Interpersonal Process Recall – A Method for Reflecting on Co-Design Experience

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Abstract
Our method uses video recording as a stimulus for recall and reflection, based on Interpersonal Process Recall (IPR) which is borrowed from humanistic psychotherapy research. We video recorded part of a workshop design session run at Oak Field School, Nottingham (UK), by the interdisciplinary 'An Internet Of Soft Things' project (http://aninternetofsoftthings.com), filming two co-designers: a member of the research team and a participant with a cognitive impairment. Using the IPR method, we played back the video and invited the co-designers to pause it and recall any thoughts and feelings which did not show up in the original co-design interaction. This made it possible to capture data that represents subjective experience more fully, giving a voice to participants, particularly those who may find it hard to express themselves in the moment, owing to a cognitive impairment. In a subsequent reflection, our co-designer with a cognitive impairment describes the importance to him of researchers speaking slowly and with short words, listening, using Makaton if appropriate, and above all, being 'nice and friendly'. These co-design and reflection activities are finally mapped to the components of a Methods Story, and accompany other media (videos, audio and transcript) which presents and demonstrates our methods.

Author Keywords
Video recording; Interpersonal Process Recall; co-design; cognitive impairment; method stories.

Introduction

We have long been interested in the co-design of technologies working alongside people with a cognitive impairment. Examples include the Virtual City designed to teach everyday living skills, and the Wireless Switch project, where ideas and storyboards were generated collaboratively with co-researchers with a cognitive impairment working with a facilitator (Brown et al, 1999; 1999; 2005).

Noting the recent shift from user-centred to human-centred design practices, we have extrapolated this trend to ask what would happen if design engaged with the term 'person-centred', originating in Carl Rogers' theory and practice of the 1960s (Rogers, 1961), and which is now used extensively in healthcare communities. A Person-Centred Approach (PCA) to Design is now proposed in response to calls for increased reflection in participatory practices (Kettley et al, in press). In response our method uses video recording as a stimulus for recall and reflection, based on Interpersonal Process Recall (IPR) (Kettley et al, 2015a), which is borrowed from humanistic psychotherapy research (Angus et al, 2014).

Co-Designing An Internet of Soft Things

An Internet of Soft Things' (http://aninternetofsoftthings.com) brings together person-centred psychotherapists with textile designers and computer scientists to ask how networks of textile things can benefit networks of people to support improved perceptions of mental wellbeing. The research team is multidisciplinary involving computer science, textile design, interaction design, and psychotherapy practice, and is led by Nottingham Trent University (NTU) in collaboration with Nottinghamshire Mind Network in the UK (Kettley et al, 2015b).

Workshops are the main method to support the co-design of networked smart textile objects. The main aim of the workshops (usually lasting a period of 6 weeks) is to first provide technological skills to our co-designers, and then build on these skills and provide more autonomy to participants to conceive their own design outcomes in a self-directed, supported environment (Glazzard et al, 2015).

Three sets of design workshops have already been held to co-design meaningful networks of things, and to develop and to further advance human centred design methodologies using relational approaches to mental wellbeing. These include those held with staff and students at NTU with lived experience of mental wellbeing issues, and with the Nottinghamshire Mind Network (Notts Mind Network. http://nottsmindnetwork.co.uk/). A further set of workshops was held in conjunction with pupils and adults with a cognitive impairment from a local special school (Oak Field school, Nottingham, UK) and it's the experiences and reflections of participants on the co-design activities within these workshops that will be reported here, and mapped to a 'Methods Story'.

Researchers have reported how people with cognitive impairments receive less support in tackling and addressing their mental health problems. "If a mental health problem presents, for whatever reason, it is more likely to be attributed to their learning disability (diagnostic overshadowing) or classed as challenging behaviour" (Giraud-Sanders, 2011).

In response to these challenges the workshops enabled co-designers with a cognitive impairment to participate and create objects of support individual to their needs, and focus on experiences of living alone and with other people, and the networks of support and meaning making that are made possible through smart textiles. The context used was a smart flat within the Oak Field School used to teach concepts of independent living, and augmented with networked smart textile interfaces created in these workshops. Such interfaces created in earlier workshops were first reviewed, and followed by mapping circles of support and networks of care since we are very interested in how networks of things can support networks of people. Further sessions involved designing and building smart textile objects with inputs and outputs, to facilitate keeping in touch, managing personal domestic spaces, and being heard or seen by others.

