



LUND UNIVERSITY

Probing the recreational home –The cultural probe as a communicative tool for researcher and user

Kristav, Per

2005

[Link to publication](#)

Citation for published version (APA):

Kristav, P. (2005). *Probing the recreational home –The cultural probe as a communicative tool for researcher and user*. Paper presented at Joining Forces International Conference on Design Research.

Total number of authors:

1

General rights

Unless other specific re-use rights are stated the following general rights apply:

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: <https://creativecommons.org/licenses/>

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

LUND UNIVERSITY

PO Box 117
221 00 Lund
+46 46-222 00 00

Probing the **recreational home** –The cultural probe as a communicative tool for researcher and user

Per
kristav



Division of machine design Department of design sciences
Lund Institute of Technology at Lund University Sweden

Per.kristav@mkon.lth.se

ABSTRACT

How can qualitative, ethnographic and emotional aspects from probe users be mapped at the same time as they get something meaningful in return? The emphasis is here on intellectual rewards during probe work rather than future good designs that in a long term perspective can be beneficial for the probe user.

This case study has elaborated the traditional use of cultural probes [1] with a selection of ten families with small children in the Öresund region. The idea was to evoke thoughts about recreation and living for the probe users while providing information and inspiration to the scientist. This has been achieved partly through the use of collages. The mixed compositions of images and quotations in the collages are thought to give a quick and effective overview over both what thoughts the probe users have about their home life and how they live. The collages have then been handled over to the probe users as a platform for further discussions. The probes ability to work as something enriching and beneficial to the probe users have been further elaborated in a new way.

INTRODUCTION

The overwhelming central issue – utopian living

The idea of the recreational home – perfect living – is surrounded by strong notions of demand. An overwhelming number of the products we own and have taken to our hearts are a part of our homes. The home becomes a decisive signpost of lifestyle.

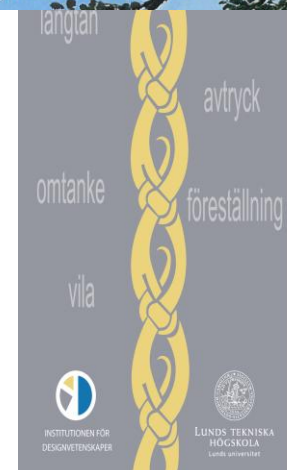
Who we are, or better yet, who we want to be will be understood and interpreted through our home interiors. This is also a fundamental reason why our homes play such an important role in our daily lives. We manifest ourselves through our homes.

We are constantly fed by the idea of “**perfect living**” in the singular (see Figure 1). How well we manage to fulfil our dreams effects our self-esteem and how we feel. It therefore makes sense to do research in this field.

Instead of leaving “perfect living” in the hands of professional interior designers and TV-programs like “Extreme make over” the probes encourage their users to reflect over their home environment by themselves in a more realistic and pragmatic way.

In this context, recreational living is, to a great extent, seen as an intellectual and cognitive phenomenon where well-being is based more upon how we experience the environment then on how it may be perceived from an “objective” perspective.

The question has been how research persons experience their homes when asked to speculate from collages with different suggested utopian interiors. Decoration and furnishing programs, magazines and products continuously mediate ideals and utopian projects that conflict and oppose each other. No one can live up to both the idea of perfect country living and that of central living in exclusive districts in the heart of the city.



THE ELABORATIONS OF THE CULTURAL PROBES

There are many ways to collect material about how different individuals experience their living environment. The first question is naturally how the material is going to be used. Is it going to be used for further generalisations? Is it easy to quantify? Or is it going to describe unique qualities and cases that can inspire? The perspective at hand suggests the later.



Figure 1: An interior magazine front page

The purpose with elaborating the user centred probe is to gain knowledge that can be integrated in product development processes and customer relation strategies in the future.

Concerning the users the cultural probes of this study has got yet other four partly unique sub objectives:

1. To develop the probe as a cognitive aid for the probe user to gain renewed control over home interior development. *To get an issue revitalized!*
2. To test the probes' ability to work as a remedy to home blindness and try to encourage new awareness for drawing up recreational home diagnoses.
3. To give inspiration and create new reflections, to form a well-reasoned story about home life and provoke new views to arise. *To activate members of specific target groups!*

If the objectives are achieved the probe users will hopefully experience higher well being in their home environment through the new awareness about the issue recreational living and home life.

The idea of a new sort of "move in probe" was awoken while working with the last probes. The "move-in" probe has been tested but not yet developed and evaluated like the other probes in this study. The design of the "move-in" probe is still more or less the same as the other probes but it serves a slightly different purpose as it is given to a probe user just when moving into a new home. The objective with this form of probe is then to work as a structuring and diversifying intellectual decision-maker while moving in. Carefully prepared it may help the user to end up with better-reasoned and thought-out interior solutions. In present form it may help

Probes have been shown to allow the use of collected material in studies similar to this one [2]. The focus is put on context and reflection rather than on specific variables, and in the end on insight and interpretation rather than on trying to prove certain facts. The approach even values uncertainty.

