

Acquire User Insight with Systematic Design Observation

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ABSTRACT

Context of use is essential in any design project. This includes understanding the users. Designers can get user insight with exploratory research. Usually the best approach is to get in contact with relevant users. Observational methods let the designer interpret the observed actions in the context of the user's environment. However, human memory and perception is flawed. Social science have developed the method of Systematic Observation, to ensure reliable results. This method provides support for a summative evaluation, but designers try to improve a product or service, not only document its weaknesses. A solution can be Systematic Design Observation, (SDO). This new adaptation is trying to address the concerns and possible weaknesses of Systematic Observation. The use of an observation schedule and focus on reliable data is still essential, but SDO is inherently more qualitative in its approach. The user explain the work he performs and share his thoughts. Prior to the observation, the designer prepare a framework to record his findings. Compared to a structured interview, SDO is a structured observation. This lets him get as much as possible out of the field visit.

KEYWORDS: User insight, Systematic Observation, Systematic Design Observation, SDO.

1. INTRODUCTION

Recipe for *perfect* design. First, understand the user. Then make something awesome. Test and try again, until time is up!

The Human Centered Design process begins with understanding the context of use (International Organization for Standardization, 2010). Who will use my product or service, how will they use it, and what is important to them? These are familiar questions for a designer, but how to answers them? Behavior researchers propose observation as a common way to study behavior. How people behave can provide good user insight, and simply asking people what they want, do often not provide the full picture.

Psychology research have showed that people often idealize their needs and desires (Goodman, Kuniavsky, & Moed, 2012). As a result, people's answers about what they prefer will often not correspond with their actual needs, values and behavior. Therefore, it can be good to use observation. Designers have used observation as a method for decades, but is observation as simple as just watching people? You can just go out and visit a few users informally. That in itself will provide valuable information, but to get the most out of such visits, you need to take a more formal approach (Gaffney, 2004).

There are many types of observation techniques. Behavior research have the method

Systematic Observation as opposed to casual observation (Sommer R. & Sommer, 2002). This method is explained as a structured observation, where scoring systems and categories have been decided on in advance, to reduce bias and ensuring reliable and accurate data. The different kinds of observations have many names and overlapping borders. One reason for this can be that observation are contextual, and the designer is required to adapt the method to the situation.

“Designers who do not understand their users, frequently develop products that are difficult to use and understand, do not meet real-world requirements, or provide irrelevant functionality” (Gaffney, 2004). This literature review will explore how to conduct user research for a design project. The scope is observational methods, with focus on Systematic Observation. How can this method be useful for designers and when should they use it?

2. METHODS

This article is a literature review of design methodology on user research. In the beginning of the research, the focus was on predicting user behavior. A preliminary search in the database Oria showed that most of the articles on this topic was in other domains. They had little relevance, or where in computer science with focus on using machine learning or formulas to predict user interaction. By adding keywords like *interaction design* or *information platform*, no results were found. The same happened when using Scopus. By changing the focus over to getting user insight, the searches returned more specific results, like the scenario method. Most results was still not in the domain of design, but the idea of looking into different methods was born.

Martin and Hanington’s book, *Universal Methods of Design* (2012), present a wide range of different design methods. Mapping the

methods in relation to user insight, produced four main categories. Getting, using, communicating and testing user insight. In this review, the concept of user insight refers to the designer’s understanding of the different users of the product or service of interest. Most of the design methods was in the category of getting insight. Particularly observation and interview seemed like good methods for getting insight to be able to predict user behavior. Following the references under observation, in Martin and Hanington’s book led to other interesting books. My supervisor suggested additional books. The sources provided a wider perspective on the method observation and on research quality in general. The literature also describe observational methods form other technical fields, like Systematic Observation from behavior research. It is interesting to discussion how useful this method are for designers. What kind of research do a designer need? In the end, a new design method is suggested. This method is based on Systematic Observation, and try to address the discussed concerns.

3. RESULTS

Good user insight allow the designer to know which problem to address. Our job as designers is to help making more useful, more desirable and more usable products. Therefore, good user insight is necessary to ensure that important design decisions is not based on faulty assumptions (Goodman, Kuniavsky, & Moed, 2012). A designer can take many different approaches to user research. In this review, the term *user research* refer to research that provide the designer user insight. A researcher can go through literature or do exploratory research. Often will a combination of methods give the most complete picture of the situation. The different methods will give the researcher different vantage points. Diversity in the researchers view will help him be sure of what is really going on. Thus, make the right conclusion on how to proceed.

