

INVESTIGATING QUALITATIVE METHODOLOGIES IN LIGHTING DESIGN

A proposal for studying the human experience and practice as a new integrated qualitative approach to evaluate lighting design

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*“Not everything that can be counted counts,
and not everything that counts can be counted “*
Albert Einstein

Abstract

At the creation of a new concept or at the moment of making an analysis of an existing lighting design, lighting designers can approach the task by carrying out a technical analysis or by walking on a qualitative path. Following only one of these types of approaches can bring them to a superficial evaluation of the scenario that they have in front of them.

“[...] Qualitative and quantitative methods are not mutually exclusive. They can be complementary to one another and the qualitative aspect can deepen explanation as well as provide answers to research questions.”

(Kelly, 2016, p. 8)

Following quantitative methods, lighting designers proceed by measuring the light, counting how many fixtures are mounted, making digital simulations of the space, etc. As a consequence, they end up by collecting a good amount of data made of numbers and they obtain precise information about how much light gets on each surface, how much energy is consumed, the contrasts of brightness, if there are glary spots and where, etc.

But what about the experience of the lighting design? What about the way in which design is practically used in its natural environment? What about people’s feelings and emotions in using a specific lighting design? And what about their expectations from it and their purposes?

To answer these questions, it is not possible to take advantage merely of the quantitative methods because they suppose that people are equal to each other and that everyone responds to an input in the same way.

As this can be deemed untrue, the author of this the-

sis would like to broaden the toolbox that already exists of qualitative and qualitative methods with some human-centric qualitative approaches to make a more complete evaluation of a lighting design.

For this scope, a research question will be formulated and a state of the art on anthropological qualitative methodologies will be analyzed with the aim to find answer to the problem statement.

Furthermore, an implementation of the most suitable methods in two study cases will be carried out to test their application and how they could help the designers in the evaluation phase of a lighting design.

Finally, an assessment of the studied methodologies will be performed on the basis of their practical implementation from a lighting designer’s perspective.

Motivation

My own curiosity in knowing more about human-centric methods derives from my previous experience with ethnographic interviewing from the last two years of studying Lighting Design at Aalborg University.

During the second semester of the MSc in Lighting design, my university colleagues and I were asked to work on an outdoor project for the urban area of Copenhagen called Urbanplanen Syd. The idea was to collaborate with the architects and engineers that were already working with that project for some time, in order to come up with a light solution that supports social interaction between the inhabitants of that area.

We approached the project by performing some research about the neighborhood to understand its features, but the interesting information was gained when we went into the field and carried out interviews with the people living in the area. On that occasion, we discovered surprising things and some of our preconceptions were denied; for example, from newspapers we understood that the area is risky, and people do not like to go out alone, while after having conducted some interviews, we learnt that they feel safe when they are alone outside even during nighttime.

However, the most important thing that we have discovered from our conversations with the inhabitants is that they felt divided in social groups (e.g. families with children, elderly, teenagers, school users, church worshippers, foreigners, etc.) and they would like to socialize more together.

As a result of these discoveries we understood that our light solution should have been something that connects people and makes them feel part of the same communi-

ty; in other words, we learnt in which direction we had to look at while creating our lighting design.

This description of what I was involved in during a part of last year, confirms the value and the benefits that the interviews can have not only for lighting designers but also for ethnographers. Making ethnographic interviews can make the lighting designer find out unexpected features to keep in mind during the development of the design.

Therefore, since the application of this method proved its positive contribution, with this thesis I aim to study in more depth some of the existing methodologies with a focus on people. I believe that, their implementation could be beneficial in the early evaluation phase of an existing lighting design.

Structure of the thesis

The thesis’ structure is represented in Fig. 1, with the aim to help the reader during the reading process.

A further note should be made about the two nouns method and tool.

It often happens that these two words are switched or even misunderstood. This occurs because they change meaning according to the context in which they are used

and sometimes they take the same significance. Since in this thesis they will be used several times, it was found necessary to be clear about their meaning in this case.