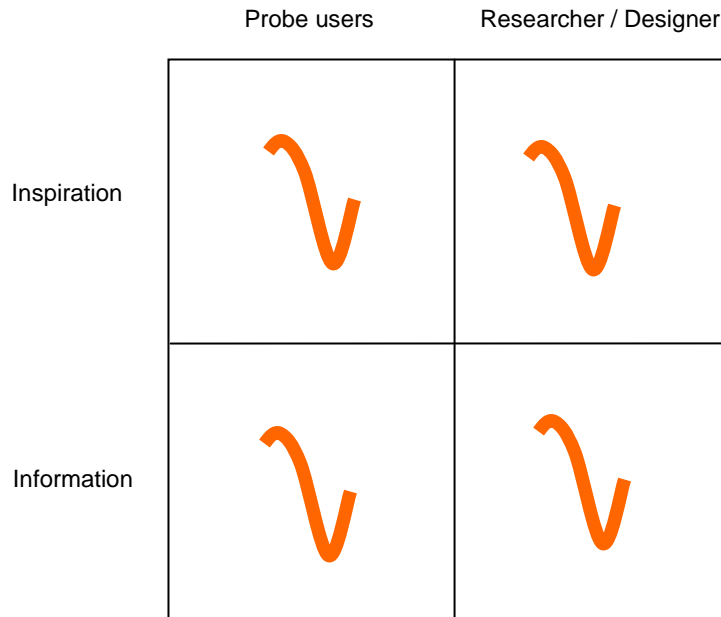
There is an interaction that allows subjective discoveries and interpretations [3]. Probes have, however, proven themselves to be well equipped to meet methodological obstacles that arise in different home environment settings [1]. The interpretations presented in this case study, as in all studies, are not free but focused and carefully selected. How can a probe be designed and developed to maximize the benefits and use for both probe user and researcher? In this case study the researcher wants material for inspiration and information from members of a pre-selected group: ten parents with small children. The probe users' compensation is stimulating intellectual tasks, new perspectives on their living, or even increased well-being. This might be possible to achieve due to the participatory and the interactive nature of the present probes. These sorts of probes are considered as emotional or cognitive toolkits [12].

OBJECTIVES AND RESEARCH QUESTIONS

This paper has been written chronologically as a journey showing practical probe method work in progress as the pages goes along. The main part of this paper is a report of how findings have been made. But before starting it must be pointed out that this study to a certain extent has two approaches. One that wants to further elaborate and gain experience about the user centred cultural probe approach itself, and one that focuses on how to influence and invite probe users to develop their recreational living.

the user to broaden and diversify decision-making concerning for example layout for recreation and human contact spaces. An overall objective with this practically orientated paper has also been to provide other researchers with some practical guidelines and advise for future probe work and development.

The model below illustrates the mutual engagement of probe user and researcher all achieved through the present approach.

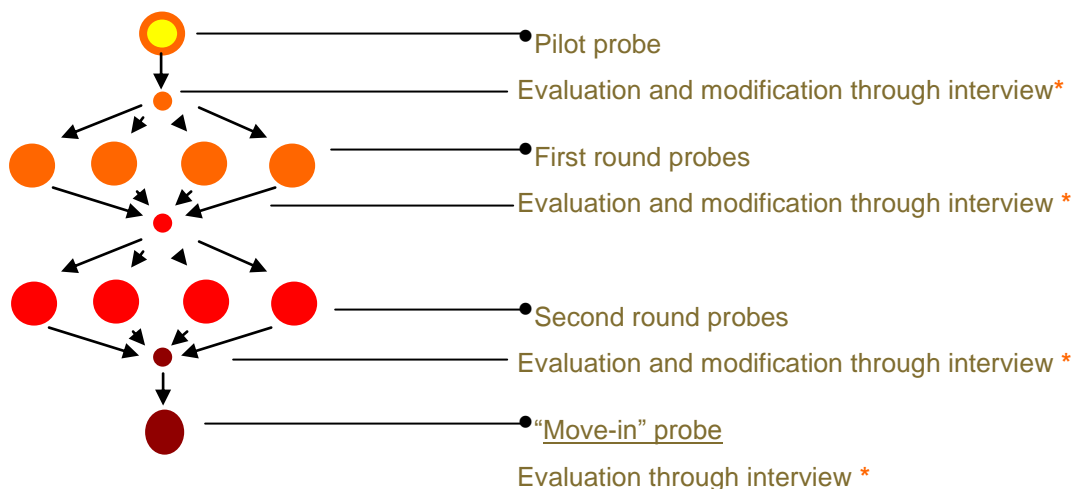


RESEARCH METHOD

A traditional probe objective has been to gain information from the probe users. The knowledge obtained has then often been used for target group analyses. As mentioned before getting inspiration has also been an important objective. This study has developed a new way to present information from probe users in an inspiring way through the use of collages. Collages have however been used before, and then as a user centred research method for product design [9]. The aim with the collages is to convey an expressive message, to support the probe users to express themselves by providing new associations and metaphors.

The mixed compositions of images and quotations in the collages are thought to give a quick and effective overview over both what thoughts the probe users have about their home life and how they live. When shown to the probe users these get engaged through new reflections.

