

Training in ethnographic observation, data elicitation and data analysis

An instruction

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Prologue

My name is Rosalyn Langedijk and I have produced this instruction in my master thesis. The instruction is made in collaboration with a research-project at the University of Southern Denmark and I want to thank the team for this cooperation.

I hope this instruction may help you to get closer to your aim. Have fun and I wish you good luck with your research.

If you have any questions or want more information, do not hesitate to contact me on the following e-mail-address: rosalynlangedijk@hotmail.com.

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1. Introduction

This instruction will guide you gradually on your way to conduct ethnographic observations for a use case analysis in technical innovation. It will show you:

- how to train people for this purpose,
- how to collect data through observations,
- and how to analyze the data afterwards.

This instruction will help you achieve the following goals:

- 1) To get an insight in the use of your products and how these could be improved.
- 2) To get an insight in the work processes in your organization and how these could be improved.

The instruction will put you in a position to first collect the data, second categorize the data and third analyze the data. You can adjust this instruction so it will fit perfectly for your purpose.

2. Background knowledge

Read this background knowledge chapter before preparing the training. Because then you will be prepared optimally to start the work.

In your research you will work ethnographically. Ethnography entails literal description of people. It is an independent discipline in the social sciences. It is the only method, which allows us to describe cultural practices. You will go out in a so-called “field”, e.g. a culture, social milieu or an organization and immerse yourself in it. You will learn everything about this field and its social practices, like their language and artifacts.

The data elicitation is about observing and gathering as much as possible and record it in some kind of way. The data elicitation happens in different ways, e.g. through observations (which is quite usual and the focus of this instruction), interviews and questionnaires. In the data analysis you distinguish between quantitative data and qualitative data. Quantitative data are “hard” facts, like numbers and these will be analyzed statistically. Qualitative data are “soft” facts, like texts or photographs. With this kind of data you will start to sort them to get an overview of the data collection. Afterwards you categorize them in some, for you, meaningful way.

It is hard to estimate when you can stop collecting data. I would recommend stopping when the results repeat each other. During your data elicitation, you should pay attention to your available resources.

3. Step 1: The training

You can hire external employees or train your current employees to do the observation job. If you want an external image of the use of your products or of the work processes, you should hire external employees. If you on the other hand want an internal image of these, you should train your current employees. Both parties have different perspectives. The advantage of internal employees is that they already have a big insight in the organization and they are cheaper. The disadvantage is that you could risk to get a biased image. The advantage of hiring external people is the unbiasedness. Improvement of potential work processes is a delicate matter for many employees.

It is important that you make your goal clear to your employees during the training, so they know what you expect from them. You should therefore have had some thoughts about what to tell your employees about your goal. A good idea is to create a flyer in which you describe your goal, so the employees have something to go back to if they feel insecure.

I would recommend telling your employees from the beginning that you expect a report, which they should hand in after the observations. *Read more about the report in the chapter Data elicitation.*

You should proceed from the knowledge that your employees know nothing about collecting data through observations. The following information about observations and how to conduct them, are helpful:

1. There are different kinds of observation methods. On the one hand you have participating observation, where you act actively in the field and on the other hand non-participating observation, where you are “the fly on the wall”. As an observer in the participating observation, you participate in all activities and you will become an insider. A difficulty here is to maintain your position as an observer. As an observer in the non-participating observation you observe from the outside and you are an outsider. A risk here is that you will not get enough insight in the field to understand it completely.

You should make it clear for your employees which method should be used.

2. There will always be some kind of focus. You should tell your employees what your focus is.



- **Tip:** I would recommend creating a table of items to be observed. You could present this table during the training. *Read more about the creation of a table in chapter Data elicitation.*

3. Everything related to the focus of your observation should be noted. Nothing is obvious and you have to imagine that the reader of the report knows nothing about the observations. However, there is a difference between your observation notes and the final report. In the report everything must be clear and understandable, whereas your observation notes are for your own use.
4. If something is unclear during the observation, ask. You could talk with your employees about asking something politely, when something is unclear.



- **Tip:** These small questions during the observation could facilitate conversation, which could give some useful information. As an observer, you should also be a good listener.

5. Observation is a describing method, so, no interpretation. If you assume something during your observation, you ask or you describe why you assume such in your report.

Exercises

There are different recommended exercises you could do with your employees. These exercises are especially focused on practicing the art of description. Also, small interview exercises could be relevant if you want to have smaller interviews in your research. The following exercises are recommended:

1. A pair-exercise about interviewing: Person A describes his/her special hobby (or something else) and person B asks, 1) when something is unclear, or 2) when something was mentioned shortly, but you want to know more. Afterwards person B presents person A. You can also change the roles, so person A asks and person B describes.

The aim of this exercise is to listen carefully and to take important notes, because you have to retell the things that are told. This exercise is linked to point 4 in the information above.

