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**‘Practical Design for Social Inclusion’**

**Abstract**

Our paper begins with a question: How can we design and use ICTs and digital media in ways that support and enhance social inclusion? There has been ongoing debate about the meanings of digital inclusion and the ways in which ICTs can enhance social inclusion. Although access to and meaningful use of ICTs (digital inclusion) are viewed as an important part of a wider processes of social inclusion within the Digital Age, the means by which this is carried out, and potentially achieved, is often less clear. Community informatics approaches emphasise the importance of grounding ICT initiatives in the needs of local communities. However, many of these initiatives have been critiqued for their short-termism and lack of sustainability. In this paper we suggest that an approach which involves communities in the design of, and operationalisation and participation in ICT initiatives, can enhance the sustainability of ICT initiatives and facilitate the ongoing learning and upskilling of community-based participants, thereby supporting processes of both digital and social inclusion. Within the paper we draw upon the extensive experiences and practices of a community media coordinator based in the UK and linked research on two ICT for inclusion projects. Using data from the two research projects, we will firstly explore issues related to the design of ICTs for inclusion including both technological design and the social processes of community ICT delivery. We will then explore socially inclusive modes of learning including collaborative and participatory methods and the use of warm experts and ICT intermediaries. Finally, we explore the complexities of ‘inclusion’ unpacking cross-cutting processes of in/exclusion and analysing the place of ICTs in facilitating opportunities for inclusion, participation and well being.

## **1. Introduction and aims of paper**

There have been ongoing academic and policy discussions over the last decade over the meanings of digital inclusion and the ways in which ICTs can enhance social inclusion (PMSU/DTI, 2005). Although access to and meaningful use of ICTs (digital inclusion) are viewed as an important part of a wider processes of social inclusion within the Digital Age, the means by which this is carried out, and potentially achieved, is often less clear. Community informatics approaches emphasise the importance of grounding ICT initiatives in the needs of local communities. However, many of these initiatives have been critiqued for their short-termism and lack of sustainability (Loader & Keeble, 2004). In this paper we suggest that new advances in open source software, combined with an approach which involves learning communities in the design and operationalisation of their ICT initiatives, can enhance the sustainability of ICT initiatives and facilitate the ongoing learning and upskilling of community-based participants, thereby supporting processes of both digital and social inclusion. Within the paper we draw upon the extensive experiences and practices of a community media coordinator based in the UK and linked research on two ICT for inclusion projects. Using data from the two research projects, we will firstly explore issues related to the design of ICTs for inclusion including both technological design and the social processes of community ICT delivery. We will then explore socially inclusive modes of learning including collaborative and participatory methods and the use of warm experts and ICT intermediaries. Finally, we explore the complexities of 'inclusion' unpacking cross-cutting processes of in/exclusion and analysing the place of ICTs in facilitating opportunities for inclusion, participation and well being.

## **2. Digital inclusion in the community**

### **Digital inclusion**

In policy debates, ICTs have been viewed as crucial to facilitating social inclusion<sup>1</sup>, through, for example, enhancing access to services and information, facilitating social connectivity and providing people with skills for employability (PMSU/DTI, 2005). Although access to and use of ICTs within the home has significantly increased over the last decade, there are still groups of people who are digitally excluded with limited access to ICTs and low levels of ICT skills. Digital exclusion is a multi-dimensional phenomenon (Gaved & Anderson, 2006). It is not just a matter of being 'left behind' and missing out on some 'additional' opportunities afforded by the internet; rather it is a concern that 'communication and information exchange will become even more dependent on the use of computers and the internet' (Liff & Steward, 2001: 318). Without access to the internet it becomes increasingly difficult to participate fully in education, employment, politics and everyday life. Liff and Steward (2001) also point out that communities that are already socially excluded could then become further excluded without access to the Internet. Access to ICTs therefore becomes enmeshed in broader debates about community regeneration, social exclusion and poverty alleviation. In Sweden, Ferlander & Timms (2006: 138) have noted that digital inclusion is a 'pre-requisite for social inclusion.' If you don't have the internet you are not able to fully participate in society. As Castells (2001: 277) argued, '[in a] society where most things that matter are dependent on... Internet based networks, to be switched off is to be sentenced to marginality'.