The working procedure of this research has been chronological. Below a figure over how the methodological process has proceeded:



* Discussion over triggering collages and user collages

Discussion about probe work and procedures

Discussion about recreational living

THE PROBE USERS AND THE CULTURAL PROBE METHOD

This paper will continue with an elaboration of the cultural probe method as used in this study. After that follows an account for a pilot study, and finally the study itself.

All the probe users in this study are parents with small children. They all live in the Skåne region in the south of Sweden. About half of them have university degrees, some live in cities, others in the country, some in houses others in apartments and about half are men. The selection has not been strict in a statistical sense, and it does not have to be, as the probes do not claim any statistical reproducibility. They describe specific conditions in handpicked cases.

The reason for choosing parents with small children has been the triggering provocation that arises when they are let to compare the collage made from their home environment with the two collages made from magazines. The magazine collages have also been in the probe mixed with triggering questions about recreational living. All this in order to provoke and encourage the probe user to get emotionally involved. Some research with strong contradicting images to elicit opinions and stories about experiences and attitudes have been done before, [7] but mixing them with phrases in preset collages might not yet have been investigated.

There is a delicate balance concerning the introduction of the probe to the probe users. On one hand, the opinion is that as little information as possible should be hidden from the probe user. On the other, one might profit from being slightly restrictive when describing all the details about the future analysis directions of the material. This would be done in order to avoid presentation complexity as well as influencing the probe user too much in a certain direction. Doing so is not desirable even though the amount of hints given to the probe users has increased during the development of the probe. One motivation behind this has been to steer clear of a documentary orientated probe use. But there is a clear difference for the probe user between working with a probe from a well-presented, selected theme and to trying to adjust it in detail so that it fits into future analysis and theoretical approach of a study.

PILOT STUDY

The pilot probe was considered as a sort of antenna for testing the potential of the probe material; how it was to be experienced and above all how it was going to work as a whole. This opportunity to test and check the probe was important. The probe had to be easy to handle even from a cognitive point of view and thereby also easy to understand properly (see Figure 2). Its design also had to motivate the probe user and encourage playfulness and personal reflection.

The thought was initially to design the probe package in an elegant and stylish way. A black tube like the ones often used by architects for drawings and blueprints was considered. The expression was to be as objective and neutral as possible. Just a little label would appear on the outside. The idea of the black tube was later discarded in favour of a transparent soft plastic bag that looked more like a travel bag for toiletries.



Figure 2: The exterior of the probe

Probe interior content

The probe was intentionally designed to provoke, reveal and elicit some motives behind forming home life. Probes can be considered as provocative kits meant to call forth an inspiring response from people in different habitats. Probes can be used to give insight into how people live their everyday lives [1].

The pictures in the probe collages were taken from a selection of European magazines from 2004, mostly from their front pages. The pictures are all persuasive proposals of stylistic and recreational living home environments. These intriguing interior proposals were then mixed with questions and declarative statements regarding the issue. The collages covered two A3 colour pages.

The probe also contained a 27 shot disposable camera, a pencil and 27 numbered pieces of paper (one per picture). The use of disposal cameras and note taking materials are well tested.



Figure 3: The original probe content

All the items were then packed into the probe bag (12X17X21cm); a chocolate bar and a lottery ticket were also included (see Figure 3).

The outside label on the probe was at the same time a brief presentation where the entire project, *Rapunzel – recreational living*, is described with several catchwords.

The user of the pilot study

A suitable home with a father and children was found after some searching. The father seemed creative and filled with ideas concerning living and furnishing. He received instructions over the telephone. The probe was delivered to his house and he was asked to keep it for three weeks. This proved to be a wise decision as he could not show the camera to any of the children without them also wanting to take photos. Because of this, it was decided that future probes would stay in the homes for about a month. This longer period has proven to work well in other studies as well [3]. When the material was returned, the pictures were digitized, appropriate comments were matched to them and more general notes were listed separately.

Pilot probe evaluation

It was highly important to optimize positive experiences and to evaluate the probe with the objective of making the findings mutually interesting for probe user and researcher.

British researchers have also pointed out the advantages of letting probe users actively take part in methodological probe development [1]. This insight has led the probe elaborations ahead to a meta level. More about this will come later.

The first feedback to the probe user was to let him take part in the material when it had been put together. The first synthesis of the textual and visual material was the following A3 collage (see Figure 4).



Figure 4: The pilot study collage

The interview

A week later the probe user was called and asked some more all-embracing “*meta questions*” concerning the probe. The idea was for us to evaluate the probe work together. The technique to discuss collected probe material while interviewing probe users has proven to be a rewarding experience for both researcher and probe users. *For example se [7]*.

What follows are some of the questions we discussed:

- What was it like to work with the probe?
- Did it give you anything?
- What did the probe appearance express?
- Did you get any new thoughts concerning your living?
- Did the probe feel strict or more like a funny gadget?
- Did the probe work help you to see your home from a slightly new perspective?
- What was most difficult or dysfunctional with the probe work?

The following factors affected future modifications of the probe:

- The probe user wanted more guidance.
- The probe user felt bad about experienced inefficiency during probe work.
- The probe user found it difficult and time consuming to determine what to exclude from the probe.
- The disposable camera felt too definitive and static because it was impossible to edit the photos. *“A picture taken is a taken picture!”*

Modifications of the pilot study

It felt hazardous to modify the probe after a first pilot test without restrictions. But to include the impact of newly gained experiences on the probe design felt reasonable. Some triggering questions were added, others were slightly reformulated. The altered probe focused more on encouraging continual note taking during the probe work.