3.1. Exploratory methods

Exploratory methods provide ways to interact with people, which allow the researcher to better understand them. Some of the most common methods for user research in the field of design is interviews, survey, focus groups, diary studies and observation. They differ in many ways, but one way to sort them, is on the level of contact with the user, as showed in figure 1 below.

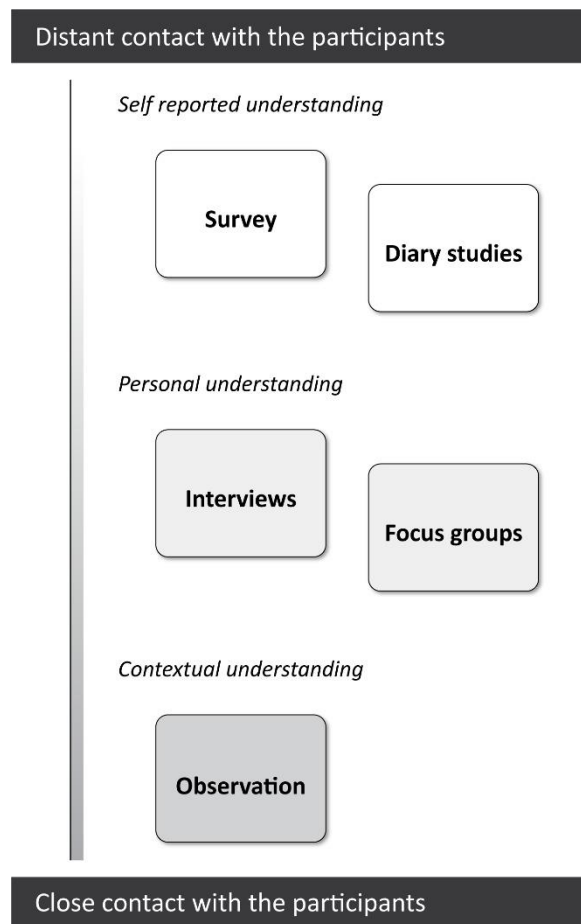


Figure 1: An overview of the different methods used to acquire user insight. The methods range from distant to close contact with participants.

Survey is a quantitative method. It is a good tool for checking who the users really are, and what opinions and attitudes they hold. Goodman, Kuniavsky and Moed define a survey as a “set of questions that allows a large group of people to describe themselves, their interests and their

preferences in a structured way” (2012, p. 327). A survey can take many forms. When making one, the goal of the survey will influence what kind of questions it contains. Surveys must be carefully crafted. If the wrong people are asked the wrong questions, the produced results can be incorrect or misleading. Surveys depend on the respondent’s honesty and understanding of themselves. Therefore, the results should be considered critically.

Diary studies let people track their own progress of using a product, performing a particular activity or a specific experience, and report it over time (Goodman, Kuniavsky, & Moed, 2012). It provides an unobtrusive view into their life and reduce recollection bias. It is a geographically distributed qualitative research method. Diary studies allow the researcher to track multiple people over a large geographical area, for a longer period of time. The method encourage the participants to share deep thoughts and casual observations. It can follow them anywhere, which allow for studying people in situations that take place in inconvenient locations, where researchers might not be welcome.

Diary studies is often used in the beginning of a design process. It allow the researcher to follow the participant’s behavior and activities, which gives insight that can create the base for a survey or later in-depth interviews. The method can also be used later in the process, as a kind of extended remote usability test. Diary studies require a bit of work, to pull off. Finding the right participants can be challenging, and the material they are provided, need to be motivating and easy to use. The method require multiple pilot tests, and contact and guidance of the participants throughout the study. It can also become expensive, when paying a large number of participants.

Interviews are the underlying base for most techniques. To really understand the user’s experience, the researcher need to ask him or her about it, and that is an interview (Goodman,

Kuniavsky, & Moed, 2012). A researcher can structure the interview with planned questions or focus on an object/prototype (Martin & Hanington, 2012). In exploratory situations, interviews are more flexible, and allows detours that can give surprising findings. An interview is a powerful tool, for validating earlier findings, by asking the participants to share information about their experience, opinions, attitudes and perceptions.