Within the UK, the government response has centred on facilitating digital inclusion and closing the digital divide<sup>2</sup>. The PAT 15 report stressed the need for ICTs in community centres in deprived areas to facilitate social inclusion. This approach has emphasised the provision of physical (often communal) space and equipment. It also affords an important role to community networks

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<sup>1</sup> Social exclusion is defined here as, '... a complex and multi-dimensional process. It involves the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas. It affects both the quality of life of individuals and the equity and cohesion of society as a whole' (Levitas et al, 2007: 9).

<sup>2</sup> Digital divide is defined as 'Substantial differences between groups in computerization' (Fong et al., 2001:3). There is no one single axis of difference. These might vary between nations and social groups (Ferlander & Timms, 2006).

as a basis of support. It is important to note here though, as Fong et al (2001) do, that not only is there limited access to ICTs in deprived areas but that people also lack training and informal mentors to provide them with ICT skills.

Moreover, use of ICTs is often framed as playing a *positive* role in people's lives, for example through greater access to goods and services and enhanced connectedness. However, there has arguably been an uncritical emphasis on the beneficial aspects of ICTs and the significance of digital inclusion in shaping social inclusion.

### **Community-based ICTs**

Much of the literature on community ICTs stresses the importance of drawing upon local needs and interests as a route into facilitating technology use (Liff & Steward, 2001; Loader & Keeble, 2004; Day & Schuler, 2003). Here ICTs are used as a means of achieving broader (non-ICT) community objectives (Shearman, 1999; Liff & Steward, 2001; Singleton & Thompson, 2007). It is generally also argued that community ICT participants need *ownership* of the ICTs and the project (Fernback, 2005). Another key component of this approach relates to methods of learning about ICTs. This it is argued, is often most successful when learning is an interactive, bottom up process. This approach also underlines a need to involve community members (connectedness) and draw upon their existing interests (identity) in order to facilitate ICT learning. In our own projects, we adopted what Liff and Steward refer to as a 'project-based' approach (2001: 331) where the community media coordinator and the learners identified an area of common interest and learned about using ICTs by exploring these interests. This has been shown to be useful in motivating those who do not express a strong desire to learn about ICTs in themselves. However, one of the main critiques of this approach is that it leads to a fragmented understanding of ICTs.

In this paper, we suggest that attention to both *design and use* of ICTs is important in the development of community-based initiatives to facilitate social inclusion. Analysis of the findings from the two projects discussed here point

to a need to for community-based initiatives to be (i) tailored to local need and build upon specific, community-led interests; and (ii) fluid and flexible in accommodating and responding to changing needs and community dynamics. It is also argued that use of open source software and some web 2.0 supports these approaches, permitting community collaboration, recognition of social context and flexibility / fluidity in design and use for social inclusion. This approach meshes with current *social and digital* inclusion perspectives which emphasise the need for access to resources, rights, goods and services; and the ability to participate fully in normal relationships and activities (Levitas, et al., 2007).

### **3. Background: the SID project**

National context: There were 20 SID UK Online Centre Projects around England with the aim of exploring how access to ICT and skills can help to improve quality of life for individuals and families in local communities (eGov Monitor, 2007). The target participants were the three million people who use UK Online centres. Of these, around half are unemployed and two thirds reside in wards experiencing high levels of deprivation. Projects received a grant of £100, 000 over 15 months.

#### **Local context**

The SID project in the North East was based at Destinations in Saltburn, UK Online Centre. It aimed to offer innovative methods of ICT engagement, resources and learning styles, and varied venue types to cater for diverse needs. The project was tailored to the local policy context which specified (i) a need for increased access to community-based learning, in particular, but not exclusively, in rural areas (ii) effective use of e-learning for community engagement and (iii) upskilling for key social groups (One North East, 2007: 41). The project also addressed a need specified by the Regional ICT Strategy Board (2003:31) to:

...create 'electronic' village halls as there is a clear benefit in disparate communities becoming engaged in like activities including sub-regional government policies and broad learning activities.

During the project, Destinations worked closely with the University of Teesside to develop a range of Community Media activities. Community Media gives individuals and community groups a 'voice' they might not otherwise have had and developments are considered to be sustainable as they are supported by Free and Open Source Software (FOSS). A range of Web 2.0 applications were used and tailored to the needs of each community group. It was expected that groups would take ownership of their own content creation (sometimes termed 'personalisation'). Community-based activities included: Image Galleries, Animation, Blogs (Web Diaries, e-portfolios), Digital Stories, Community Newspapers Online, Internet Radio, Digital Music and Digital Audio.