According to the Oxford dictionary by the word *method* we mean:

“A particular procedure for accomplishing or approaching something, especially a systematic or established one.”

(Oxford dictionary)

With the word *tool* instead, we refer to:

“A device or implement, especially one held in the hand, used to carry out a particular function.”

A person used or exploited by another.”
(Oxford dictionary)

Being aware of their definitions, in the context of this thesis the two nouns will be treated with the same semiology for the sake of simplicity.

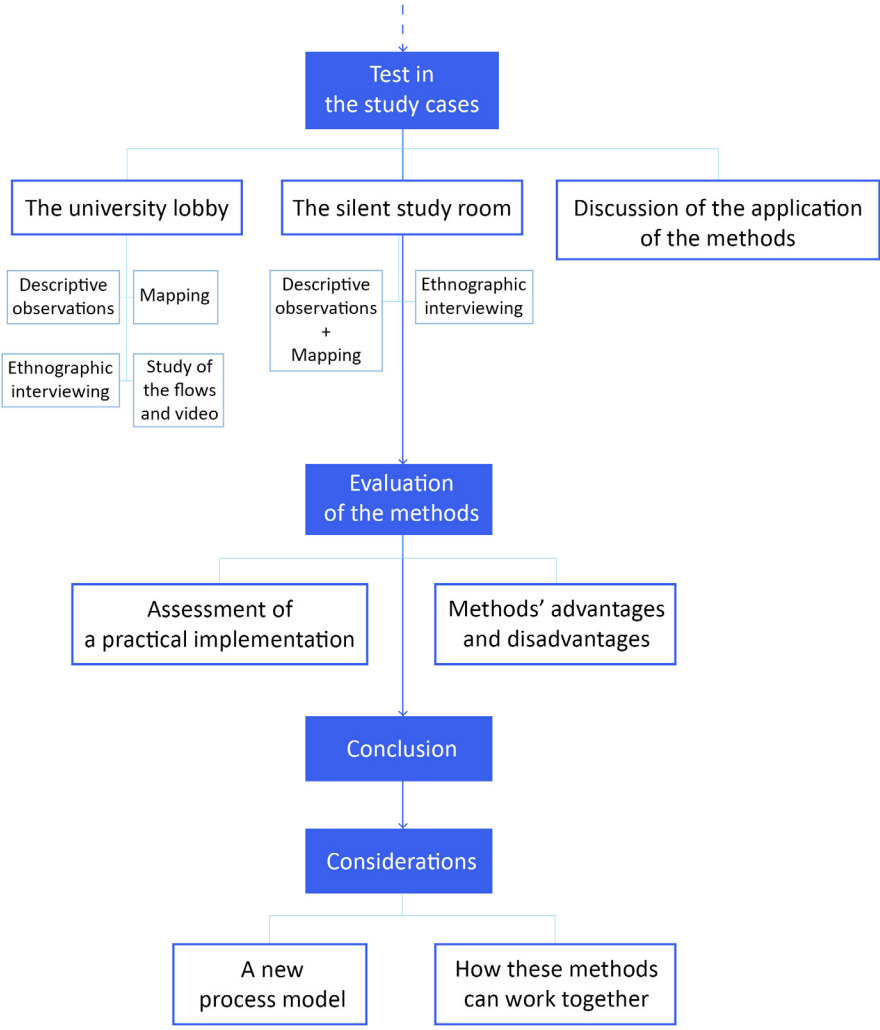
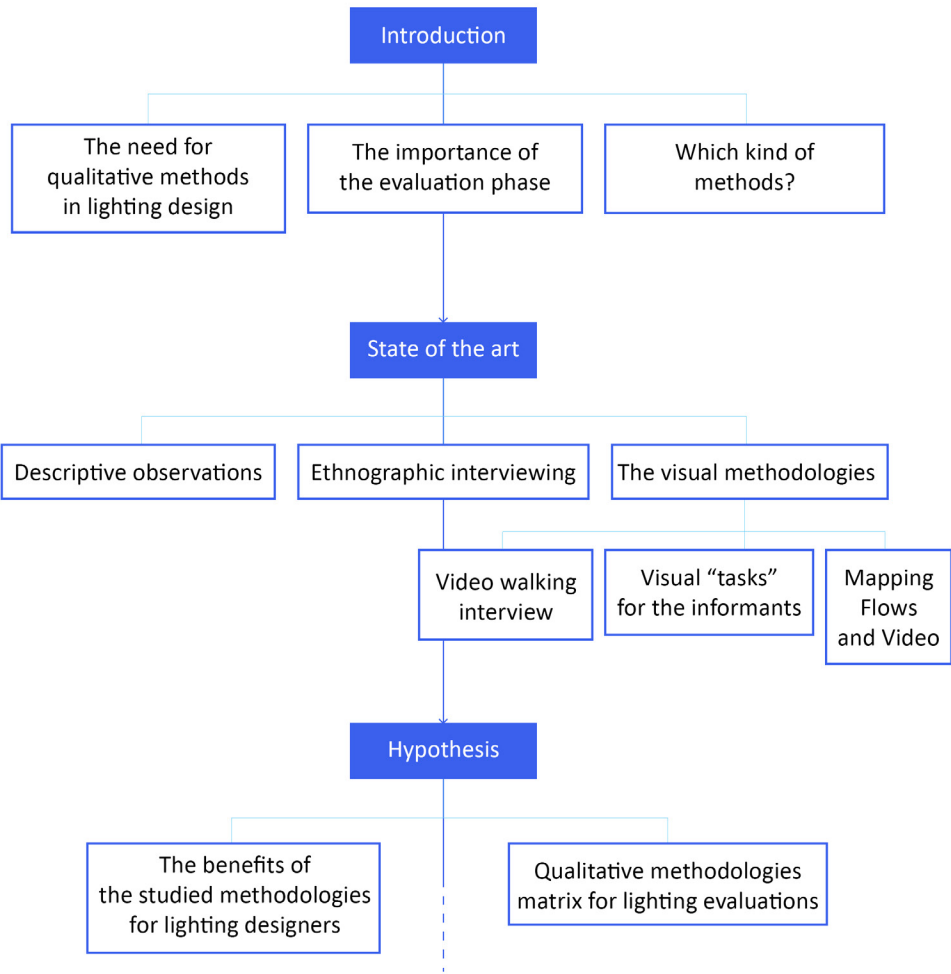


