How older people account for their experiences with interactive technology

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We present a qualitative study, undertaken over a period of nine months, of older people facing the challenges of learning to use interactive technology, specifically personal computers (PCs) and the internet. We examine the range of causal explanations (attributions) voiced by the group in accounting for their difficulties with it. A discourse analysis of these data reveals some factors (anxiety, age-related issues, being too busy to learn and the need for a purpose for the new tools) that support the work of other researchers, while other themes (issues around alienation, identity and agency) deepen understanding of this domain. The implications of the results for how we approach understanding the difficulties faced by older people in this context are discussed.

Keywords: Older adults; Internet; Learned helplessness; Causal explanations

1. Introduction

The problems faced by older people learning to use and engage with interactive technology are not confined to physical and cognitive factors (e.g. Hutchison et al. 1997, Gregor and Dickinson 2005). Other issues such as attitude (e.g. Zimmer and Chappell 1999, Ellis and Kurniawan 2000); anxiety (e.g. Igbaria and Chakrabarti 1990, Laguna and Babcock 1997, Wilfong 2006); perceived relevance of the technology to everyday life, usefulness and usability (Selwyn 2004, Adams et al. 2005, Olphert et al. 2005, White and Weatherall 2000); perceptions of learning abilities in later life, the degree of social relationship with the computer and orientation towards the future or the past (Blit-Cohen and Litwin 2004, White and Weatherall 2000) have also been recognized to play a role. Common to several of these reports are the observations that a positive orientation to the modern world and changing technologies and the perceived utility of computing and the internet foster use and acceptance, while White and Weatherall (p. 385) note a need ‘…to explore in what ways those older adults who do not use IT perceive ‘modern life’ and in particular, what connection they see between the technology and life in today’s society.’ We aim to complement this body of existing work with a discussion of how people who are just starting to use computing technology account for the difficulties they encounter.

Our study concerns a group of older people learning to use a personal computer and the web over a period of nine months. The training was interspersed with group discussion and individual interviews which were recorded and later transcribed. The informal group discussions ranged over the variety of problems which were being encountered in using and learning to use this technology. While the original purpose of the work discussed here was to study how older people familiarise themselves with interactive technology (see Turner et al. to appear) another perspective emerged, namely, how the participants themselves accounted for their experiences and in doing so to attribute causation. These acts of attribution reveal frequent references to such things as lack of agency, alienation and challenges to personal identity all of which have significant consequences to how we approach introducing older people to such technology.

2. Attribution theories

Attribution theories are concerned with the ways in which we select and use information to make judgements

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about our own behaviour and the behaviour of others. They have not been widely used in the context of understanding the use of interactive systems, although one oblique mention of Weiner’s account (Weiner 1986) does occur in the ‘Technology Acceptance Model’ (Davis 1989). In practice the most frequent use of an attribution theory is the account of Learned Helplessness. It is recognized, of course, that learned helplessness is not strictly an attribution theory per se but it has a strong attributional component which has been used by a number of researchers from this perspective.

2.1 Learned helplessness

‘Learned helplessness’ was originally proposed by Seligman and Maier to account for why dogs conditioned to associate an inescapable electrical shock with sound and light stimuli failed to try to escape a shock in a different setting even though escape was possible. The animals had learned that no action would avert the unpleasant stimuli and generalized this learning to other situations where avoidance was possible (e.g. Maier and Seligman 1976). Later work extended this to human behaviour, proposing that when events are experienced as uncontrollable, an expectation is created that future events will also be beyond control and the individual is likely to lapse into passivity, experience lack of self-esteem and related symptoms. This account has been held to apply to both ‘good’ and ‘bad’ uncontrollable events though there is greater empirical support for the latter. It is perhaps in this form that the concept has had most influence, having been successfully applied to understanding depression (Peterson 2000). Learned helplessness has also been proposed to account for a range of other maladaptive behaviours, for example, Nahl (1998) proposes it as a factor in failing to make effective use of the internet as an information resource, and Valáš (2001) has reported that academic achievement is related to the pattern of attributions, expectations, helplessness and psychological adjustment in school students. Similarly Wilson and Shrock (2001) in a study of students’ performance on a computer science course found that ‘comfort level’, maths background, attribution for success/failure were the most important predictors of student performance. In work settings, Martinko et al. (1996) cite learned helplessness as a significant factor in resistance to workplace information technologies suggesting, as in their earlier work (e.g. Martinko and Gardner 1982), interventions which may forestall some manifestations of learned helplessness and alleviate others should they occur. We have adopted learned helplessness as a means of framing our analysis in view of these previous applications of the theory in related areas.