The project worked to develop the concept of the Digital Village, based upon a notion of a learning community where the interests of the communities set the agendas for what they learn. This required different approaches for different communities, alongside careful planning and resourcing. The concept was also integrated with key local events (Middlesbrough Mela, Saltburn Folk Festival, Stockton International Festival) grounding the Digital Village in the physical world but also demonstrating the importance of the virtual. For example, project participants recorded, blogged, photographed and commented on these community events in the virtual Digital Village.

#### **4. Comparative case studies**

##### **(i) Dreams, hopes and wishes**

This project aimed to engage Year 9 Middlesbrough-based school pupils in creating a multi-media digital arts installation, to run in the University of Teesside's Octorama. The theme for the exhibition was 'Dreams, Hopes and Wishes' and pupils worked on the project using voices, music, images and

animation to create an immersive experience within the octagonal installation<sup>3</sup>. The exhibition took place at their school in March 2008 and received hundreds of visitors.

Data was collected from the pupils through an evaluation survey and they were asked to contribute to a project blog.

The school is based in East Middlesbrough and data for the Ward (Beckfield) shows high levels of economic inactivity, poor health and deprivation. The school is located in East Middlesbrough's Education Action Zone (1 of 12 zones in the UK; 1 of 20 schools in the EM EAZ). According to the website:

'The Zone serves an area of severe socio-economic deprivation. The percentage of pupils eligible for free school meals is approximately 60% overall, and unemployment rates are very high. Parental expectations of education are low, and pupils generally lack confidence in themselves and also have low expectations.'

<http://www.millenniumschoools.co.uk/pub/middlesbrough/eaz/>

(downloaded 24 September 2008)

## **(ii) MyWeb2@MargrovePark**

This project aimed to introduce older people (60+) living in Margrove Park (Rural East Cleveland) to web 2.0 activities and undertake research on participant's experiences of and views about community and social media.

Margrove Park is a small village in Rural East Cleveland, North East of England, located in the Redcar and Cleveland Borough Council ward of Westworth. Demographics for the village as a unit are difficult to find since it is paired with the neighbouring village of Charltons in official regional statistics<sup>4</sup>.

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<sup>3</sup> Further details of the Octorama can be found at [www.octorama.co.uk](http://www.octorama.co.uk)

<sup>4</sup> Tees Valley Joint Strategy Unit statistics are compiled from a combination of Census 2001 and JSU population, crime, unemployment and educational data.

Nevertheless, these statistics show a combined population of 539 people which is 100% White-British and White-Other. Approximately 1/5 people are below the age of 16; 3/5 of working age; and 1/5 at retirement age and above. There are low levels of unemployment (2.2%) when compared with the surrounding borough of Redcar and Cleveland (3.7%) and Tees Valley region (3.8%) but 1/5 of the population are in receipt of Department of Work and Pensions Income Benefits.

Margrove Park village is a former mining community. The houses are arranged around and facing the village green. Most of the housing stock is of a similar size with the exception of a larger property that used to be the foreman's house, located at the top of the hill. The history of the village is important to residents and this is reflected in the activities of the computer club.

Although the village is not considered a deprived community in regional statistics, it is nonetheless remote with limited public transport to and from the area and a paucity of local services and amenities. One consequence is that older residents find it difficult to access ICT training and support and experience digital exclusion.

The project combined qualitative research with action-based community media building on existing work carried out with Margrove Park residents centred on developing a community village website [www.margrovepark.com](http://www.margrovepark.com) and a media literacy project delivered in partnership with NIACE during Adult Learners Week 2007. Six dedicated sessions were delivered at the Village Hall during the summer and early autumn of 2007 together with additional support sessions and a focus group discussion with project participants in October 2007. The research also undertook participant observation during the computer sessions and recorded her observations on a project blog.

## **5. Research Findings**

## (i) Designing for inclusion

### Participant led-approaches

Within both projects there was an emphasis on being participant-led rather than tutor-led, although these differed across social context. The approaches were more consistent with a constructivist approach to learning with and about technology which emphasises co-construction of knowledge, experiential learning and a bottom up approach to instruction (Jonassen et al, 1999).

In the Margrove Park context, participants were keen to develop their own informal learning environment. Therefore, the structure and 'atmosphere' of the club sessions was important in the project design. The sessions themselves were also designed to be inclusive by using approaches guided by principles of informality and participant led-content (Lave & Wenger, 1991). Formal classroom-like sessions were considered intimidating for potential participants, who did not want rigid accredited courses but the flexibility and support to learn at their own pace, as the following participant observes:

This was a problem because we've been fighting so long to get computer classes in here, but we wanted to do what we wanted to do and not accredited studies. (MP1)

This was particularly important for the older participants who discussed their concerns about forgetting course content and being unable to keep up with externally delineated targets.