Focus groups are structured meetings with a small group of users, where they can reveal conscious preferences, recalled experiences and stated priorities (Goodman, Kuniavsky, & Moed, 2012). Focus groups have been used as a marketing tool since the 1950s, and is considered to be an effective and relatively inexpensive method. Focus groups are good at discovering people's desires, motivations and values. It can be very useful early in development, when generating ideas, prioritizing features and understanding the needs of the user. This method provide insight based on self-reported beliefs and preferences of a fraction of the targeted user group. To get a more extensive understand of the users, additional methods should be used.

Observation is an empirical method for data collection that rely on the observer going out in the field in search of information (Denscombe, 1998). The method uses direct information, as opposed to interviews and surveys, when the researchers recorded data based on what the participants tell them. Observation will be the further focus in this review.

3.2. Observation

The task of most user research is not just to discover product requirements but also to understand how people live – and how they might like to live differently. One of the best ways to understand people's experiences is to see them for ourselves (Goodman, Kuniavsky, & Moed, 2012). Observation is often used in the beginning of a design process, before any

product or prototype have been made. The goal is to understand both how and why people do what they do. Observations provide information about the environment people live and work in, that cannot be acquired otherwise. It helps the researcher to interpret their lives within the context of that environment – and not as they recall their lives while sitting in a lab or conference room. It uncovers what people really do, how they define what is actually valuable to them, and what will compete with your product for their time and attention. It is also possible to use observation between iterations, as a redesign process. By investigating how people use the product, check the initial assumptions and to find areas the product can expand into.

Different observation methods have evolved in different fields. Like Participatory Observation, Systematic Observation, Qualitative Observation, Direct Observation or Field Studies. The goal with an observation study will form the research, but in general, some main aspects can divide the different observation methods. First, how participatory is the research? Is the researcher part of the scenario they observe? In one end of the scale is the Fly-on-the-Wall Observation, compared to ethnographic studies where the researcher lives with people for weeks or months.

How structured is the observation? Do the researcher know what scenario he will observe, what he is looking for, and how to record it? Lastly, how open or hidden is the observation. Are the participants aware they are the target of the study? People can alter their behavior if they know they are being watched, hidden observation try to preserve the natural behavior. It comes with some challenges. The researcher cannot ask questions, because he do not want to draw attention to himself. It can also be hard to document the findings.

All observation methods bring some ethical issues. One main issue is the participant's lack of control over what they convey to the researcher. This is especially true for hidden

observation, concerning people's privacy. It can also be challenging to present the results while protecting the participants. Any observation study can present new ethical issues. The project depended nature of observation studies require the researcher to thoroughly consider ethical issues for every observation.

3.3. How to carry out an observation?

The different kinds of observation methods have many similarities, but there is not a fixed way to carry out an observation study. The nature and scope of the study will normally determine how it should be conducted. Still, most observation studies are consist of three stages (Stanton, et al., 2013).

- The observation design stage
- The observation application stage
- The data analysis stage.

The first stage of an observation is about defining goals and planning the observation. This include getting access to the users. Set up an appointment for the observation, if it is not a public place. Consider ethical issues and preparing the right equipment.

In the observation application stage the study is conducted. The researcher can use video and audio recording equipment to capture the behavior, in addition to notes. After the observation is done, the analysis stage begin. The notes from the observation will often mainly contain keywords, and these notes need to be written out to become field notes. This is a time consuming process, but is very important for further analysis, and should be done as fast as possible after the observation, when the experience is fresh. When the analysis is done, the conclusion should provide an answer to the aims and goals of the observation. It is considered good practice to give the participants some feedback after the analysis are completed.

3.4. The observers perception

Good results must be founded in valid and reliable data (Sommer R. & Sommer, 2002). Validity refer to the credibility and honesty of the information produced by a method. Validity is divided in internal and external validity. Internal validity means to which degree the method measure what it is supposed to measure. External validity describe to which extent the results can be generalized. Research in natural settings, like observations, often provides higher external validity than research from the laboratory or conference room. In contrast, research in controlled environments is often higher on internal validity. Reliability describe how replicable the findings are. Reliable methods produce the same findings when applied on similar people in similar situations.