2.2 Explanatory styles

Explanatory styles are central to more recent formulations of learned helplessness, accounting for why helpless behaviour does not manifest in all individuals who have been exposed to uncontrollable negative experiences (Peterson and Seligman 1987). Peterson (1991) describes explanatory style as a cognitive personality variable which reflects how people habitually account for bad events. Explanatory style is a determinant of, and hence is expressed in, the causal explanations which a person attaches to such experiences which in turn relate to manifestations of learned helplessness.

There are held to be two overall explanatory styles: as encapsulated in Peterson (2000) ‘Those who explain bad events in a circumscribed way, with external, unstable, and specific causes, are described as optimistic, whereas those who favour internal, stable, and global causes are described as pessimistic.’ Figure 1, adapted from Peterson et al. (1993) illustrates the relationship between explanatory style, causal explanations and selected symptoms of learned helplessness in the context of learning to use computers. It should be noted, however, that as these researchers observe both here and in later work, the cognitive mechanisms mediating this relationship remain under-explored. The parameters of causal explanations are summarized next.

2.3 The dimensions of causal explanations

As we have already noted, explanatory style appears to be related to the relatively stable aspects of an individual’s personality or disposition and causal explanations emerge (or are offered) as a product of these dispositions. Explanatory style has been found to span three dimensions. These are, internality-externality, stability-instability and globality-specificity.

2.3.1 External or internal causes. The reasons for the uncontrollability may be seen as internal and personal to the individual or external factors which may affect anybody in such a situation. Internal explanations lead to lowered self-esteem, while external ones preserve it. Thus failure in an exam may be accounted for by one’s own failure to revise, or by the intrusion of noise from a pneumatic drill outside the exam hall.

2.3.2 Stable or unstable causes. Stable causes are expected to recur in future situations, unstable causes are short lived. Stable causal explanations are likely to result in persistent helplessness symptoms such as passivity while unstable explanations manifest as more transient helplessness. Both the above reasons for failure are unstable; a stable cause might be one’s lack of aptitude for the subject.
2.3.3 Global or specific causes. Global causes are likely to induce helplessness across a range of situations, specific causes local are local to just a few. Perceived lack of aptitude for mathematics would be seen by the individual as only likely to affect performance in a relatively small set of exams whereas lack of intelligence would influence performance across the board.

3. The Redhouse study

One of us (Van De Walle) undertook the teaching of a group of older people as part of the MITS (mobile internet taster sessions) initiative supported by the charity Age Concern Edinburgh. MITS provided an opportunity for a group of older people to familiarize themselves with computers. The lessons (and the data capture) began in mid-February 2003 and lasted nine months. The data analysed here were collected in the context of computer lessons which were delivered in the common room of the ‘Redhouse’ (this name has been anonymized) residential complex. In all 40 people registered for the lessons.

3.1 The participants

Of the 40 computer club members, 20 volunteered to take part in this study. These volunteers proved to be highly articulate and, similar to the other club members, were completely new, or relatively new to computer technology. They were all retired professionals aged between 70 and 85 years old, living in the retirement home where they owned their own flat and were financially independent. Most were very active, having an intense social life outside Redhouse including family, churches, charities, social events, museums and theatre. Three had a former profession involving technical skills or a relation with computer-related technologies. One person had used a computer regularly but only for basic tasks in a shop and reported frequent difficulties in using it. Four already owned a computer, one for two years; one for one year but had never used it; one for one month but had never used it; one for a few weeks and had slowly started using his machine. The remaining participants were complete novices and had never used a computer.