Interpersonal Process Recall (IPR) – Reflecting on Co-Design Experiences

In order to increase our reflection on our participatory design processes we have used IPR together with a blend of Rennie (2005) and Saldana's (2009) discussions of Grounded Theory. Applying this method to co-design interactions in the Oak Field School workshops gives the following steps:

1. Acquire fresh material through field research (Rennie 2005:64)/data collection (Saldana 2009:43):

a. Participation of researcher in co-design process

b. Conduct an IPR interview using the video of the co-design session or interaction; this is replayed to the participants, who are encouraged to reflect verbally on what they were feeling, thinking and experiencing at any given moment. IPR consists of two roles: an 'Inquirer' and a 'Recaller' (or Recallers). (Kettley et al, 2015b)

c. Produce a transcript of the IPR session

2. Proceed to In Vivo Coding of text of words or short phrases used by the participants (Saldana 2009:74-77/Rennie 2005:64) alongside Analytic Memo Writing (Saldana 2009:41)/Theoretical Memos (Rennie 2005:65).

3. Produce Categories from In Vivo Coding

4. Produce Higher Order Categories from Categories (which become their 'properties')

5. Constant Comparative Analysis by reviewing/repeating 2-4

6. Eventually a Core Category is conceptualized that subsumes all other categories

IPR in Practice – Categories and Tips for Co-Designers

We video recorded part of a workshop design session run at Oak Field School, filming two co-researchers: a member of the research team and a participant with a cognitive impairment (see attached video: Oak Field Co-Design Interaction.MTS).

Using the IPR method, they became 'mutual recallers' and another member of the research team, who had not been present at the original interaction, served as the 'inquirer'. We played back the video and invited the co-researchers to pause it and recall any thoughts and feelings which were not apparent in the original video (see attached Audio_IPR.M4a, starts at circa 27 seconds). This made it possible to capture data that

represented each recaller's subjective experience more fully, giving a voice not only to participants who may find it hard to express themselves in the moment, owing to a cognitive impairment, but also an opportunity for the researcher to explore more fully their holistic experience and use this as the basis for further reflection. Each recaller is equally valued, and it is the role of the inquirer to facilitate recall rather than to judge, interpret or direct. A Grounded Theory approach is now being applied to the transcript of this IPR session (see attached IPR_Transcript.doc) to reveal how reflection can contribute to co-design with people with a cognitive impairment.

The in vivo codes that emerge from the analysis of words and short phrases used in the co-design interaction by the inquirer are shown in green in the transcript (IPR_Transcript.doc). A couple of the potential categories that emerge from this seem to be the pre-existing relationship, knowledge and 'relational depth' (Mearns and Cooper, 2005) of the co-designers, who have worked together on technology projects since 1997, and the importance of achieving a state of 'flow' in the design interaction. Novel to our approach is that we are also striving to enable the recallers to participate in steps 2-6 of our method. Some initial categories produced by the recaller who is a member of the IoST research team (via reflection on the process of producing the transcript, rather than as of yet proceeding to steps 2-6) echo those produced by the inquirer and include: 'prior Knowledge of co-designer'; 'awareness of co-designer's reactions'; and 'relational depth'. In other categories this co-designer appears to be striving to achieve a state of flow in the design interaction, to be released from formal design methods, and to become increasingly empathic and flexible as the design interaction unfolds.

Our next challenges are to support the recaller with a cognitive impairment in generating categories, and to investigate which media and methods are best used to facilitate such inclusion. Our first attempt at this has been to review (conversationally) experiences of co-designing technology in a range of historical projects, and then to ask the recaller with a cognitive impairment to give any 'tips' on how co-design interactions could be improved. In this reflection (see attached video: Advice on co-design.mp4), our participant describes the importance to him of researchers speaking slowly and with short words, listening, using Makaton Symbols if appropriate, and above all, being 'nice and friendly'.