The environment in which people learn is as important as the teaching approaches adopted. The research found that this group were enthusiastic to work in an informal environment where a club-type atmosphere was fostered. They enjoyed working around a large table, facing one another, with the tutor moving around them to attend to their specific learning needs, as the following group dialogue demonstrates:

MP3: We were in the middle of those tables and he went round and round us, everybody got seen to.

MP1: We just said what we wanted to do and then we [did] our individual things.

Participants welcomed this flexible approach but it also presented challenges for the media coordinator, particularly the tensions related to going 'off topic'. Given the potentially diverse range of queries raised by project participants it was necessary for the tutor to be flexible and to steer the group back to its original aims if needed. Additionally, it was important for that the tutor 'managed' group dynamics to facilitate equal access to tutor time and activities. In this project, the tutor's expertise and experience of community media and group work was an invaluable asset.

In the Dreams, Hopes and Wishes context, the project began following discussions between the CMC and the Head of Art and Design at the School. The latter expressed a desire to 'put art on the map'; to present art as a life skill rather than as a hobby. The design parameters were to provide something that would be challenging, inspirational and rewarding with a high profile for the students. The CMC started the project with a presentation to the pupils which included a mock-up of the Octorama, followed by his facilitation of a discussion about designing a media exhibition. The CMC supported the pupils to make a decision on the theme of their exhibition. At the time they were studying the work of the surrealists and they suggested, and agreed upon the theme of Dreams. They identified a broad range of meanings within the theme including dreams and nightmares but also 'Dream home' and 'Dream job'. The latter had a more aspirational quality so it was agreed that the theme would be extended to include hopes and wishes. This process of decision making grounded the project in their current school-based topics of interest and also the personal interests of the children (aspirations).

The CMC adopted an approach which emphasized the pupils as project workers and collaborators. They were asked to take responsibility for the success of the project, a process which is reflected in the evaluation data:

I found a sense of responsibility by acting as an adult

Amazed that it had actually done up because I didn't think we would be finished in time

Happy and shocked to think that we had put this together

Taking responsibility for personal role on the project, delegation and negotiation were important elements of the learning process (particularly related to ensuring the success of the exhibition), as well as learning about the digital media. However, one event regarding identifying project representatives to take to the BBC also demonstrates the tensions involved in taking responsibility and negotiating roles within the project. It was not possible for all of the pupils to visit the BBC studios and six representatives were selected which caused tension and disruptive behaviour within the class from non-attendees, as the CMC's blog illustrates:

The following week the normal session at school took place. I viewed it with some trepidation... I expected the rest of the class to be totally rebellious. However, just the opposite was true. The kids that had shouted me down the previous week were polite and professional and wanted to know what I needed them to do to move the project forward. They had learned something about negotiation and how to get on.

## **Collaborative use of ICTs**

Both sets of participants were enthusiastic about the collaborative nature of the projects. They seemed enthused by group work towards a common goal rather than more individualised tasks.

The Dreams blog, which the young people contributed to after their trip to the BBC, documents the young people's enjoyment of sharing their project ideas with members of the public (the audience was mainly comprised of participants of the wider SID project). As the following students said:

I think that it went really well and we have gained some more people to help us create the Octorama!!! (Bethany)

We got asked many questions and many people of the public were willing to help us in our project... They are going to help us by doing open days and workshops to help us to create the images and audio. I am very happy and I think we could create all the 5000 pictures we need...they were very helpful and they are trying to get many more schools and communities [involved] and I am confident we will complete this project. (Mark)

It was one of the best trips I have been involved with. I am so glad we got to be chosen to be part of the Octorama project. (Ricky)

Similarly in Margrove Park it was the collective interest in the village that encouraged participation. Their interest in village history and its future brought them together and sustained their interest in the ICTs:

MP1: We could upload the photos of ...digital imaging of what most of us are interested in anyway.

MP3: And the [village] history.

MP1: And the history, so we said yes to [the] website, [it] would be the best idea. And it kind of went from there.

MP2: So we all went to do the website.