Two researchers observing the same event are very likely to make different records of it (Denscombe, 1998). The competence of each researcher and the level of commitment will obviously influence the collected data, but the underlying reason for the differences can be understood when looking into how the brain works. Of the vast information on psychological factors connected to memory and perception, Denscombe point out three principles important for the explanation of the variation in observer's recorded data. First, an observation provide an enormous amount of data. The human memory is frailty, and cannot possibly remember every detail of a situation. Actually, we forget most of what we see. The pattern in the way our mind manage to recall certain things, and forget others is called selective recall.

The second psychological principle is selective perception. The mind filters the information it receives through the senses. In order to reduce the information down to something comprehensive, the mind uses selective filters. This welcome some information, while simultaneously make many other aspects more challenging to perceive. The last principle

describe how our feelings influence our perception. If one of two observers is very tired, they will probably experience the same situation differently. The emotional baggage people have accounts for accentuated perception.

When observing, people have a tendency to highlight some information and reject other, depending on familiarity and experience with the situation in addition to the observer's physical and emotional state (Denscombe, 1998). Psychological evidence suggests that the mind acts as an intermediary between the world and the way an individual experiences it. This makes observation a fairly subjective evaluation. Especially because perception almost always is influenced by an element of interpretation.

3.5. Systematic Observation

The psychology of memory and perception implies that different observers will record different data (Denscombe, 1998). The results are too dependent upon the individual and the personal circumstances of each researcher. Systematic Observation tries to address this, by preparing rules, categories and scoring systems to an observation, to increase the inter-observer reliability. From a social sciences point of view, researchers can divide observations into two main categories, Systematic and Participant Observation (Denscombe, 1998). Systematic Observation came from social psychology, first used for studying interaction in settings like school classrooms. Later also commonly used in behavioral research in traffic. The method usually is associated with collection of quantitative data, and use of statistical analysis. The other category is Participant Observation. This is primarily a qualitative method, often associated with sociology and anthropology. Observation methods in the field of design is often participating observations. Systematic Observation is suitable for recording overt behavior, which is measurable in a direct manner. It can be the frequency or duration of events, sample of individuals in sequence or

tracking events with a given time interval. The way events are recorded depends on the situation itself, and the purpose of the research.

Systematic Observation in a natural setting requires the researcher to take notes in an unobtrusive manner (Denscombe, 1998; Sommer R. & Sommer, 2002). When the recording procedure resembles normal activity in the setting, it helps researchers to fit in to the environment. A researcher in a restaurant can take notes on a napkin. If the location is a classroom, he can record behavior in a notebook. If the researcher's presence induces curiosity, or the subjects of the study feel they are under evaluation, they are likely to alter their behavior. Observing a situation without affecting it is a skill that develops through practice. The researcher can minimize the chance of disrupting the naturalness of the situation, if he tries to avoid interactions and chooses an unobtrusive position to observe from. Experience from Systematic Observation shows that the longer a researcher is 'on sight', the more their presence is taken for granted. This reduces the researcher's impact on the situation.

3.6. The observation schedule

The way researchers document their observations is a main feature for Systematic Observation. It requires an observation checklist, also known as an observation schedule (Denscombe, 1998; Sommer R. & Sommer, 2002). The purpose of the schedule is to minimize, possibly eliminate, the variation in data based on the perception of individuals. The schedule is a framework for the observation, which directs the attention of the observers, and provides a systematic and thorough way to record data. When all observers are looking for the same things, they are more likely to produce consistent data. Comparing notes and collecting data based on the use of different statistical methods for the analysis phase, further increases the reliability of the data.