3.2 The lessons

The purpose of the lessons were as follows: (a) to overcome anxiety and to realise the fun that can be had from the computer in a relaxed and informal atmosphere; (b) to explore what the computer could do and be confident in basic commands and file management and (c) to introduce word processing, email and the web. Every group received a
one hour lesson every week until July 2003. People were taught in groups of eight or nine. In August, lessons decreased to half an hour per week as the long lesson had proved too tiring. In September, the frequency was again reduced to one lesson in a fortnight for each group due to other commitments.

### 3.3 Data collection: discussion groups and individual interviews

The two discussion groups met regularly for 60 to 90 min, first on a weekly basis then every fortnight. The relative frequency of the meetings was important to capture potential changes, to see whether and how discussions were evolving through time, as well as to maintain engagement and a focal point. The third author, the group’s tutor, steered the groups where necessary with probe questions designed to focus discussion, but conversation flowed freely in this articulate and vocal community. Of the 20 participants in the group discussions, 14 were also interviewed individually. Group discussions and interviews were recorded and then transcribed. In total more than 72 h of interviews and discussion were recorded of which only a small proportion can be reported here. This paper only concerns the data collected from the discussion groups. While we are aware of the limitations of focus group data – including the possibilities of participants inhibiting others or influencing the content of their contributions – this material is particularly rich in comparison to the interview transcripts. The presence of occasional gentle teasing, laughter and free-flowing chat clearly suggests that people were relaxed in each other’s company.

### 3.4 Data analysis

As in much qualitative research, the process was fundamentally interpretive: meaning is often implicit and can only be understood through familiarity with the entirety of the data. This approach is consistent with Pollio et al. (1997, p. 37) who describe the process of hermeneutic data analysis thus ‘interview data are treated as a “text” presenting a complex network of internal relations such that no single aspect may be understood independent of reference to the text taken in its entirety’. This is particularly true of data from these discussion groups – in making sense of individual utterances, it is necessary to consider the preceding turns in a conversational sequence and further, to review such sequences in the context of earlier conversations. For this reason, we have included several longer extracts from the raw material in our reporting. For this analysis, the data were read and re-read to gain familiarity with their content. The next pass through the material identified themes in participants’ individual contributions, at this stage extracting these ‘bottom-up’ from the data. The intention here was not simply to examine the content of the discourse, but to consider what speakers were doing with their verbalisations, since we adopt the analytic position that discourse is not a simple container for meaning but is functional in itself (Potter and Wetherell 1987) whether this function is agreeing, blaming, accounting for events or actions or any of the other ways in which speakers ‘do things with words’ (Austin 1962). Much of the transcript could be seen to be concerned with participants’ accounts, or explanations of the challenges they faced. In the light of this predominantly explanatory content, learned helplessness and, in particular, explanatory style was adopted as an analysis framework, a subsequent pass through the data reviewing the emergent themes against learned helplessness concepts.

Discussions of interpretive methods propose specific criteria by which its rigour may be judged (e.g. Gaskell and Bauer 2000, Taylor 2001). While space does not permit a full discussion of these we have ensured that we have met their key criteria. These are (a) that we have had prolonged engagement with the data, reflexively reviewing and re-reviewing its interpretation; (b) provided thick description, providing as much detail as possible as to the context of data collection and the local context of data extracts, so that a judgement can be made as to how far the findings may transfer to other settings; and (c) provide documentation of the analysis process itself, together with generous samples of raw data. We now present our findings.

### 4. Findings

Throughout, the transcripts are pervaded with reports of bad experiences, from the disconcerting unpredictability of individual features to frustration at one’s inability to remember the necessary sequence of operations to achieve a goal. Many of these have a distinct flavour of the perceived uncontrollability which is central to learned helplessness theory. There are naturally more positive elements interwoven with these reports, but these are rather rarer. However, our intention is not to catalogue the range of such occurrences, but to examine the range of causal explanations voiced by members of the group to account for their negative experiences with the technology. Analysis of these data has revealed a number of recurrent, overlapping and inter-woven themes. The extracts from the transcripts given below reflect this interwoven character and often reflect more than one theme. The identified themes are as follows:

- alienation (‘This is not my world at all’);
- identity (‘I worked in a job with people, not with machines’);
agency (‘But sometimes you’re obliged to’);
anxiety (‘I was frightened to’);
age related (‘being too old’);
being too busy (‘You haven’t got a space in the day
to learn’);
finding a purpose for the technology (‘I see their uses but
I don’t have to accept them fully’).