### **Using local / warm experts and ICT intermediaries**

One of the key findings from the Margrove Park research was related to the way in which the participants were supported by the community media coordinator whose role was more similar to a 'warm expert' than a traditional tutor (Stewart, 2007). Bakardjieva (2005) uses the term 'warm expert' to describe people with ICT competence who support novice ICT users, for example, family members, peers or community workers. Warm experts mediate between the specialised knowledge and skills necessary to use the technology and the needs of the individual with whom they have a personal relationship. Her research found that warm experts are important for many people of diverse ages in assisting in the process of ICT learning and appropriation. Not only did they appreciate the informality of the sessions, but they also valued the enthusiasm of the community media coordinator and the ways in which he encouraged them to approach new ideas:

MP1: Well... [the community media coordinator]... [he's] got the knowledge as well and knows how to do it, [he] can show you all these fantastic possibilities that you can do if you have time.

Similarly, when participants were asked if they enjoyed taking part one said, 'Some of it has been beyond us but [the community media coordinator] makes it so interesting'.

Another important feature of this group was the development of ICT 'intermediaries' or mentors. Observation of group dynamics reveals that those participants with higher levels of ICT and media literacy have played a key role in supporting others with lower media literacy levels. This has in turn contributed to the friendly environment in which the group has been learning. The research notes demonstrate that the first phase of each session was often devoted to 'trouble-shooting' ICT problems in the home through group discussion. Participants drew upon the knowledge of the community media

coordinator and each other to resolve computer-related difficulties. In addition, one particular participant has been a pivotal community figure in relation to generating interest and maintaining the club's momentum.

(ii) **Enhancing digital inclusion?**

**Identity, well being and self-esteem**

One of the most common themes to emerge from the DHW evaluation was a sense of pride at the finished piece of work. There was a sense of pride that each individual's artwork appeared in public but a more collective sense of pride that the all class members had been involved in a large and successful project.

I felt quite proud that were able to produce something excellent with hard work put into it (DHW16)

In addition, it was clear from the evaluation that the pupils were pleased that they could contribute positively to the school's identity within the local community.

The good things to come out of the exhibition were that [the] school got great recognition and were put on the map (DHW16)

We received publicity and recognition for our hard work (DHW17)

Sense of pride in their achievements overlapped with enhanced self-esteem. The data shows that project participants were delighted by the positive comments from visitors and felt that they had personally gained from participation in the project.

**Skills development and qualitative outcomes**

DHW participants were asked to comment on what they had learned from the project. Like those in Margrove Park, learning about the technology (skills development) was an important aspect of the project, particularly the media applications:

How to make pictures on Photoshop (DHW12)

How to use computers to make art (DHW18)

How to run the main screens and electrics (DHW03)

There were also important qualitative outcomes including:

That you can achieve (DHW06)

That timed projects are hard (DHW08)

How to be responsible (DHW13)

That anything can be possible (DHW15)

### **Mixed experiences with technology**

The research in Margrove Park found that participants had mixed experiences with the technology itself (unlike in DHW). Whilst enthusiastic about the new skills that they were developing and the digital adventures they were taking, there were concerns about being overwhelmed by the technology.

Analysis shows that, on the one hand, participants both enjoyed the project and felt that their media literacy and confidence had increased.

MP1: I don't feel as ignorant now as I did before, I've got a bit more confidence on the computer.

Researcher: So do you think the courses have increased your confidence?

MP3: Oh yes

MP2: Oh yeah

MP3: We're more adventurous now.

However, some felt confusion at the array of software and the novelty of some applications, for example, Second Life:

MP2: [Second Life] was interesting because we had to sit down and stand up didn't we.

MP1: We did yeah. It was interesting and it showed you were used to the computer for that bit. But quite honestly I haven't got time though for these... you know what I mean.

MP2: Yeah, cos they're usually geniuses who do these things aren't they, and you kind of look at these things and think ... how did they do that? And yes it is nice but to them it will be second nature.

Project participants also felt that the course was not long enough to learn about new technologies.

MP1: The six weeks wasn't long enough was it?

MP2: No, no.

MP1: To get the knowledge.

MP2: No.

MP1: Not when you're our age cos it takes longer to sink in.

