

Cultural Probes: The best way to go for PD in sensitive research settings? A methodological reflexion

Marén Schorch¹, Claudia Müller², Johanna Meurer³

SFB 1187 „Media of Cooperation“, University of Siegen¹

Chair for „IT for the Aging Society“, University of Siegen²

Information Systems and New Media, University of Siegen³

Abstract

Cultural Probes are widely used as a methodological tool in participatory design (PD) processes. In our contribution, we focus on the use of probes in the sensitive, intimate setting of informal care and discuss their role as one methodological option (or “tool kit”) within a longer, mixed method-process of an international and interdisciplinary PD project. We state that a carefully designed set of probes and a rather flexible use of them can not only support the understanding of a certain setting and the involved (care) practices for the researchers, but also underlines the involvement of the participants within the co-design-process.

1 Introduction and Context

The background of this short reflection is an international and interdisciplinary research EU project at the University of Siegen, called “TOPIC” (“The Online Platform for Informal Caregivers”). It was undertaken with information scientists, sociologists and media scientists together with partners from professional care institutions and an engineering company from 2013-2016. The overall aim of the project was to understand the care practices of elderly informal caregivers and how they relate to opportunities for support by designing a web-based care platform that could integrate various services, including information provision, social networking and coordination tools (e.g. a digital calendar). Accordingly, we investigated the following research questions: What are the major characteristics of the routine care and the coordination work of elderly informal caregivers? And: What implications for design can we make from learning more about care practice?

In reference to the sensitive and private character of informal care and along with our epistemological understanding and the design case study approach (Wulf et al., 2011; Müller et al., 2012), we realised a qualitative empirical study over three years (Schorch et al., 2016). The pre-study (first year of the project) covered an ethnography

in ten households in rural areas in Germany with participant observation conducted over eight months, along with open and semi-structured interviews as well as the distribution of cultural and technical probes. Based on the results of the pre-study, a technical prototype of the web-based platform was constructed, introduced to the participants of the pre-study and additional twenty elderly informal caregivers that tested and co-designed the platform during the second and third year of the project. This short paper will focus on the experiences with the use of the so-called “cultural” probes and reflect that from a methodological point of view and in respect to the questions raised in the workshop call.¹

2 Empirical Methods, Data Collection and Analysis

All along the study, we used the Grounded Theory as a research paradigm reference (Glaser & Strauss, 1967), especially in respect to the *iterative* rationale of our data. Generally, our data material is based on an ethnographic study (e.g. Breidenstein et al., 2013), composed of participant observation of the first author, along with informal and semi-structured interviews. As there were limitations for the observation due to the very intimate setting in the home care situations, the timely and emotional pressure of the informal caregivers, we also decided to enlist *cultural probes* after a couple of months (partly in reference to Gaver et al. 1999, Boehner et al. 2012; paying attention also to Dourish, 2006 and Boehner et al., 2007). The probes included a variety of different methodological instruments to support self-description and self-observation of the informal caregivers, their everyday life, care routines and associated perceptions and feelings (for details see below).

The specific nature of our research setting was also shaped by the fact that our participants were of older age, in our definition between 60 and 85 years old (most of them in their late 60s), retired or gave up their job because of the care situation and most of them take care for their spouses. One common attribute is the care for a relative suffering from a chronic and progressive illness without any realistic chance of recovery: dementia and Alzheimer’s disease (often accompanied by additional medical conditions such as strokes, depression or heart failure), Parkinson’s disease and strokes.

¹ Another contribution to this workshop (by Hilda Tellioglu, Susanne Hensely-Schinkinger und Michael Habiger, TU Wien) also presents experiences with cultural probes within the context of the AAL project TOPIC, but it focusses more on the experiences within the Austrian context and reflect the feedbacks regarding the design and use of the probes (“Seeing the World through the Eyes of Informal Caregivers with Cultural Probes”).

We analysed the transcripts of the interviews together with the underlying probe material with the open and later axial coding method of the Grounded Theory (Glaser & Strauss, 1967). So, we maintained our reflective, interpretative methodology and didn't aim at "objective methods" as Boehner et al. (2007) discuss for some research groups that used probes. The preliminary findings of this stage of the analysis were discussed amongst the whole project consortium, transferred into three personas and multiple case scenarios of care situations or functions that became the basis of the development of the prototypes for the designers. Partly, the material from the probes illustrated certain aspects of the care situations more adequately for the engineers for instance than the descriptions from the observations and the transcripts of the interviews (that most of the designers and engineers never read).