In all cases extracts are verbatim and identified using
only the initials of the speaker (‘G’ or ‘Guy’ is the third
author). We have also included the date of the discussion
session for completeness, but review of the complete set
of transcripts indicates that themes recur throughout the
nine months of group sessions and that a number of
participants remained at best uncertain about the poten-
tial of computing the technology and their own abilities
to make use of it. The extracts included here span this
period and have been selected as particularly vivid
instances.

4.1 ‘This is not my world at all’
We have abundant evidence of the experience of alienation.
There are many references to the fluid, sometimes
unwelcome and alienating nature of the contemporary
world. In the following pair of extracts the disquieting
experience of rapid change is voiced by several participants.

[20/03/03]
I.R.: I once went to a wedding where everybody had
cameras and I said to the bride, ‘the tragedy of all this is,

[17/04/03]
M.K.: You see, I don’t understand this. I don’t…this

[18/04/03]
A.R.: I’ve come to the conclusion that I’ve come to this
stage in my life without computers ever. So I could do
without them for the rest of my life.

[19/04/03]
M.K.: In fact, they are so time consuming that they are

getting in the way of…

[20/04/03]
A.R.: There are other things that I’d rather do.

[21/04/03]
M.K.: Yes, that’s right.

4.2 ‘I worked in a job with people, not with machines’
The discussion groups’ transcripts contain a distinct
strand of utterances which reassert (individual) identities
in terms of ability and experience in response to
difficulties. In this extract a self-history as someone who
acquires new skills rapidly is set against the current, slow
learning experience.

[20/02/03]
I.R.: The one thing that encourages me in my abysmal
inaudible when I had to learn Morse code I was
disciplined. Unless I could learn within three months,

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with machines. And it’s a new process. To me, the computer at the moment is a little bit impersonal but I am seeing the personal side of it coming. I am not explaining this well. I know what I mean but you don’t know what I mean.

Here, in a wide-ranging discussion about frustration relating to use of computers, I.R. introduces a reference to the more familiar sphere of broadcasting technologies in suggesting that the group may experience frustration because of their characteristics as ‘a collection of perfectionists’.

[27/02/03]

I.R.: Guy, I also think that ... When I look around this group, I see a collection of perfectionists, not in every area of life but especially in relation to radio and reception, etc. and the change of things on the BBC.

Finally, a previous professional identity as a teacher is asserted when prior knowledge is found to conflict with what is now required.

[20/02/03]

D.G.: And that is where we have more difficulty than children because they don’t think what they are learning; they just learn or [inaudible] in some cases maybe. And it’s much easier. It’s more difficult because we have all the previous learning, isn’t it? That’s what I find. I have been told never to teach anything that you have to unlearn and this is exactly that case. Do I make myself clear? I know what I mean.

4.3 ‘But sometimes you’re obliged to’

Another frequently referenced attribution is in terms of agency. While in the main this concerns perceived lack of agency, some participants express rather more of a sense of control, as in the extract below from a discussion of the varying abilities of group members.

[24/04/03]

I.B.: ... Other people, they don’t know into which category they are coming. I mean, it is up to the individual. N.S. is probably one that is on the edge. G.K., these people, the ones I would say who have set up email accounts are probably in that position because we are now all going with the idea that we are going to use the computer for some reason or another, you know. Some of us want it for email, some others want it for something else. And I think most of us have got that knowledge now, if we want to expand a wee bit further, then it’s not terribly difficult to find out. You might not do things the right way. But with the computer there is always a way of getting there in the end. You know, it doesn’t really matter if you don’t do it the right way if you persevere long enough to get what you want.

This is despite finding the interaction unpredictable and uncontrollable, as described here in an extract from the same discussion.