This raised a number of issues about approach and sustainability. The first and most apparent issue is that the length of the project was insufficient for learning about a wide range of new ICT applications. This was partly linked to the age-related needs of the participants, who stated that they needed a longer period to learn and become familiar with the ICTs. It can also perhaps be explained by the idea discussed above that informal learning sessions, whilst invaluable in many ways, can result in fragmented knowledge. An additional issue is that the group were coming to terms with the loss of their warm expert and felt that they could not progress without touching base with an intermediary on a fairly regular basis as the following discussion shows:

- MP1: So if we get [a neighbour] over here with his knowledge, this is what we were saying, it's a self-help club as well. We can all pick on each other's knowledge and [the community media coordinator] said he would drop in now and again.
- MP3: Just to check on us.
- MP1: Yeah cos we couldn't get the funding for a tutor...
- MP2: There must be people in the village who can do different things who might come in and help people.
- MP1: When I was talking in the pub one of the lads... his father is a computer teacher. And he's retiring next year, and he said 'do you want any volunteers' and I said yeah. So he's going to have a word with his dad.
- MP2: ... That's what we need isn't it...I mean there must be some, quite a lot of them in the village who know a lot who can help us, young ones...

This raises some important debates about strategies for sustainability and the effectiveness of project-based ICT learning. It also raises important questions about the processes of digital and social inclusion and the ambiguity of becoming / being / not being 'included'.

### **Inclusions and exclusions**

This particular group of older women have benefited from participation in myriad ways. There are however, a large number of village residents who have not participated, raising questions about the inclusivity of ICT initiatives that are designed to meet the needs of particular social groups (in this case older women). As Wellman (2001) notes community members (whether virtual or real) are often drawn to people with similar interests in spite of the diversity of identity in online spaces. Here computer club members have fostered a sense of community through shared interests (in and through the website and its concerns), but this may be to the exclusion of those with different ICT interests. One key group that did not participate was older men. The women

themselves discussed the men's absence and related it to a fear about using computers.

MP1: I know I've been told that some men are scared of computers. [Our neighbour] has just recently had a stroke and he was talking to [another neighbour] and he said it would be good for him to learn.

MP3: He would love it.

MP2: Yes.

MP1: Right like photography and all that sort of thing, now he could come up here in his wheelchair.

MP3: Yeah.

MP1: But he said technology terrifies him.

MP3: Yeah he's probably frightened... everyone's going to know a bit more.

MP2: But everybody would help him wouldn't they.

MP3: Oh yeah.

Although it is often assumed that many men are more confident using technologies computers and women less so, research shows that the picture is far more complex than this (Lohan & Faulkner, 2004; Eriksson-Zetterquist, U. & Knights, 2004). Faulkner's research on the North Coast of Scotland showed that women were more skilled in ICTs than the men, as a consequence of the formers' engagement in administrative (feminised) labour and the men's engagement with manual, less-computerised labour such as forestry and agriculture. It may be that in Margrove Park the male residents had less contact with computers at work and were excluded and disadvantaged in the mixed-gender setting, although this requires further exploration.

## 6. Discussion

- (i) One size fits all does not work

Our findings show that fluid and flexible approaches which are firmly grounded in community context are essential for facilitating participation and inclusion within community ICT projects. However, communities are complex social organisations where individual needs are sometimes overlooked. Data from Margrove Park on men's non-participation suggests that multiple approaches are needed to support groups and communities within communities. Yet this must be balanced with resources. There is seemingly a tension between individualised (micro) and collaborative types of learning which needs to be managed by the ICT intermediary to ensure successful delivery.

(ii) Long term investment and support and joined up approaches

This leads on to our third discussion point relating to the importance of long-term investment and strong links with other facets of community regeneration. Our data shows that ICT intermediaries are needed over a substantial period of time. Parachuting support in and out leaves community members feeling as though they have only half-achieved. Often they don't know where to go to look for continuing support. Linking ICT use with other aspects of community regeneration or socially inclusive processes (e.g. the Digital village; Education Action Zone initiatives) could embed ICT use within broader social change ensuring sustainability.

(iii) Raising aspirations?

Our final point is that ICT projects can have multiple impacts on aspirations. Elsewhere, Fernback (2005) has documented that innovative use of ICTs within community settings gives people a sense that they are moving forward. ICTs are symbolic of progress. This was confirmed within our case studies, in terms of the acquisition of new skills, developing new and innovative ideas (Octorama) or the symbolic sense for residents of Margrove Park that the village was 'moving forward'. Finally, the subject matter within the ICT projects

can be aspirational. For example, both Octorama and Margrove Park participants were encouraged to articulate their aspirations for the future through the exhibition and on the internet. We suggest here that the ICTs provided an important space in which to look to the future, to raise expectations and confidence and envisage something beneficial for the self / the community, which can be seen as key elements in processes of social inclusion.

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