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INTRODUCTION

The need for qualitative methods in lighting design

Seeing and experiencing light is different from measuring and quantifying light. The light is the same, but the way to capture it and communicate it, is different. The two different ways of recording light has each its own purpose. And each time one captures and communicates light one has to choose a method. In general experiencing light focuses on the qualities of light whereas measuring light focuses on the quantities of light. When both methods are used to record and describe the light it encompass a profound knowledge on the light which can be useful for designing a well-functioning and aesthetic light setting.
(Hansen, 2016)

In the lighting design process it is of fundamental importance to ask ourselves as lighting designers, which is the context of our analysis. We need to know, besides which kind of space we are working with, who are the people using the space and what activities *are going on there* (Spradley, 1980). The need for knowledge about the people that are making use of the space derives from the fact that we actually work with social situations as well.

It happens too often that the lighting designs are shaped on the structure of the space in order to enhance the architecture or that they are concentrated with finding the best answer for the sake of innovative technologies and energy savings, instead of being created as a response for the users' necessities and desires.

In the past there was the belief that "the more light the better" so as a result we used abundances of light that only created uncomfortable spaces for people. Recently we started to change our perspective from the environment to the people, focusing on the human experience (ARUP, 2015, p. 61). In relation to this shift, it becomes

evident the importance to have the instruments to study a lighting design also from a human-centric point of view. This leads to the introduction of an analysis phase that focuses on the evaluation of a light setting that should include in its scope the space, the light and the people.