2. An exercise about describing with the help of videos: You show a video and let the employees take notes of their observations.

- **Tip:** Choose a video that closely matches the area in which the employees have to observe. As an example: To assemble a shelf. Choose under no circumstances a video, in which there are too many cuts, e.g. a video shown on television. This will make describing unnecessarily harder.



- **Tip:** Give your employees an aspect on which they can focus during their observation. This will make it easier for them. It would be beneficial to use the created table for this. This tip belongs to point 2 in the given information.

The aim of this exercise is to practice describing, so that it will make it clear for the employees how fast they actually have to take notes, so they can observe everything important.

3. An exercise about describing: the “blindfolding-exercise”. Person A gets blindfolded and afterwards you put objects on the table in front of the person. These objects are meant to represent an accomplished task. A focus could be: Which difficulties does a blind person have to accomplish this kind of task and how could those be solved?

As an example: Make tea. Following objects are necessary: water, water boiler, tea backs and a mug. At first, person A has to find out what kind of objects are presented and what kind of task could be accomplished by using these objects. Afterwards person A has to accomplish this. During the exercise person A has to say everything he/she thinks of. The other employees have to observe and take notes about how person A accomplishes the task and what he/she says about it. The employees can ask person A when something is unclear. The aim of this exercise is to practice describing and simultaneously asking questions. Observation is a describing method and interpretation can be reduced, if you have the opportunity to ask the observed person. This is described in point 5 in the given information. You practice the non-participating observation method (point 1), but with asking included. There is also given a focus, which is important to have if you want to conduct decent observations, as described in point 2 under the given information above.

Depending on the given resources, this exercise can be designed differently.

- **Recommendation 1:** You can also do this exercise with e.g. a wheelchair. You put person A in a wheelchair and he/she has to accomplish a particular task. The other employees observe and take notes. You ask the same question as above, again, which difficulties a person in a wheelchair have and how these could be solved.
- **Recommendation 2:** You can give this exercise a touch, if you use another person, person B, and take this person in front of the door. This person can't see the accomplished task. If everything is done, person B can enter the room again. Now the other employees have to explain to person B how person A accomplished the given task.

This version aims to see, how precisely the employees have described. Often it is very surprising how detailed something has to be described, so an outsider can understand the accomplished task.

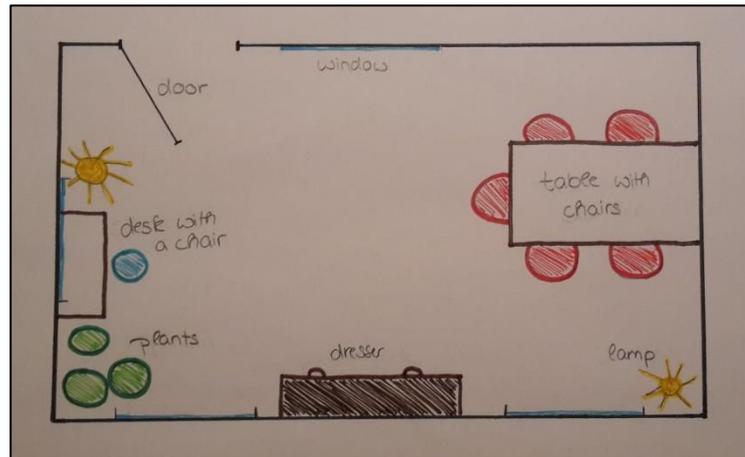
If the surroundings where the activity is observed matters, and you are not allowed to take photographs or such, this exercise could also be helpful:

4. An exercise about describing the surroundings):

You let the employees draw a sketch with all the important elements of the room you are in.

The aim of this exercise is to get an understanding of all the things that are related to the focus, also could be relevant.

This belongs to point 3 in the given information.



After every exercise, you should ask your employees what they have noted down. Are there differences in the notes of the employees, and which differences? Or has someone not noted something at all, and why not? The employees should justify their notes. You should also have taken notes, so you can participate in the discussion. The discussion is helpful, because it clarifies what you should observe and to get an understanding of observing.



Tip: At the end of the training you could do a little test, which could be helpful, so you can be sure that all the employees have understood note-taking. This test could be as followed: You show your employees a video (as described in exercise 2) and you let them take notes in the table, which the employees eventually will use during their observations. Hereby the employees have used the table once and you can give your employees individual feedback on their notes, with the result that your expectations match the imagination of your employees.

These exercises should be seen as a guideline on how you could train your employees to do observation work. Every exercise can be adjusted.