An Initial Mapping to a 'Methods Story'

We have presented a co-design method, and a method for reflecting on these co-design experiences with people with a cognitive impairment within the context networked smart textile objects and mental wellbeing. This section maps these activities to the elements of a Methods Story (Hendriks et al, 2015).

1. *Positioning the impairment:* We are co-designing with participants with a cognitive impairment, where mental wellbeing issues may be diagnostically overshadowed. The PCA approach adopted to design places emphasis on trust in the individual to grow and develop given the right environment (Joseph and Worsley, 2005). It is at odds with a medical approach to mental health, which is disease- and deficit-based (Freeth, 2007). We intend co-designers to experience empathic attitudes and unconditional positive regard (Rogers, 1957) from researchers, so that they feel heard and valued (Kettley et al, 2015a).
Before this study actually took place in the Oak Field school, an accessible outline of the project and proposal for workshops were first reviewed by a consultation and governance group formed of adults with a cognitive

impairment (NICER Group) who have previously attended the school and have been involved with many technology related co-design projects.

2. *Aiming for equivalence*: All workshop activities and subsequent reflections were carried out in co-design pairs between neurotypical co-designers and those with a cognitive impairment. Five co-designers with a cognitive impairment took part in the workshops (2 adults and 3 school students). They were supported by a Teaching Assistant, and with various communication devices and techniques (e.g., finger spelling) where appropriate. The workshops were structured to first provide technological skills to our co-designers, and then to build on these skills and provide more autonomy to participants to conceive their own design outcomes in a self-directed, supported environment (Glazzard et al, 2015).

Offering a PCA to design in the workshops encourages the formation of warm, open relationships between the facilitators and participants, fostering a safe environment, and enabling trust and creativity to develop throughout the workshops (Glazzard, 2015).

The workshops focused on the co-design of networked smart textile objects with inputs and outputs, to facilitate keeping in touch, managing personal domestic spaces, and being heard or seen by others. Contexts familiar to our co-designers with a cognitive impairment were used (smart flat, immersive room). In this way concepts of 'inputs' and 'outputs' and how these could be located in different physical spaces was made clear (sending messages to others in different locations). The neurotypical researcher attempted to give the co-designer with a cognitive impairment a range of clear, well explained choices throughout, as well as gently testing understanding, and not simply seeking answers he thought would like to be heard. Past shared co-design experience was also called upon to address any memory issues experienced by the co-designer with a cognitive impairment (see attached video: Oak Field Co-Design Interaction.MTS). This recalling of common shared design experience can also be seen in the reflection (IPR) on the co-design session (see attached IPR_Transcript.doc; focusing on previous knowledge of the co-designer with a cognitive impairment and matching it to usefulness in this project, line 69).
A range of physical props were used to create a shared language to represent networked smart textile objects, using different materials, devices and objects (to elicit choice), in contexts in which you might expect to find them in the real world (in co-designs sessions in the smart flat).

It's also made clear that this is an empathic co-design relationship (see attached IPR_Transcript.doc: neurotypical co-designer making it clear he is on co-designer with a cognitive impairment's side, line 86; and is caring and considerate for overall wellbeing, line 111). Trust and understanding are also important for valuable and meaningful co-design experiences – the neurotypical researcher affirms the honesty of his co-design partner with a cognitive impairment in his design based choices (IPR_Transcript.doc line 170).

3. *Balancing of viewpoints*: A group agreement was introduced in the first workshop session - offering group members the opportunity to say how they wanted to be treated by others in the group, to give everyone a voice in shaping the nature of the group experience and to verbalise – and therefore reduce – any fears they might have (Glazzard et al, 2015)

It's clear in the original co-design interaction (Oak Field Co-Design Interaction.MTS) that these co-designers have a long standing design relationship and knowledge of each other, which has developed into a friendship.