After scrupulous considerations, the original disposable camera was kept in the probe. The fact that the probe users are unable to edit or look at the pictures after taking them is something of a drawback. There are yet no digitally editable low price or disposable cameras on the market and this study did not have any other ordinary digital cameras to borrow. However, in some teenage groups with a high number of mobile phones with digital cameras, probes might work very effectively through continuous SMS and sending of pictures. However researchers have found that there are also many interface and technical implications with this quite new technology [10]. Other studies have developed probes so complex and bulky that they could hardly fit into a large moving box. They have contained a variety of material such as digital scanners. Because of their extensive designs they have required considerable commitment from their probe users [4]. Possible probe designs are a broad field, though, directed by the purpose, available resources and time frames present. Probe approaches made by other researchers have for example focused more on understanding and mapping needs of different target groups like i.e. eWorkers and how they furnish their homes according to their preferences and lifestyles [13].

Ethics

The totally voluntary basis of the probe work in this study has been emphasized for the probe users; it is a hopeful belief on the part of the researcher that no one has felt obliged to participate. Those taking part have been well informed about how the material gathered might be used in the future. They have also had a chance see and influence the collages. Communication with the probe users has been continual.

The collages, unfortunately, do not permit total anonymity – “But that’s Bengt’s living room!” Consequently, the users were also asked and gave their approval to use the collages in this study.

The four next cultural probes

It became evident that the way the probes are delivered and presented is crucial. A goal has been to carry out a presentation, delivery and collecting procedure as uniform as possible.

Already at first sight, the probe users perceive ideas about the probe work. In order to get direct feedback about how the probe was first perceived, all remaining probes have been handed over in person. This was also a way of connecting the probe to a face. Other scientists have had positive experiences in presenting cultural probes in person as well [2] and [5]. This gives the probe user a clearer understanding of how to execute the probe work before starting. No telephone call or letter can provide the tone and pitch of the probe better than a personal meeting. The disadvantage is that the number of probe packages which it is possible to distribute is restricted due to the time consuming nature of personal appointments.

However there has been an obstacle. The probe users have sometimes had difficulties taking the step from using the probe for material documentation to using it for documentation and establishment of immaterial thoughts and reflections. The probe was again

scrutinized in order to manifest the importance of the personal engagement. Further encouraging probe users in this direction was a challenge before the last probes.

Three new questions were raised:

- Were the triggering questions hard to relate to?
- Was the presentation of the probe purpose unclear?
- Was it complicated to transform personal intellectual thoughts to words and pictures?
- Could the probe be made easier to work with?

To get answers to these questions was one of the topics during the compulsory telephone interviews that followed a week after the probes were collected.

The probe users had, however, no clear suggestions as how to improve the probes. But the idea to wait with sending the camera until half-time was debated and so was the idea of whether it would be a good idea to limit the number of pictures to about ten.

The issue

The triggering questions are a technique to structure, exhort and invite probe users to think thoughts that they would not think otherwise, and to take pictures they would not normally take. It is important not to restrict the probe users ability to apply own views and interpretations into the probe. Open questions are therefore to prefer [8].

The following is a list of the questions. In the probe they are mixed with the interior pictures (see Figure 3).

- What thoughts arise when you see these arranged pictures?
- How does your home appear in relation to these pictures?
- What makes you feel good? (*At home*)
- What is your sanctuary?
- Is there really such a thing as perfect living?
- What is a friendly home to you?
- Your home – a locality for service or a meeting place?
- What are you the most/least satisfied with in your home?
- Why does your home interior really look the way it does?
- How does it affect you?

The probes have gradually been updated and modified after the pilot probe; all this in order to reinforce the probes ability to problemize the issue and to provoke and evoke thoughts to arise for the probe user. The predominant objective is not to collect information, but create inspiration and dialogue – a form of mutual exchange between scientist and probe user rather than a more traditional one-way extraction of information. There are, however, different views about what purpose cultural probes ought to serve. Some argue that collecting inspiration is the most important [3]. Others emphasize that their most appropriate use is to collect information [6].

THE FOUR FIRST COLLAGES

The researcher has originally put all the collages together. The most striking sentences have then been mixed with the most interesting pictures from the probe cameras. Documenting pictures without any comments have been left behind. The collages have then been shown and discussed together with the probe users; in some cases the collages have then been modified. Pictures of the four last collages are not printed out in this paper but findings from them are included in the analysis.

Here follows the first four collages (see Figure 5,6,7,8).