4. Step 2: Data elicitation and the report

For the data elicitation, it is important to focus on the requested area, because you can't observe everything. As already recommended, you should create a table, so that the observers know what to focus on during the data elicitation. Such a table could simply be a list of items to fill out. What these items are, depend on what you want to learn with your observations. Examples for such items:

- the person you observe
- the place where you observe
- the activity you observe

For a more detailed observation you could add other items, such as:

- a closer description of the room
- a description of the phases of the activity
- duration and time of the activity
- the aim of the activity
- the possible feelings that may occur

This is an example for such a table:

Where do you observe?	
Whom do you observe?	
Which activity do you observe? Title:	
Additional people, who are collaborating in the activity	
Duration of the activity (in minutes):	
Descriptions of subtasks of the activity:	
Further notes:	

The created table can be printed as a table in a booklet (recommendation: B5-format). In this way the observers can easily take the booklet around. Make it clear to the observers that observations, that don't fit into the table also can be relevant and of course these also have to be noted down.



Tips for the table: Make sure you don't put too much information in the table, but only the really important things and things that can be noted down easily and quickly. The items in the table have to be clear and unambiguous. The items can be a mix of interview and observation (this encourages conversation). You also have to make sure that there is enough space for further notes, so the observers easily can take their own notes and if necessary add notes.

The report

After the data elicitation, the data should be submitted in the form of a report. For this submission, I recommend making a template. You will then get coherent reports, which are easier to compare and the observers can write and submit their reports quicker, because they know what the report should look like.

Make sure that there is a table in the beginning, where the observer can enter the following data:

- Name
- Date of observation
- Name of the person, you observed
- If relevant, where you observed

Furthermore, there should be an overview-table in the beginning of the report, containing all the other tables. This is useful to keep an overview of all the observed activities. An example of such an overview (report 4):

Time	Whom do you observe?	Activity	Table
8:00-8:45	2 shifts	Morning meeting at shift change	1
8:50-9:00	Daniel, nurse-assistant	Preparation of a room	2
9:10-9:25	Daniel, nurse-assistant	Reception of a patient	3

Throughout the report the table-numbers can be found and the activities are described based on the tables.

There should always be given the opportunity to write down your own thoughts and comments on the observations at the end of the report. And there should also be an opportunity to describe observations that don't fit into the table. Make sure the template matches the table given for the observations, so that you really make use of the collected data.



Tip for the template: If the observers revolve around fields you aren't familiar with, let them define important terms, so you can read the report and don't have to search for definitions and explanations first.

5. Step 3: Data analysis

After the data is collected and the reports are written, the reports have to be analyzed. The data could be qualitative as well as quantitative. The easiest way to analyze the data is to categorize it. Create an index with all the categories based on the table and the reports.

This is an example how you could use the above-mentioned table to transform it into an index. To illustrate the index, I have used "Reception of a patient" in the above overview.

1) Identification-label:	B4_3
2) Title of the activity:	Reception of a patient
3) Duration (in minutes)	15 minutes
4) Place of the activity:	Hospital department C
5) Specify the expertise of ... (choose: doctor, nurse, nurse-assistant, patient or relative) + number of people: 5a) Observed person 5b) Additional people	Observed person: 1 - nurse-assistant Additional people: 2 - patient and relative
6) Nature of activity: 6a) Logistic <ul style="list-style-type: none"> • With waste • With goods • With people 6b) Equipment <ul style="list-style-type: none"> • Large equipment (on wheels) • Small equipment 6c) Communication <ul style="list-style-type: none"> • Face to face • Telephone/cellphone • Computer 	Logistic: with people Equipment: / Communication: face to face + telephone
7) Number of subtasks of different nature:	2
8) Comments	/

With an index you can organize the data in order to understand, to explain and to control them. You can categorize your data through exact and ambiguous tables. This depends on the collected data, but you can combine the different tables, as long as it makes sense to use them. A question you could ask yourself is if it makes sense to sort the data alphabetically (exact) or rather sort them by theme (ambiguous). You can also sort the data according to tasks, or target audience, depending on research interest.

Through the categorization the data can be analyzed statistically. Put your data in the form of numbers into an Excel-document, so you can make statistical calculations. It should be clear, which numbers are used for what in the index.

Example: You have the category “Additional people” and in the report, it is written that several people participated. What do you write in the index, if you don’t know the exact number? A solution could be a very high number, so you are sure it would not exist, e.g. 99.



Tip: If several people sort the data into categories, you have to consider that everyone knows precisely what is meant with every category. E.g., what is meant with “subtasks of a different nature”? This should be clear among yourselves.

Tip: It will make it easier to categorize, if there are given possible answers. This will also make the data easier to compare, afterwards. In item 5 in the index the competences of the people are listed, so that you only have to fill in how many people belong to what competence. As an example there are listed the following possibilities: doctor, nurse, nurse-assistant, patient and relative. If you do it like that, you have to make sure that every possibly answer is given.

Tip: Make sure that you only enter numbers in the index, which Excel can read, e.g. can’t Excel read 10-15 minutes. It should be “pure” numbers, so you could enter 13 minutes instead.