3 Cultural Probes for Elderly, Informal Caregivers

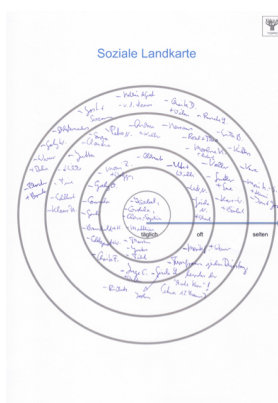
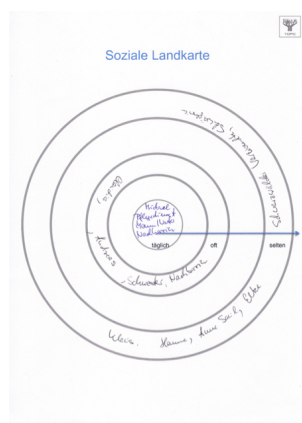
We used cultural probes as an adjunct to our other enquiries, enabling a degree of self-observation by caregivers during the times that we were not around and also for grasping the caregivers' individual perspective on their care work, routines etc. without the researchers' direct involvement (as during the observations and interviews). We prepared the different probes carefully and with attention to our group of participants: elderly, informal caregivers who are under stress due to the care situation (Crabtree et al., 2003), that don't have much time for themselves, energy etc.. Similar to Gaver et al. (1999: 25), we paid attention to the aesthetics of the materials. For instance, we didn't use a normal box for the tools, but a bright coloured one and covered it with pictures of us and contact information in the case that the participants would have questions and called it "treasure of experience box". This name is a reference to our methodological position that we were interested in the experiences of the caregivers and perceived those as a valuable contribution to the research. By this, we wanted to underline our appreciation for the hard, informal care work that is often "overlooked" or doesn't gain enough attention. Furthermore, we explained our participants that they were entirely free to use any or none of the probes we gave them. In the pictures below (pictures 1-6), some examples of the cultural probes are shown: the social landscape, entries in the actimo clock with smiley stickers and Polaroid pictures taken by the caregivers.

The probes stayed with the participants for two weeks up to one month. Originally, the probes were supposed to cover a period of two weeks and were supposed to be used every day during that period of time. Paying attention to the specific setting as well as the timely and emotional constraints of the participants, we realised a rather flexible practice in our part of the study in Germany: The participants were free to use whatever part of the cultural probes they preferred and whenever they found time for that; aiming at covering fourteen days more or less.

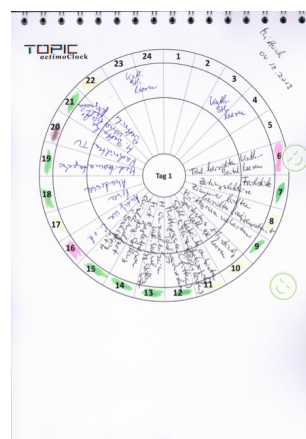
All the families used tools from the box, in some cases across the whole period of time. But the preferences and intensity of the use varied: for example, the male caregivers didn't wish to keep a diary, but used the camera, the stickers and short notes, whereas three of the women engaged with the diary enthusiastically. One of them, Mrs Wolff², was writing a care diary anyway and Mrs. Hermann referred to her former, positive experiences with writing down her experiences. In respect to the frequency of the use, some of the participants in Germany used the actimo clock daily and “reported” about the multiple events and feelings of the day, but there were also days that were left blank or just illustrated with smileys of a bad, sad or exhausted mood.

Generally, the feedback to the cultural probes was considerably more positive than expected. No one completely refused to use the probes. We used this material (diary entries and pictures) mainly as a stimulus in the later interviews to encourage the caregivers to explain their entries in detail. In most cases, the descriptions of the daily routines remained reasonably consistent over time, with just a few minor alterations in routine.

Here are some examples of the cultural probes from our participants:



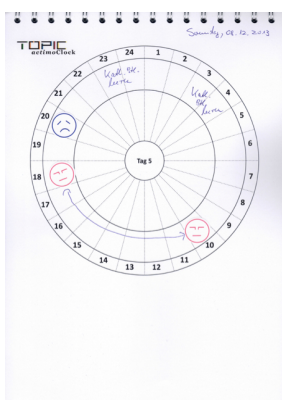
Pictures 1 and 2: two examples of the social contact map of Mrs. Hermann and Mrs. Kunze³



Picture 3: day 1 of the “actimo clock”, by Mrs. Hermann

² All names and references from the data material cited here are pseudonyms.