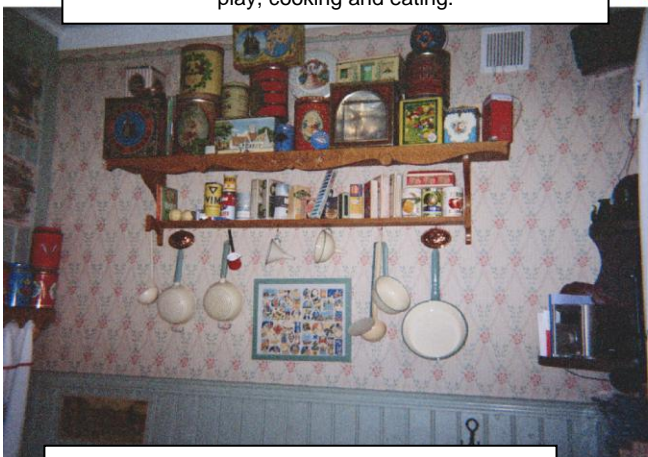
Special solutions that we like!



Most delighted about the kitchen! Plenty of room for play, cooking and eating.



Our home is smaller, messier, more colourful and mixed-up and not as well thought-out and uniform as many of the cold, impersonal, boring and arranged interiors in the collages!



"The collecting shelf". We just like to look at it!



"TOALUSSKÅPET" We have designed all cupboards ourselves!

Figure 5: Collage 1a



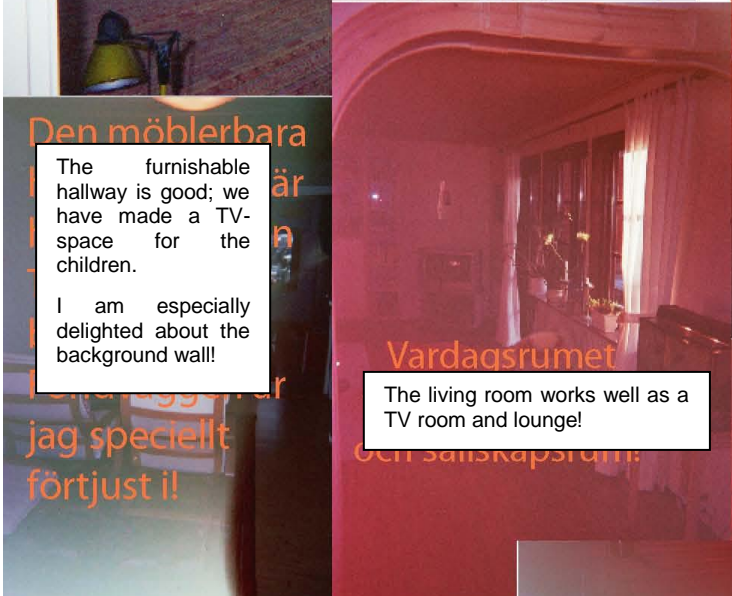
Figure 6: Collage 2a



Jag vill att sovrummet skall
I want the bedroom to be
stylistically pure, but warm and
cosy at the same time! There
will be wardrobes with mirrors
as well.
med speglar också.



Hallen har vi tänkt måla i en lite
We will paint the hall in a funny colour; it is
quite easy to repaint when we get tired of it.
The hall is a bit dark, but we have put
spotlights in the ceiling that we are very
pleased with!
taket som vi är mycket nöjda
med!



Den möblerbara
The furnishable
hallway is good; we
have made a TV-
space for the
children.
I am especially
delighted about the
background wall!

Vardagsrummet
The living room works well as a
TV room and lounge!



Här har vi tänkt göra vid
allt!
D
fr
ör
finns den? Den tar ju ljus
och rymd.

Here, everything will change!
There is a wall in front of the
bathtub, why? All it does is to
take space and light.



Detta arbetskök fungerar bra, men
kun
öpp
mycket det gar!
Vi vill
t så

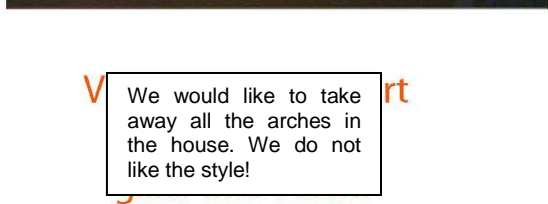
The kitchen works just fine, but
we want to open up towards the
dining room as much as
possible!



Matrummet var det
It was the dining room
we fell for in the house.
It feels a little different.
We have put glass in
the lower part of the
terrace door to get more
light.



Här vill jag göra
I want to change a
lot over here. A bed
with a head board,
lights, bedside table
and perhaps a shelf
above. The walls
will have a new
colour or wallpaper.
Väggarna ska får
ny färg eller
tapet.



V
rt
We would like to take
away all the arches in
the house. We do not
like the style!

Figure 7: Collage 3a



Furniture that fits all in the family is good.

Why is the hallway always over filled with clothes?



We really like our corner microwave

Varför
Why are
bathrooms built
without
windows?
Totally
worthless!
Helt
värdelöst!

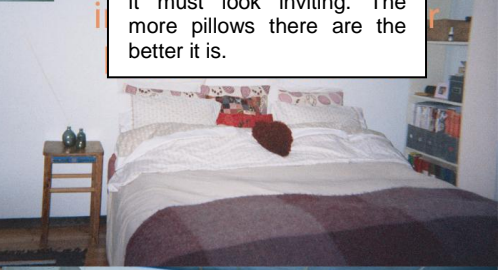
Sängen är det viktigaste i
The bed is the most
important place in the house,
it must look inviting. The
more pillows there are the
better it is.



Cupboards this practical are
probably not made today.



