painting and drawing packages to prepare a project on a specific theme); and (4) Recording (eg, using the digital camera to record activities).

Leisure
This was the most frequently mentioned type of ICT use in houses with many people using the Internet to research holidays, hobbies, interests, local facilities, and events. The majority of activities mentioning painting, drawing, or writing were included in this category rather than in the Creative category, because, unlike in day services, activities in houses were not guided by staff to the same degree or initiated in the context of a specific project with a specific goal.

Communication
Using the Internet and emailing were the most frequently mentioned types of activities having a primarily communicative function. In addition, some use of Writing with Symbols was mentioned for displaying notices and information about house meetings and complaints and evacuation procedures. The digital camera was used to display pictorial staff rotas, make shopping lists, or help people make choices (eg, activities they would like to do or places they would like to visit). An engaged couple had also used the

<table>
<thead>
<tr>
<th>Program or function</th>
<th>No. of sites mentioning use (n = 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>11</td>
</tr>
<tr>
<td>Internet</td>
<td>10</td>
</tr>
<tr>
<td>Drawing and painting packages (various)</td>
<td>7</td>
</tr>
<tr>
<td>Research Machines (RM) Talking First Word</td>
<td>7</td>
</tr>
<tr>
<td>Digital camera</td>
<td>5</td>
</tr>
<tr>
<td>Writing with Symbols (Widgit Software Ltd)</td>
<td>5</td>
</tr>
<tr>
<td>CD-ROMS and music</td>
<td>4</td>
</tr>
<tr>
<td>Out &amp; About CD-ROMs (Granada Learning)</td>
<td>3</td>
</tr>
<tr>
<td>Games (eg, Solitaire, Freecell) (Microsoft, web site address: <a href="http://www.microsoft.com/uk">www.microsoft.com/uk</a>)</td>
<td>3</td>
</tr>
<tr>
<td>MS Publisher</td>
<td>2</td>
</tr>
<tr>
<td>MS PowerPoint</td>
<td>1</td>
</tr>
<tr>
<td>Scanner</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2: Number of sites mentioning specific software or functions in service users’ home

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Internet to search for road maps of the local area so that they could send out copies with their wedding invitations.

Creative
Examples in this category were very rare in the residential units, because these were defined as cases where staff guided or shaped the activity for a specific project or purpose (in a similar way to the day service).

Recording
Many people in residential units mentioned that the digital camera was used to record activities, holidays, or visits. Some staff members also used the computers to help with administration tasks and store information about service users (eg, preferred activities, precautions with medication), although these activities were mainly done on the separate administration computers.

Discussion
The aim of the present study was to provide an up-to-date view of how adults with learning disabilities are using ICT in the context of day and residential services within one organisation and within a policy context that emphasises the imperative of inclusion to answer three main questions: What kinds of programs are being used? What kinds of activities are they being used for? Does this differ between day-service and residential contexts? These data contributed to a broader analysis of the way in which ICT was being used to facilitate community participation.

In response to the first question, there was a wide number of different programs mentioned and the most frequently reported ICT programs or uses were ‘mainstream’ programs rather than those that had been developed for people with special needs or those with narrow, specific uses (such as CD-ROMs or specialist software included in the RM ‘bundle’). For example, word processing packages, the Internet, and digital cameras were used by a majority of sites visited in both residential and day-service contexts. Two types of software developed for more specific audiences (Writing with Symbols, Out and About CD-ROMS) were also mentioned frequently by services. Their relatively high profile may be, in part, reflective of management decisions at the centre of the organisation to provide these as part of the computer package and promote them as useful. However, it should be noted that there were many other software programs on the computers, also supplied within the package, that were not being used to the same extent. This suggests that mainstream programs may be sufficient for the provision of varied and interesting ICT use and may be achieved without necessarily having to find additional funds for learning disability specific software; although the latter may enhance ICT provision by catering to more specific needs. In addition, staff members may be more familiar with mainstream programs through their own use of the programs at home or work and so may be less aware of the potential of other software provided with the computers.
In relation to the second question on the kinds of activities that programs are being used for, there was a wide range of uses of ICT for a variety of purposes, including leisure, communication, education, interaction, creativity, and recording. These categories are similar to the potential benefits described by NCET (1993), although they are split down into narrower groups of activity. Often, ICT use was embedded in the context of a larger project (e.g., production of a service newsletter), so computers were not simply being used as a stand-alone tool for rote learning literacy or numeracy but in interesting and innovative ways. The range of ICT-based activities being used to support communication was particularly encouraging, especially in relation to the potential key role ICT has to play in this area according to the Department of Health (2001) and others (e.g., Sewell, 1991).

The third question asked whether there were any differences in the use of ICT between residential and day-service settings. There were two main differences. First, a wider range of programs or functions and categories of activities was reported and observed in the day services compared with the residential units. Second, the focus of ICT use in houses was on leisure-orientated activities, whilst in the day services activities tended to be more structured. These differences clearly reflect the functions of the two contexts—day services are usually more focused on work and learning-orientated activities, whereas home is more about leisure pursuits and personal interests. Both contexts have an important role to play in promoting community participation. In line with the focus of their activities, there was a much greater emphasis on the use of email and the Internet in houses compared with the day services, where email was only rarely reported and Internet use was often incorporated into more project-focused activities. In houses, the Internet was very often viewed as a crucial part of people’s leisure time, enabling them to search for a wide range of information.