With a good schedule, the process of Systematic Observation becomes a matter of measuring and recording how many times an event occurs, or how long it continues (Denscombe, 1998). Making a schedule is an important part of the method. The value of findings from the use of Systematic Observation are dependent on how appropriate the categories in the schedule are for the situation. "Precise measurement of something that is irrelevant will not advance the research at all" (Denscombe, 1998, p. 142). Therefore, Systematic Observation should only be used when the items on the schedule can be shown to be appropriate for the issues being investigated, and when observation is a suitable research method. The speed and accuracy of which it is possible to record the observation, limits the researchers. Only the most significant and relevant aspects of an issue should be included in the schedule, because it is not feasible to include everything. Understanding the situation the observation is based on, will allow researchers to focus the attention, and make good schedules. This understanding is often based on previous research. Use of an observation schedule also has a tendency to decontextualize the things it records. More advanced practice in this area encourages the collection of relevant background information. Such information helps explaining the observed events, and makes it easier for the researcher to understand the collected data.

3.7. AEIOU Framework

When conducting an observation, even if it is a casual or semi-structured observation, it helps to have a framework in mind (Chang, 2017; EthnoHub, 2017; Martin & Hanington, 2012). Rick Robinson, Ilya Prokoff, John Cain and Julie Pokorny developed the AEIOU Framework at the innovation consultants Doblin, in 1991. AEIOU stands for Activities, Environments, Interactions, Objects and Users. It is an organizational framework for observations gathered by ethnographic practice in industry. It helps the researcher to attend to, document and

code information under a guiding taxonomy. The framework is an analysis technique designers can apply in observations. When used, the research becomes more structured, and it resembles Systematic Observation. The framework is a generalized observation schedule. It helps the researcher to attend to key details and address the objectives of the client. It also functions as a taxonomy for coding data. During an observation, the researcher can use the AEIOU Framework as a lens to observe the surrounding environment and record observations under the appropriate headings. The elements of the framework interrelate. The methods try to make interpreting and analyzing data easier, by visually mapping the significant relationships and interactions between categories. The AEIOU Framework can be applied in any observational research.

3.8. Contextual Inquiry

Contextual Inquiry is a part of the Contextual Design Process developed by Karen Holtzblatt. (User Experience Professionals' Association, 2017a; Martin & Hanington, 2012). She adapted the method from ethnographical work as part of a customer-centered process of contextual design. The method reveals underlying work structure, and is a contextual method of observing and interviewing. It obtains information about the context of use. The researcher observes and questions the user while he works in his own environment, like a master-apprentice relation. Contextual Inquiry is based on the four principles *focus*, *context*, *partnership* and *interpretation*. This allows the method to be modified for different situations. The results of Contextual Inquiry can be used to define requirements, improve a process and learn what is important to the user. The principle of *context* and *focus* link the method to Systematic Observation. It is an observational method, and the focus of the inquiry requires a plan, based on a clear understanding of the purpose of the research.

4. DISCUSSION

Systematic Observation is a structured research method, from social science. The method focus on acquiring reliable quantitative results. It require the researcher to be familiar with the situation he want to observe. The collected data is most useful when the goal for the observation is clear, and the chosen focus is on valid indicators, with high relevance for the research. The method require the researcher to carefully plan the observation, and prepare an observation schedule. Is this method useful for designers?

4.1. Designers as researchers

In the first phase of a user centered design process, the designer try to understand the context of use, and then specify requirements for the product or service. It is recommended to use unstructured methods for initial research, and investigate the situation with and open mind. When the research evolve, and the designer have specific questions, more structured and quantitative methods can be appropriate, like surveys.

In an iterative development process, designers use formative evaluations to drive the process forward. A formative evaluation, focus on a product or service during development, with the goal of detecting and eliminating usability problems (User Experience Professionals' Association, 2017b). Designers will do research to support formative evaluations. They need information about relevant users, their expectations and handling of the product or service. Formative research is sometimes called usability testing. The research rely on subjective interpretation of contextual human behavior. Therefore, the results is often less formal. If the goal of the research is to evaluate a reasonably complete design, it become a summative evaluation. With focus on judging a design against quantitative goals or competing products, instead of finding and eliminate problems.

So how formal and scientific do designers need to be? In a design project, a designer try to understand a specific situation. Generalization and the possibility to reproduce the results is often of little value. Designers should try to use their resources as effectively as possible (Nielsen & Landauer, 1993). Their goal is to improve a design solution, not only document its weaknesses. Design is an iterative process. This is obvious when looking at the user testing part of a design process. Nielsen and Landauer's research show the value of running multiple small user tests, instead of spending the whole budget on one elaborate test. When testing new users, they will provide some new information about the design, but the user will also repeat some of the same things as previous users. For every added users, the designer learn less and less. Nielsen later wrote, "Elaborate usability tests are a waste of resources" (2000). He recommend testing with three to five users, depending on the style of testing. This is enough to get an idea of the diversity in the user behavior, and get insight into what is unique and what can be generalized.