³ All pictures 1-4 were taken by the first author, the following pictures were taken and authorized by the participants.



Picture 4: day 5 of the “actimo clock”, Mrs. Hermann



Picture 5: polaroid from Mr. Jacobs: his preparation of “pre-cooked” food for several days



Picture 6: polaroid taken by Mrs. Wolff of a care situation

4 Conclusion

Generally, we were rather sceptical about the concept of probes in the beginning of the project. Being trained as qualitative social and cultural researchers, this way of integrating the participants in the research and design process was not natural to our epistemological understanding at first. And we also reflected on other projects that used diverse forms of probes and the associated pros and cons as Dourish (2006) and Boehner et al. (2007) summarised. Nevertheless, we faced some serious limitations for our preferred data collection method (mostly observations and informal interviews) that encouraged us to integrate the probes in our ethnographic approach.

The taken pictures, the entries in the actimo clock (especially those with just smiley stickers) and the social contact landscape served as “interview stimuli” – as subjects of conversations with the participants after collecting the cultural probes. Whilst explaining their entries and self-observation, most of the caregivers also reflected intensively their own care routines and situation and were not just “informants”. From our point of view, this can be perceived an important criterion for the quality of this kind of method within a participatory design project and process. In further (later) stages within this project, we came back to the results from the analysis of the cultural probes material from time to time, for instance when we had constructed first prototypes of the digital calendar. For some of the participants, the probes also served as references for their care practices and experiences along their cooperation with us.

In summary, our use of the probes here was neither a “pure substitute for ethnography” as Dourish (2006) criticized the use of probes in some studies nor intended to be

“inspirational data” for the designers as Gaver et al. (1999) pointed out, but an additional option for gaining information about the care practices by the means of self-observation when ethnographic methods hit the walls.

Acknowledgement

The authors thank all the caregivers and the professional care organizations in Germany for their great support. We are especially grateful to the families who opened their home for extensive participant observations. Furthermore, we thank our great research consortium in our project: <http://www.topic-aal.eu>. This research has been funded by the European Union (AAL-2012-TOPIC) and the Federal Ministry of Education and Research, Germany.

Literature

- Boehner, K., Vertesi, J., Sengers, P. & Dourish, P. (2007). How HCI Interprets the Probs. *Proceeding CHI '07 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1077-1086.
- Boehner, K., Gaver, W. & Boucher, A. (2012). Probes. In Lury, C. & Wakreford, N. (eds.): *The Inventive Method. The Happening of the Social*. London/New York: Routledge, 185-201.
- Breidenstein, G., Hirschauer, S., Kalthoff, H. & Niewand, B. (2013). *Ethnografie. Die Praxis der Feldforschung*. Konstanz: UVK Verlag.
- Crabtree, A., Hemmings, T., Rodden, T., Cheverst, K., Clarke, K., Dewsbury, G., Hughes, J. & Rouncefield, M. (2003). Designing with Care: Adapting cultural probes to inform design in sensitive settings. *Proceedings of the Australian Computer-Human Interaction Special Interest Group*, 4-13.
- Dourish, P., Implications for Design. *Proceedings of CHI 2006*, ACM Press, 541-550.
- Gaver, W., Dunne, T. & Pacenti, E. (1999). Design: Cultural. In *Interactions* 6(1): 21-29.
- Glaser, B. G. & Strauss, A. L. (1967). *The discovery of grounded theory. Strategies for qualitative research*. Aldine de Gruyter.
- Müller, C., Neufeldt, C., Randall, D. & Wulf, V. (2012). ICT-development in residential care settings: Sensitizing design to the life circumstances of the residents of a care home. *Proceedings of CHI 2012*, ACM Press, 2639-2648.
- Schorch, M., Wan, L. Randall, D. & Wulf, V. (2016). Designing for Those who are Overlooked. Insider Perspectives on Care Practices and Cooperative Work of Elderly Informal Caregivers. *CSCW, Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*, 787-799.
- Wulf, V., Rohde, M., Pipek, V. & Stevens, G. (2011). Engaging with Practices: Design Case Studies as a Research Framework in CSCW. *Proceedings of CSCW '11*, 505-512.