Curtains are good to
screen off with when
one does not have
the urge to tidy up
the writing table!



A strip to put
pictures on
makes it
easy to
change
composition
when fed up.



IKEA:s
telescopic
laundry
basket is
just so
good!

Figure 8: Collage 4a

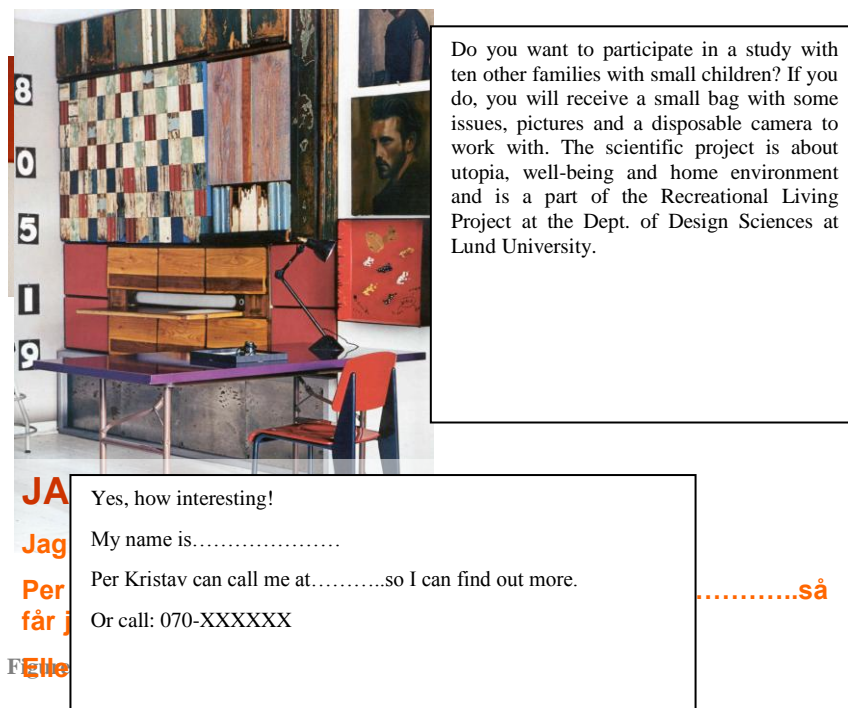
The four final cultural probes

The final modifications made were to encourage the last probe users to concentrate their picture taking to the end of their probe work and to keep the two probe collages when returning the probe. This was done to be able to refer to them as a basis for further discussions during future telephone interviews.

Finding “suitable” probe users is a delicate matter. The idea is that well-motivated probe users get more out of their probe work and also produce higher quality material than less motivated probe users do. Probes are always a risk; the success of a probe study depends on motivated and collaborative users and their interpretations of the tasks [11]. In this study highly motivated probe users willing to truly engage themselves in probe work are indeed wanted. What can one do then in order to accomplish this?

An inquiry was sent out in A5 format to a number of families with small children all acquainted with the first probe users. The first probe users also delivered the inquiry. Affirmative answers were then handed back to the first probe users and then, in turn, to the researcher. In some cases, the future probe users contacted the researcher by telephone. This was directed by the inquiry.

The printed inquiry becomes something of an assurance, an undefined affirmation about engagement in the future probe work. Leisure time is a precious resource that families with small children seldom have in surplus (see Figure 9).



FINDINGS AND CONCLUSIONS

The probe users have expressed that the probes have been an inspiring experience. The probe content has shown able to work as an activator to revitalise reflections concerning recreation. The collages have been a source for both laughter and reflection.

According to the probe users the probe work has helped them to form a story about their home environment. The meta purpose to bring the issue to life has been fulfilled. Some probe users have also described how they started to experience their home life in a slightly new way. One probe user described how he got renewed control over interior development in his home after being able to pinpoint some factors that before had been hidden to him. Other probe users describe how the probe work has worked as a cure against home blindness. The probes seem to have helped the probe users to distance themselves to their home interiors.

Two quotations below:

”The hall again, does it look worse in the camera or do I see it with new eyes?”

”It seems like it *//(the probe)* makes the familiar strange to me! ”

Yet another probe user told that he now will stop the gradual development from aesthetics to functionalism in his home. He have decided that he needs a aesthetic spot in his home in order to relax from effectiveness and stress. This probe user has reached awareness enough to draw up a home recreational diagnose and cure.

When looking at the user collages one gets a clear picture that it is the unique details in the home that are important when it comes to recreation. Custom-built features give self-esteem and well-being. The feeling of being able to influence the home environment in a unique way. An example from a content probe user:

“One had to be insistent to get the whole floor to slope towards the drain;
no ordinary company would do it!”

The probe users also talk a lot about self made solutions as something important for well-being. Below an example:

“The bathroom cupboard! We have designed all the cupboards ourselves.”



Another thing often mentioned by the probe users is functional storage. Below examples of a new and an old storage solution from one probe user:



“IKEA’s telescopic laundry basket is just so good!”



“Cupboards this practical are probably not made today.”

An overall finding about recreational living extracted from the user collages is the importance of “a heart in the house.” When the probe users write and talk about well-being and the heart, they do this in a double sense. There is both a spatial and an emotional side.