From here arises the need to investigate qualitative methodologies to understand the human being in their surroundings. This necessity encompasses a phenomenological approach to the subject of light because we experience light, we live in light (Böhme, 2016) and we think of it in relation to the small details of the environment.

"Light is creating space it is 3 dimensional, not only creating a picture – we connect daylight with heat, smell and unpredictability in the nuances and, light illuminates space in terms of interactions and interrelations with the universe and the body in the space."
(Pallasmaa, 2011)

These considerations are not new to the lighting designers. For several years architects and lighting specialists, such as Jan Gehl and the group of ARUP, have started to look into the atmosphere and to the lighting experience other than on the quantities of light. Nevertheless, during my last couple of years studying lighting design, I have noticed a richness of methods that are focused on the building and on the lighting or methods that treat people as equal to each other, as if we can be categorized into standardized types of human being. For example, analyzing the qualities of daylight in an indoor case, we often refer to that thinking about a way to define how the daylight enters a room and how it is shaped by the window and by the building's structure and posi-

tion in relation to the Sun (Mathiasen & Voltelen, 2008); we leave the people perspective and the study of how people themselves live in the daylight. Or when the task requires a technical process using a measuring tool, we tend to think that if the measured value meets the Standard's guidelines, then it is the absolute truth that will fit every kind of user.

For that reason, we as lighting designers have the tendency to approach the lighting evaluation following a positivistic paradigm instead of a naturalistic one (Hammersley & Atkinson, 1983), giving credit to quantitative research and analysis as if from that it is possible to understand and find a solution to all the necessities of the space's users. People are not *standard*; every person is different from another and the effect that a light setup can have on them in a lab is completely different from the one that the same kind of light could have in its "natural environment" (Hastrup & Fog Olwig, 1997). Especially when we have to deal with lighting projects where our end goal is to support human experiences and practices in a given space, we should not forget to analyze the light also from a qualitative point of view and this is not done in test labs or through meeting Standard's requirements.

The frequent use of quantitative approaches within lighting design instead of human-centric qualitative ones, is, among other things, derived from a lack of research in the latter. However, a complete understanding of what is the best solution for the scenario that we have in front of us, is made of both experimental measurements, fruit of tests in the laboratories, and experience studies in natural environments.

The deficiency of investigation in this kind of methods is

also the result of how the light has been considered for a long period of time since the first interests in it were showed by the Greek philosophers and mathematicians. The theory of light has its roots in the ancient optic studies that focused their attention on the *vision* instead of on the light; it is only in the XVII century that the modern physic optic started to take over and point towards the theme of *light* (Smith, 2001). In both cases the light was approached in a scientific way giving birth to several methods to analyze it as a physics entity instead as a creator of atmospheres and in relation to people.

In my research on how to make a valuable evaluation through the use of human-centric methods I came across a notable paper written by Kevin Kelly about how, when and why to do a qualitative research as lighting designers (Kelly, 2016). He underlines the importance of carrying qualitative researches when we want to know more about what is happening in the space and how the users are using our lighting designs. His idea starts from the fact that in order to have detailed information about this, we cannot limit our analysis for example to handing in surveys because sometimes the answers to our questions are too wide to be described in the few lines of a questionnaire. He supports the process of carrying interviews because when we want to know more, we should give the informant the possibility to explain his or her point of view with no limited frame: "*... we need to be more open to allowing the interviewees tell us what they really think about something or why they did something.*" (Kelly, 2016)

Kelly underlines the fact that usually the quantitative methods find difficulties in answering questions with several layers of aspects. For example, in a study in which the goal is to see how much light comes on a sur-

face, if we proceed in a quantitative way we would use a Luxmeter and we would get a single specific answer to our question, represented by the value given by the instrument. From a positivistic vision of the problem, the lux value is enough to say if the light level is good or not and it is the only real answer to the problem that we have set ourselves. From a naturalistic point of view, this is a too sharp and limited answer. It is not sufficient to get any information on the reasons of that level of light and on any possible positive or negative feelings felt by the users, which we should pay attention too.