The subsequent IPR session offers an opportunity for practice-led critical reflection (IPR_Transcript.doc). The neurotypical co-designer at one point questions the usefulness of dual relationship: friendship and research partners. "Are we just talking (as we are friends) or productively designing" - unpacking the impact of friendship on the research relationship (IPR_Transcript.doc, line 52). He questions whether previously assumed previous knowledge is a good thing? (IPR_Transcript.doc, line 92) and sometimes anticipates responses incorrectly (IPR_Transcript.doc, line 114); while at other times uses a detailed knowledge of the co-designer with a cognitive impairment more productively (his love of music, as a basis for output, IPR_Transcript.doc, line 140). We believe that these long term co-design relationships between neurotypical and co-designers with a cognitive impairment are important, and that 'relational depth' (Mearns and Cooper, 2005) can have a positive effect on the co-design process (IPR_Transcript.doc, line 378)

4. Dealing with ethical challenges: The workshops were structured and supported to enable participants' comfort, creativity and autonomy (Glazzard, 2015); and adopted a PCA to design, which above all should be experienced by participants as a non-judgemental environment, as one of the conditions of the Person-Centred Approach – unconditional positive regard (UPR) (Rogers, 1957).

University ethics approval was granted, with the adult members of the group with a cognitive impairment consenting for themselves, with informed consent for school aged students. Participation was voluntary, and it was made clear that our co-designers could withdraw from the workshop at any time they wished. Workshop sessions opened with a 'check in' (Yalom, 1995: 124) allowing participants and facilitators to express their current state of mind, or share any issue or thought about their lives or the workshops (Glazzard, et al). At the end of the session a 'check out' was used – providing another opportunity for all participants and facilitators to share thoughts and reflections with the group.

Therapeutic benefits of research participation include improved experience of wellbeing: to share thoughts and feelings with others, to develop support networks. There are creative benefits in self-expression and feelings of achievement, and in increased technological skills and knowledge, benefiting both neurotypical and co-designers with a cognitive impairment (Kettley et al, 2015a).

5. Adjustment of co-design techniques: There is a real sense the neurotypcial designer becomes less driven by the need to produce a formal design outcome at the end of the session and that the process becomes more important than the outcome (IPR_Transcript.doc, line 186) "*So in terms of a design session it doesn't have to be, now we start, and 30 minutes later there has to be an outcome, and I think I got more relaxed and I thought we could just talk about things*."

And at about the same time when noticing that the co-designer with a cognitive impairment was distracted by others and noise in the room he adjusted the design interaction and they both adopted a lying down position in the immersive room: "*And I was thinking we were probably going to be much more relaxed now and that conversation would be much more relaxed and perhaps much more creative, and who cares if it's not, but it*

might be." The lying down on floor may signify a shift from cognitive to holistic experiencing, from 'head-based' to 'flow' in terms of design (IPR_Transcript.doc, line 183).

The neurotypical designer becomes aware via reflection of this shift from being self-conscious, cognitive, deliberate, and careful with his words in the design interaction, to being much more free form in the design interactions and this seems really important (IPR_Transcript.doc, line 324)

6. Data collection, analysis and interpretation:
Using the IPR method, we played back the video and invited the co-researchers to pause it and recall any thoughts and feelings which were not apparent in the original video (see attached Audio_IPR.M4a), making it possible to capture data that represents subjective experience more fully. This is particularly important for participants who may find it hard to express themselves in the moment, owing to a cognitive impairment. A Grounded Theory approach is also applied to the transcript of this IPR session (see attached IPR_Transcript.doc) to reveal how reflection can contribute to co-design with people with a cognitive impairment. The generation of categories in Grounded Theory is a cognitively challenging task and we have been investigating other ways to support reflection and analysis for co-researchers with a cognitive impairment. Our first attempt at this has been to review (conversationally) experiences of co-designing technology in a range of historical projects. Very quickly this led to the formation of a list of tips and guidelines to other researchers working in co-design with people with a cognitive impairment, and further supported his transition from a co-designer to a co-researcher.

Conclusion

By adjusting co-design techniques in the light of person-centred theory and practice, and by using IPR as a method for exploring and verbalizing holistic experience more than is possible in the moment, we seek to understand better the subjective experience of all co-researchers: both participants with cognitive impairments and members of the research team who might together reflect on their research relationships and practice.

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