[24/04/03]

I.B.: It didn’t do that before when I was doing the basics. I mean, I am finding for instance now that the presentation just changes all of a sudden without me asking it. You know, you go onto the Internet and on one things you got a certain layout and presentation. Now, the day before yesterday, I went on the Internet and instead of getting the presentation I was used to, I just got something different. First, I thought that it was something else. I had no mail. So I had to go down to a wee corner down here and there it was. Then I get frustrated because I used to see it up at the top.

Agency lies with the computer, something that can appear to be both confusing and reassuring.

[20/03/03]

A.F.: I think that when it says, ‘Do you want to save?’, you say ‘yes’. Then it will ask you to give it a name, so when it goes onto the disk it can be recognised.

However, there is also evidence of a different aspect of lack of agency, perceived pressure from family and friends.

[03/04/03]

C.H.: M.K., if people are shouting at you to use email, tell them ‘wait till I have learnt to do it and then I will send you emails’. I have friends in America who have been shouting at me for nearly a year because they know that now I have got the machine. ‘When are you going to email us?’ Because I phone them, you know. ‘Oh, you must spend an awful amount of money to phone’. I’d rather do that just now because I know, well I think I could send an email to them now but ... of course, they are asking me when I am going to send them an email but they have to be very understanding, you know. You just have to tell them that we are learning it. When we know how to do it, then we will send you the emails. Be tough with them.
While the world in general is forcing changes in behaviour.

[20/03/03]

I.B.: But sometimes you're obliged to. I mean, for instance to take a case in point, the digital radio – television, I should say – is coming. Now, we'll be forced to go digital whether we want to or not . . .

G: I know, I know . . .

I.B.: . . . And if we don't go digital, we won't have television. It's as simple as that.

4.4 'I was frightened to'

Voiced anxieties are frequent in the transcripts.

[03/04/03]

C.H.: Not difficult, but I think nerve wracking in a way, you know. I was frightened to, you know . . . with the pointer . . . I can't explain really what I am getting at. It is hard to explain. To find out the subjects . . . I mean, Yahoo comes up and there is a lot of things and there are adverts among them. There is an awful lot written on the screen that you've got to study before you can move. When you are learning, and I am at the very beginning where the Internet is concerned, you have to go very, very slowly at it, consider each move, while with the word processor I don't have quite to think so much. But I still have things to learn.

A.R.: Are you frightened you would do something wrong?

C.H.: Yes, I have got a thing called, what is it called (looking at a paper) . . . Norton anti-virus. It comes up every so often, you have to renew it. And it requires you to put a certain number of days, I just put fourteen and say 'yes', you know. And yesterday it came up and said, 'your anti-virus subscribing service will expire in thirty days, to ensure protection . . .'. Well, that wasn't on the Internet, that was on the word processor, and that's the kind of things that worry me, and I wrote it down to ask Guy about it. I didn't know what I should do. The answer was that I don't really need to do anything.

4.5 'I'm too old'

Another frequently voiced theme is that the participants are too old to learn to use this new technology. Opinions vary as to whether this can be considered as a warrantable excuse.

[6/03/03]

C.H.: I don't think it's a shame, at our age, that we cannot control or learn the machine.

I.R.: I think it is.

C.H.: I don't think it would be a shame somehow. I wouldn't feel ashamed if I couldn't learn it. I would just think, 'Oh, I'm too old and that's out.'

And . . .

[15/05/03]

I.B.: Yes, well, I mean, my next door neighbour is quite old. She is interested in computers because I have managed to do one or two things for her, which she rather liked. So, she is interested in computers, not in the mechanical part of computers but in computers in general. But her attitude is: 'I don't think it will be for me. I am far too old for that kind of thing.' And I think that this is a general attitude in here, that people seem to think that when they get up to a certain age, there is no point into going into new technology and . . . new to them. And my attitude . . . well, N.H., I think, she uses a computer as a tool, certainly, you know, in your job . . .

Further . . .