From a scientific perspective, three to five users is not enough to produce relabel results. Nielsen and Landauer's research show that at least 15 users need to be tested before all usability problems are found (1993). However, most design research differ from other research. The scientific research process is to some extent sacrificed, to get a more efficient development. In small user tests, some details may be overlooked, but the focus is on the most important usability problems.

4.2. Systematic Observation for designers

Systematic Observation is developed to address the problems associated with selective perception (Denscombe, 1998). It is a reliable method, which appears to produce objective observations. The focus is on direct data collection. It is an efficient way to collect substantial amounts of quantitative data, which are pre-coded and ready for analysis. On the

other hand, the method record overt behavior, not intentions. It also assume that the process of recording behavior in categories is straightforward. Therefore, it have a tendency to oversimplify and lose contextual information. In addition, the researcher may disrupt the naturalness of the situation under observation, and alter the participant's behavior.

Systematic Observation seems to provide a good base for a summative evaluation, but not so much for a formative evaluation. It is a quantitative method, which do not provide insight into the intentions behind the observed behavior. Therefore, this method do not appear to be particularly useful for designers.

Designers do not usually label observations as systematic. Probably because they often do observations, to get user insight by taking a participating approach. Below is a list of the most apparent reasons Systematic Observation is not a good tool for design research.

- The method is too qualitative.
- The focus on overt behavior provide little insight into the intentions behind the observed behavior.
- The focus on naturalness in the observation require the researcher to take a very passive observer-role.
- It is an unnecessary effort in through documentation.
- The method is a waste of resources, when other observation methods is faster, and provide more insight into observed behavior.

It is not impossible to use Systematic Observation in design research, but there is many reasons for using other methods instead. Is it possible to make some changes to the method, to make it more useful to designers? A solution can be a new adaptation of Systematic Observation, which is trying to address the

identified weaknesses in the context of design research. This review will refer to the new method as SDO, short for Systematic Design Observation.

4.3. What is SDO?

The definition of Systematic Observation is broad, and is more like a category of observation methods than a method itself. SDO has to be more qualitative. Methods like the AEIOU Framework and Contextual Inquiry suggests that it should be possible to adapt Systematic Observation to a design method.

What really makes an observation study systematic lies primarily in how data is collected and the work that is done prior to the observation. SDO has to enable the recording of less direct behavior, and allow for more interaction with the subjects during the observation. Like Contextual Inquiry, a master - apprentice role is a good example of such interaction. As a design method, it should provide a systematic way to code data, but include more than direct observations. An important part of the recorded data should be interpretations and the participant's description of his work. The method should provide a structured way to record valuable insight from observing and at the same time help the observers to focus on aspects of the behavior that were initially identified as the most relevant.

Designers are very interested in people's thoughts and their intentions behind an action. That is why designers want their participants to think out loud in usability tests. SDO should encourage the participant to do the same during an observation. People's intention is not observable, unless the participant explain what he does. SDO should also make researchers take care to preserve the natural behavior of the participants, and try to minimize his impact on the situation. To make sure that the results are not wrong or misleading.

To sum it up, SDO must provide a structured way to conduct and record an observation. It should help the designer address his objective, earlier found to be most interesting. The method encourage the participant to explain what he is doing, while the researcher also try to preserve the naturalness of the observed behavior. SDO is supposed to address the abovementioned concerns for Systematic Observation. It should help the designer work efficient, and get as much as possible out of an observation. In addition to focus on reducing the impact of the researcher's presence to a minimum. If this succeeds, most of the reliability of the method should be intact. The validity of the recorded data rely on the observers honesty, but the designer also have a contextual understanding, and can ask simple questions if the participants solve challenges without reflection on it, like what often happens with workarounds. SDO seems to be a suitable solution, because the designer immediately can address something that is unclear, or seem strange, while simultaneously helping the designer to focus on his main objective.