“It must look friendly, it must have a heart, a feeling that people live there, are happy, laugh and play together.”

“I am comfortable at home when I feel that the children feel good, that creativity is given enough room, when the atmosphere at home is funny and cosy. This is not possible in a cold home that looks like an exhibition where perfectionism and cleanliness is more important than anything else.”

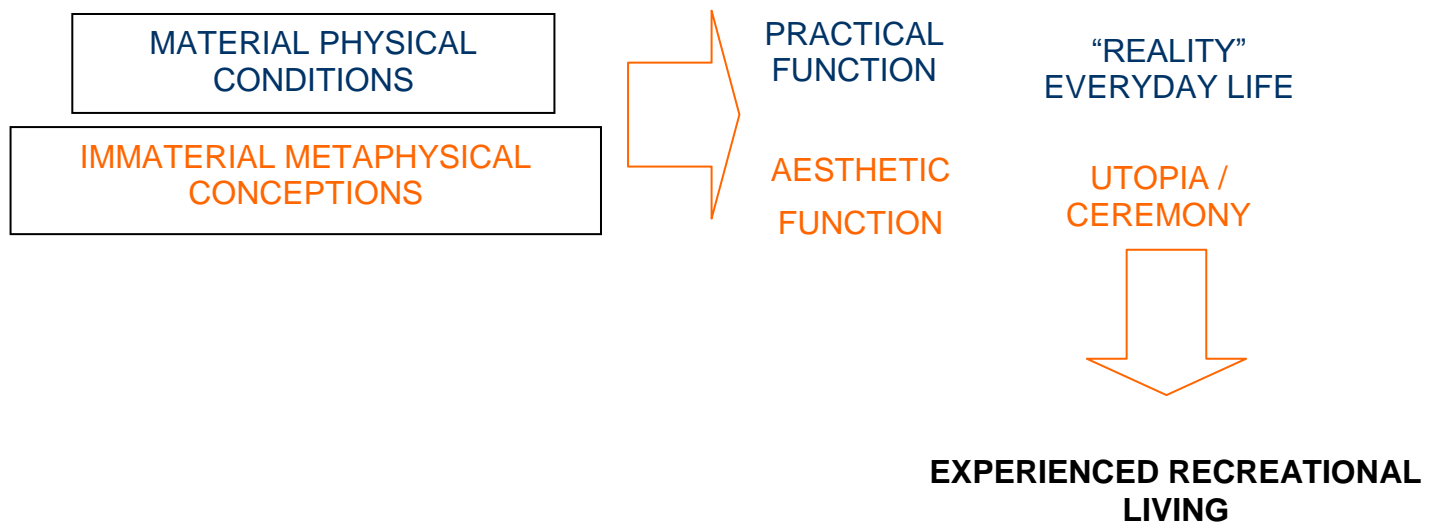


Analysis

The probes in this study have on the whole fulfilled their objectives. They have inspired and activated the probe users to reflect more actively upon their home interior environment. Creative thoughts have arisen in the head of both probe user and sender.

Some probe users have written down short stories about how their home came to be and why it is like it is today. The inviting provocations of the two magazine collages have also made the probe users form a story about their home interiors. In this way the probes has worked like a home recreation activator.

The figure below shows the analytic division between two conditions behind experienced recreational living. They can not be isolated from each other since they also represent the division of body and mind. From this one can, for example, extract that it is impossible to determine if a home environment is recreational for its inhabitants by looking at it simply as a material manifestation or entity.



Here follows some positive effects from using probes as suggested by this study from three different points of view. After that this paper ends with showing a demonstrator as an example of how products can be formed from findings made from the present probes.

For the probe user:

- It is easy to get started and perform well in probe work as the research question is made vivid
- The triggering collages invites and engages in an effective way
- The task do not appear to be to complex, strict or to academic
- The probe leaves enough room for own interpretations and ideas
- Encourages new reflections to arise

For the researcher:

- Editing the probes to user collages is a stimulating process
- Probe work instructions made (*Instructions through triggering questions*) do not restrain the probe user
- It is easy to deduce findings
- Leaves enough openings for own interpretations
- Encourages new reflections to arise
- Convenient for group discussions and sessions

For the management directors in industry:

- It is effective to present visual and textual information together
- Photographs and selected short quotes reveal everyday realism and authentic situations and give an intuitive and expressive overview
- It is quick and easy to deduce findings and “scan” to support design
- Leaves enough openings for subjective interpretation and insights well fitted in the early phases of design
- Encourages new reflections to arise
- It can reveal and add new sides to user understanding

FUTURE RESEARCH AND APPLICATION IN INDUSTRIAL PRODUCT DEVELOPMENT

This study has further developed the use of cultural probes. In industry, a deeper knowledge about users is becoming more and more decisive. Pre set written surveys and interviews are simply not enough. In early phases of product development, more traditional methods are apt to miss out unexpected but important information. Consequently they need to be complemented with mediating tools which are able to elicit information of importance for more innovative solutions. Even probes have to be further elaborated to better explore the complex and changing nature of different target groups and users. The present study has been an attempt in this direction.