The facilitation of communication through the use of ICT in both day and residential contexts was encouraging especially because ICT can play a useful role in the domain of social communication, thereby assisting with community participation:

Social understanding and communication are mainly developed through social interaction with other people, and ICT can play a part in this development by encouraging the necessary skills of shared attention, discussion, negotiation and purposeful communication through pointing, eye-gaze and body orientation. Information and communications technology can help learners interact with their environment to become players in the world, responding to others, making requests and developing appropriate responses. (Walter, 1999, p. 61).

As noted in the Introduction, a relevant current issue is the extent to which ICT is actually being used to encourage, promote, or scaffold inclusion in communities. A consideration of communities both within and without (internal and external to) specialised services for adults with learning disabilities is important, and communication within those communities plays a key role in terms of participation and inclusion. Putnam (1995; 2000) refers to the internal and external dimensions of communities as ‘bonding’ and ‘bridging’ forms of social capital, respectively, where social capital is defined as ‘...the network of social and community relations that

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underpin people’s ability to engage in education, training and work and to sustain a healthy civic community’ (Riddell, Baron & Wilson, 2001, p. 151). The bonding form of social capital is ‘...inward looking and tends to reinforce exclusive identities and homogeneous groups’, whilst the bridging form is argued to be ‘outward looking and encompass(es) people across diverse social cleavages’ (Putnam, 2000, p. 22). In other words, bonding social capital assists members within particular communities to coexist, whilst bridging social capital assists the development of friendships and networks between different communities, as well as economic participation in mainstream life.

The majority of ICT uses observed in the Communication category served a main function within the context they were used. That is, to convey information to people living, and/or working, in the same house or attending the same day service. This was also true of ICT-related activities included in other categories such as Leisure and Creative, where their purpose was related to developing skills and interests but often without making links to people and contexts outside the immediate context of service provision or friends or support workers or family. This suggests that ICT plays an important part, at least within the services of the organisation being studied here, in developing and maintaining the ‘bonding’ kind of social capital (Putnam, 1995) that is, a more internal, ‘within-community’ perspective (see also Robertson et al, 2001). The value of this kind of social capital has, perhaps, been underestimated in learning disability-focused literature, which has advocated the development of ‘bridging’ capital (see, for example, Riddell, Baron & Wilson, 2001).

The extent to which ICT was used in the context of wider community participation between contexts (a ‘bridging’ form of social capital) was less frequent with few examples of ICT-related activities that explicitly considered other communities (outside immediate friends, family, or service context) or how to link to them. There were some examples of this, such as emailing other organisations and Services, displaying work in a community art gallery, and using ICT resources to contribute to goods on sale to the public, but these were atypical and witnessed or described rarely. Thus, there is limited evidence to suggest that ICT was being used to support a wider view of community participation favoured by the government in policies on ICT and inclusion. This suggests that there is a scope for services to develop their use of ICT resources to encourage more external links and service-user participation in a wider range of activities.

However, there were other controls operating on people’s lives that made it difficult for adults with learning disabilities to take full advantage of wider opportunities offered by ICT. For example, in relation to the use of the Internet, many staff members in residential units commented how useful it would be to help service users do their grocery shopping online. The main difficulty was that individual houses did not have credit cards, and service users did not have their own debit cards, so the facility of shopping online (for groceries or any other item) was denied them. Thus, organisational factors play an important role in shaping access to mainstream services and information on the Internet, highlighting a difficult balance between promoting independence, choice,
and opportunities whilst also providing a supportive and safe environment for adults with learning disabilities.

Of course, the present focus on the use of programs or software and what they were being used for leaves unanswered questions regarding the use of ICT by adults with learning disabilities. In particular, the picture portrayed above, with examples of use taken from a range of locations, glosses over any variability in ICT use across services within the organisation. An earlier report by Hegarty (2002) suggested a wide variability in ICT use at different sites and this is clearly an issue of importance (given the need for brevity here, and the importance for detail on such a topic, data on this will be reported separately in due course). A further issue is the extent to which the nature of ICT use reported here is relevant to other organisations or settings, given the strong emphasis on provision throughout this particular organisation. However, there is a wide relevance as the activities described could be just as applicable to one person using one computer in his or her house or to a much larger organisation using computers in big day centres. The aim was to provide a picture of what kinds of activities ICT resources are being used for without making any judgment about whether ICT implementation is appropriate or feasible for other organisations. Indeed, reading about ICT use in the context of the present organisation may assist others in making decisions about whether the investment in ICT is a worthwhile one. The point made at the beginning of this paper, that the organisation studied actively sought funding to support the development of ICT for service users, is worth re-emphasising. Without this funding, and the consequent provision of ICT resources, discussion about the quality of ICT usage would almost certainly be rhetorical.

Overall, there was some encouraging evidence that ICT was being used for a wide range of activities by adults with learning disabilities in both day and residential services within this organisation and, perhaps most crucially, was being used to augment and facilitate communication in these contexts. Whilst the majority of use took a more ‘within service’ perspective, this still served useful and important functions for service users. A greater consideration of how people can be helped to develop wider perspectives through their use of ICT, perhaps by linking out to other communities outside of specialist service provision, is an important area for future research and development, especially if adults with learning disabilities are to achieve ‘... greater choice, independence and inclusion in all aspects of their lives (Department of Health, 2001, p. 44).

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