[29/10/03]

D.G.: I think we've lost the goal, you see. You've got to have a goal to want to . . . Well, some don't but most want to do well. They want to pass their exams, they want to get a career. We have passed all that. I am speaking for myself. Maybe others don't feel like this. I just feel very lazy. I am lazy minded. I have to have a goal, you see. And my goal is what? But the time I will really know the computer I will be too old to bother with it. That is behind my lack of incentive to learn about it, I think. It's not that I am willing. It's something that is there, you see what I am getting at?

4.6 'You haven't got a space in the day to learn'

The common image of the retired is of people with time on their hands but our group found it difficult to accommodate learning to use a computer in their busy days.

[20/02/03]

I.R.: Another question that keeps coming to my mind is, 'When will I possibly have time to learn this?' Because people like you may think being retired, there is plenty
of time. But actually I have no time. I can hardly read
the newspapers.

And in response to a question about a spouse’s reluctance
to acquire a computer:

[02/10/03]

I.R.: No. She repeatedly said, ‘We have no use for a
computer’. That’s what she said. And there I began to
agree with her because among other things I could not see
a point, apart from five in the morning, when I would use a
computer. I couldn’t find accommodation for a computer.

C.H.: I think time has a lot to do with it too because you are
very, very busy people, who are always going out here and
everywhere else. And you haven’t got the time to learn.

I.R.: That’s right.

C.H.: You haven’t got a space in the day to learn. I think
it’s my problem. Yesterday, I couldn’t look at the com-
puter, and the day before. I am coming in a busy time.

4.7 ‘I see their uses but I don’t have to accept them fully’

Finding a use for this technology is the final theme we
consider. There is a clear sense that acceptance of its utility
is not whole-hearted but qualified. For example, the
internet can be used to save money on shopping but the
overall process is seen to be error-prone.

[03/04/03]

I.R.: I would forget ordering things on the Internet
because I know some experts in computers who did
shopping through Tesco [a major UK supermarket
chain] but they sometimes send the wrong things.

[Laughs]

I.R.: So, they stopped using the Internet Tesco. It’s not
the fault of the computer; it is the fault of Tesco.

A.R.: It is the fault of the person feeding the
information, I mean, if you want Diet Coke, otherwise
they send normal Coke.

And pragmatically . . .

[07/05/03]

N.S.: You can do your shopping on the Internet and you
can do it by going to the shop if you want. And really I
think that you have to take from life what it offers you.
If you want the technology, you can use it to your own
ends but you don’t have to push it out of the way if you
know what to use it for. And I tend, Guy, to look on life
as a pattern. It’s a pattern that is always evolving, you
know, when you are knitting a jumper, you put
something in and you look at it and you think, ‘what
is this going to be?’ and it turns out to be a specific
pattern. Well, that’s how I see my life, I take the
computers now because I see their uses but I don’t have
to accept them fully, the same as I accept television, the
same as I accept radio, I take from them the goodness
that they offer.

5. Discussion

There are three aspects of this study which merit some
discussion. The first of these is the question of whether the
findings are representative or generalizable to the wider
population of older people; second, the issue whether the
learned helplessness/explanatory framework has proved
useful needs some consideration and finally, the implica-
tions of the results for how we approach understanding the
difficulties faced by such a group need to be discussed.

5.1 Samples and cases

The participants in this study were middle-class, former
professionals, educated, literate, motivated to learn and
between the ages of 70 and 85. They also self-selected to be
involved. This sample thus constitutes a ‘critical case’. A
critical case is one which can be defined as ‘having strategic
importance in relation to the general problem’ (Flyvbjerg
2001, pp. 78 – 9). The purpose of such a sample is to permit
deductions of the type, ‘if this is (not) valid for this case,
then it applies to all (no) cases’. In short, if this group feels
challenged (alienated etc.) by these experiences of inter-
active technology then we can quite reasonably argue that it
is likely to apply to other groups who are less well educated,
less capable and less motivated – perhaps even more so.