There are different kinds of future applications of cultural probes working with the form of collages and continuous interaction with users described in the present study. Probes might encourage and support an empathic dialogue between design teams, researchers and users [7,14].

Another interesting future application might be to develop internet-based probes for customers to download from company homepages and submit after a suggested timeframe. This would help customers to map and analyse latent preferences and hidden needs, perhaps even awake or reactivate slumbering desires. For the home interior manufacturing industry, this would provide an intellectual tool to reach well-founded and reasonable home environment solutions and sets of product choices. A broader base for decision-making would also be provided, adding considerations about e.g. future well being and contact spaces in the home. For users of the web-based probe, a template is provided for attaching one's own pictures and comments. The template then creates a collage for the customer as a cognitive basis for further reflections.

Probes could also be developed as communicative tools as part of regular equipment of users in working environments. By use of probes, workers could map perceived risks or moments of discomfort while working. Further weaknesses of cognitive interfaces of various products could be documented and mapped at use in order to improve future products and environments, of advantage for users as well as companies.

DEMONSTRATOR

Another idea with this study has been to test this form of probes ability to develop demonstrators. Is it possible to get material from the probes that can evoke and inspire new product designs and solve problems present in the everyday life situations of the probe users? Can cultural probes through access to personal experiences and changing contexts propose concept designs? Other studies suggest that it can [7].

A way to verify this is to create a demonstrator from ideas and thoughts that have been raised during the analysis of the probe collages. The probe might work as a sort of scanner for continuously detecting new needs in the home environment of a specific target group. The material gives inspiration and ideas that might, in turn, generate product proposals [3].

This study has developed a demonstrator from the probe material. Analysing the probe material gave a clear message that the probe users often experienced storage as a great problem. Another finding was that well-being was very closely connected to the probe users ability to customise mass produced products.

“The everywhere pocket”

The pockets can easily be fabricated at a low cost in plastic or cloth materials. The pockets have a push button function and can be fitted everywhere on textiles, shower curtains, tiles, wood or plaster.

The pockets in the pictures have drainage holes in the bottom and some of them have a lid. The pockets can also be attached with screws or pushbuttons combined with suction cups.

The pockets offer the probe families the possibility to store small gadgets wherever they want to. The pocket can also be combined and customized. The pockets could, in there most adaptable form, just consist of separate parts and a system of combinable patterns for the user him- or herself to design and manufacture.



ACKNOWLEDGEMENT

IKEA Stitching foundation

Lena Sperling Division of Industrial Design Department of Design Sciences at the University of Lund

REFERENCES

1. T. Hennings, A. Crabtree, T. Rodden, K. Clarke, M. Rouncefield. Probing the Probes. Available online at: <http://www.equator.ac.uk/PublicationStore/2002-hemmings-2.pdf>
2. B. Westerlund. Cooperative Design with Families. KTH. <http://interliving.kth.se/publications/CID-140.pdf>
3. W. Gaver, A. Boucher, S. Pennington, B. Walker. Cultural Probes and the Value of Value of Uncertainty. In Interactions, 2004,
4. J. Kjeldskov, M. Gibbs, F. Vetere, S. Howard, S. Pedell, K. Mecoles, M. Bunyan. Cultural Probes to Explore Mediated Intimacy. Available online at: <http://www.dis.unimelb.edu.au/seminars/OzCHI04-Intimacy-draft.pdf>
5. B. Gaver, T. Dunn, E. Pacenti. Cultural Probes. In Interactions, 1999.
6. A. Crabtree, T. Hemmings, T. Rodden, K. Cheverest, K. Clarke, G. Dewsbury, J. Hughes, M. Rouncefield. Adapting Cultural Probes to Inform Design in Sensitive Settings. 2003. http://www.equator.ac.uk/PublicationStore/OzCHI_2003_Probes.pdf
7. T. Mattelmäki. Industrial design User centred tools for concept creation. Probes seminar, 2002 Available online at: http://smart.uiah.fi/luotain/eng_documents.htm
8. T. Mattelmäki. VÄINÖ-taking user centred steps with probes. Published in the proceedings of Include Conference, 2003.
9. N.J. Serpello. Collages as a human centred research method for product design. Consumer product news. 2002. <http://cptg.hfes.org>
10. S. Hulkko, T. Mattelmäki, K. Virtanen, T. Keinonen. Mobile Probes. In proceedings of the third Nordic conference in human-computer interaction. 2004
11. T. Mattelmäki. Applied Probes. Presentation at the Liz Sander seminar. 2003
http://smart.uiah.fi/luotain/pdf/applied_probes.pdf
12. E.B.-N. Sanders. Design for Experiencing: New tools. Proceedings of the first international conference on design and emotion. 1999. www.sonicrim.com/red/us/pub.html
13. K. Virtanen, T. Mattelmäki, S. Heinonen. Visiting eWorkers' Homes –Three Stories for Designing eWork Homes and Furniture. Conference paper at the eChallenges e2004 Conference. 2004
http://smart.uiah.fi/luotain/pdf/Visiting_eWorkers_Homes_eChallenges.pdf
14. L. Sperling, D. Christoforidou, E. Olander. Communication with users in industrial design activities. Division of Industrial Design, Department of Design Sciences. Submitted 2005