4.4. Guidelines for SDO

Based on guidelines for observation in general and knowledge about Systematic Observation, some design guidelines can be made for SDO. It is important to remember that the method require preparatory work, and the layout of the method is very dependent on the context of the project and the planed observation.

1. Clearly define the goal of the observation study.
2. Find a participant and scenario to observe.
3. Describe the user, the environment and the scenario.
4. Prepare an observation schedule. Formulate categories and scoring systems based on the goals for the

study. It is important to consider how to record the gained information.

5. Consider how the researcher's presence influence the participant's behavior.
6. Consider ethical issues.
7. Plan how to record the observation. Gather necessary equipment and pilot-test the observation schedule.
8. Conduct the observation.

After the observation, analyze the collected data. Otherwise, the observation loses a lot of its potential. Much of the acquired information is already coded in the observation schedule, but it is recommended to write down a summary of the observation. Being an observer is an experience in itself. It can be very useful for the analysis of the results, to have additional contextual data, and the observers gained thoughts and insight. This should be done the same day, when the experience is still well remembered.

4.5. When to use SDO?

If the designer's goal is to figure out how a user behave or work in a contextual environment, an observation seems to be the preferable approach. SDO should be considered if the designer already have done some research on the topic. It is not very useful to try SDO, if the designer cannot formulate a specific goal for the observation. SDO is similar to a structured interview, in the way that the researcher need to know what questions to ask. Therefore, the method can be suitable for checking initial findings, and further research on a specified topic. When using SDO in user research, the findings from two or more situations can be compared to make common behavior more apparent, and increase the reliability of the findings.

SDO can be particularly useful if it is hard to document the research. For example if the

observer is prohibit the use of audio and video recording equipment or if the observed behavior take place at an inconvenient location. If it is a high need for confidentiality, for instance when doing research in a hospital, that provide access to information about patients, the observation schedule can prove particularly useful. However, no method can be used in all situations. Observations may bring interesting results, but it also have some limitations. SDO is primarily an observation method. That should be kept in mind when deciding to use it or not.

5. CONCLUSIONS

This literature review has investigated how designers can conduct research to get user insight. User insight have been defined as the designer's understanding of the different users of the product or service of interest. Observation quickly becomes the method of interest. It is an empirical method for data collection. It allow the designer to interpret the user's actions in the context of his environment. Different psychological principles concerning the observers perception, questions the reliability of subjective observations. Social science researchers developed Systematic Observation, to ensure that the collected data is reliable. This method is quantitative with focus on recording direct observable behavior. However, this method do not appear to be particularly useful for designers. It provide mostly results suitable for summative evaluations. Designers try to improve a product or service, not only document its weaknesses.

Systematic Observation do not provide information about the intentions behind user's behavior. Therefore, an attempt was made to make the method more applicable for designers. The new method is called SDO, short for Systematic Design Observation. The goal is to provide a structured way to conduct and record an observation. It should help the designer focus on the most important behavior. Because intentions behind actions is not observable, the

method encourage the participant of an observation to explain what he is doing. The method should also help preserve the naturalness of the observed behavior. SDO is supposed to address the found concerns with Systematic Observation as a design method. It should help the designer work efficient, and get as much as possible out of an observation. In addition to focus on reducing the impact of the researcher's presence to a minimum. The method is most useful when the designer has specific goals, or assumptions he wants to investigate. Compared to a structured interview, this method is a structured observation.

SDO is a theoretical solution to weaknesses related to Systematic Observation found in this review. How good the adaptation of Systematic Observation truly is, can only be understood after the method has been used in multiple design projects. Do it provide useful insight to the projects, and do it produce reliable results? More research is needed, but based on the examined information in this review, SDO should be a powerful tool for designers, when used correctly in appropriate design projects.

6. ACKNOWLEDGEMENTS

I want to express my gratitude to everyone who supported me throughout the course of this literature review. I am sincerely grateful for the support and guidance provided by my supervisor Thomas Porathe. His insight have helped me focus and improve this review many times.

I also want to thank Ann Kristin Forshaug, Ellen Wagnild-Antonsen and Ingeborg Skogfjord for sharing their knowledge and provide feedback during the project. Finally, I would like to thank my friends and family who helped me finalize and proofread this review before submission.

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