5.2 Causal explanations and their application

At the outset of this paper we noted that the study was
originally conceived as an investigation of familiarisation
and that our interest in the range of explanations and
attribution arose afterwards. Faced with this substantial
body of data we found the learned helplessness framework
to be useful in both organising the data and affording the
identification of a range of attributions made in this specific
context. These comprised a constellation of seven recurring
and overlapping explanations: alienation; the fit with one’s
identity; issues around agency; anxiety; being too old; being
too busy and finally the need for a purpose for the
How older people account for their experiences with interactive technology

...technology. Returning to the dimensions of causal explanations established in learned helplessness work and outlined in section 2.1, examination of the transcripts provides instances of each potential combination of the stability, globality and internality dimensions. Feeling alienated from the modern world, for example, could be considered as stable (since it is felt to be part of a enduring state-of-affairs), global (in that it pertains to many aspects of life) and at least partially internal (since it is down to one’s own disposition rather than circumstances imposed from outside) and thus an indicator of ‘pessimistic’ explanatory style. A perceived lack of usefulness or purpose for the new technology appears more ‘optimistic’, since the attributed cause is potentially unstable (there is the possibility that a purpose may be found), local (some computing and internet features are more useful than others) and external (usefulness is at least partially determined by the technology and the activities available to oneself).

However, while Peterson et al. (1993) and other reports provide impressive data for reliability in classification of causal explanations, we have found this less straightforward in some cases. Age-related explanations concerning memory deficits, for example, could be considered as ‘unstable’, since some people averred that they could be overcome with practice, or ‘stable’, since they related to a persistent symptom of ageing: in some parts of the transcript both flavours of such attributions are voiced by the same person. This may be an artefact of the circumstances in which the data were collected, as participants in discussion groups engage in the everyday social practice of orienting their contributions to each other’s responses. A close conversation analysis of the data, coupled with the tracing of the development of individual explanations would help to elucidate such issues.

Consideration of the themes identified in the light of learned helplessness and associated explanatory styles goes some way to explaining why many of the contributions to discussion embody a negative voice even after some nine months tutoring. The themes support findings reported by other researchers, but deepen current understanding of just how older people make sense of the opportunities and challenges of computing technologies. Further, it may not be material whether these attributions reflect the real issues faced by our participants. These perceptions and their expression constitute perceived reality for these particular older people – or at least a version of reality which would be acceptable to their tutor – and as such raise barriers to learning and engagement with the technology. Since our interest is in the pragmatics of introducing interactive technology rather than extending attribution theory, we turn to how these findings might be used in such endeavours. So what are the practical implications for how we approach the difficulties faced by older people?

Advocates of learned helplessness believe that it possible to re-align negative explanatory styles by directly ‘re-engineering’ explanations which make the pessimistic more optimistic, and which might make these older people more receptive to interactive technology (e.g. Martinko et al. 1996). The desirability, practicality and usefulness of this ‘self-improvement’ approach remains moot in this context. It is also tempting to suggest that the explanations identified could form the basis of a set of rough heuristics akin to those which informed the design, evaluation and introduction of technology in the early days of the human–computer interaction field. Rather just than ‘blame the system not the user’ (for example), the approach in should be, inter alia, to build on prior skills and self-perceptions of older users as competent individuals, to recognise that for this group of users in particular, early success in the learning experience is crucial, and on. But such recommendations seem not only trite, but as with all such heuristics, to treat users as idealized, truncated and ultimately abstracted representations. Rather, we would advocate an holistic approach to introducing technology to older people. The everyday and fluid realities of older people which have been illustrated in this paper must be respected and factored into the ways in which we introduce technology to them, recognizing, for instance, that the intertwined issues of agency and alienation relate not just to computing but to the world in general and acknowledging the need for an identifiable place for computing technology in people’s busy social worlds. Such an approach should be human-centred and address the constellation of individuals’ conceptions of themselves, society and technology, complementing user-centred tuition which emphasises task-based purposes for computing technologies.

5.3 Further work

While we are confident that the explanations reported here are applicable to many other older people, there is clearly a case for eliciting further examples with different groups and in other contexts. Other aspects which would repay exploration would be the manner in which individuals’ explanations evolve with growing computing experience and the identification of points where intervention may be useful; how explanations are socially constructed within groups of older people and between learner and instructor, together with the positive and negative effects of such a process; and finally of course the design of informal tuition such as that which provided data for this study.

References

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