Therefore, it seems that quantitative methods can lead to single and "simple" answers, not too much structured in different layers, while qualitative approaches are able to give detailed data about the core of our analysis.

Due to these reasons, this thesis will investigate primarily qualitative methodologies to evaluate lighting designs having the human being at the center of their focus.

"The very nature of qualitative research is such that it often ends in surprises that the researcher may not have expected [...]"

(Kelly, 2016, p. 6)

The importance of the evaluation phase

There are many different phases in a lighting design project process. Among other factors, they also depend on the kind of project under consideration which could be a renovation of the lighting scheme in an existing building or a completely new creation of a new block. The former happens more often since the electrical installation and the interior decoration of an “old” building can occur several times in the building’s life.

This is also one of reasons why this thesis is concentrated more on the evaluation phase of an *existing* lighting design, instead of a new one. However, in both cases there are some steps through which a lighting designer usually progresses, namely: the analysis of the space’s needs, of the client’s needs and of the users’ needs, the development of the concept, the test of the latter and the completion of the lighting design (Tregenza & Loe, 2014).

During my years at Aalborg University I had the chance to work in groups on different lighting projects. We developed indoor renovations design project for semi-public spaces, outdoor master plans for public areas and lighting designs for business activities for private clients (e.g. a hair salon). In each of them we have followed a procedural model that combines knowledge from the disciplines of architecture, lighting and media technology and that includes the following five steps (Hansen & Mullins, 2014):

1. STEP 1: Imagine and ask (transfer)

In which the participants to the group bring their own point of view and ideas from their personal background with the aim of developing a common vision that reflects each participant’s perspective.

2. STEP 2: Explore and propose (translate)

In which three criteria are formulated to be explored and to lead to the creation of a problem statement that aims to be the starting point for a meaningful design project, orientated to answer the final user needs. The criteria are used to draw up some hypotheses to test “*which attempt to answer the ‘imaginative research question’.*”

3. STEP 3: Link and construct (transform)

In which the project group has come to preliminary design solutions that answer the hypotheses formulated from the criteria.

4. STEP 4: Test and explain (evaluate)

In which the designs are developed and created through real models in order to test and evaluate them. From the realization of the designs, the project group draws conclusions on how much and how well the results from the hypotheses tests meet the problem statement question.

5. STEP 5: Share and learn (communicate)

“Knowledge is shared by communicating within the individual criteria as well as across the three criteria with the intention of gaining a holistic perspective of the issues at hand. This knowledge is iterated in the form of explicit knowledge, spread into the specialized networks behind the project partners, and communicated externally to users, practitioners and academics.” (Hansen & Mullins, 2014, p. 618)

Even though every time we worked on a project by following this procedural model we have been able to be on track and holistic, I believe that this process could benefit from the introduction of a Step 0 in which an evaluation of the existing conditions is carried out. I be-

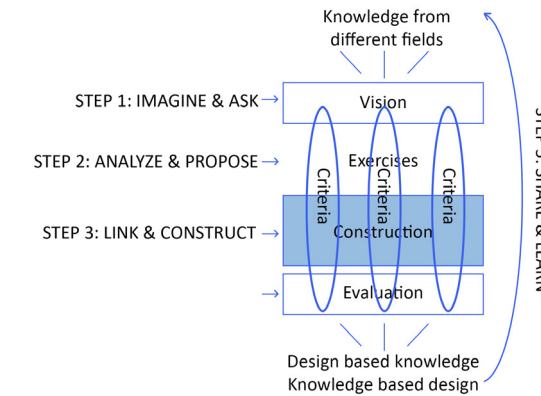


Fig. 2 - Procedural model

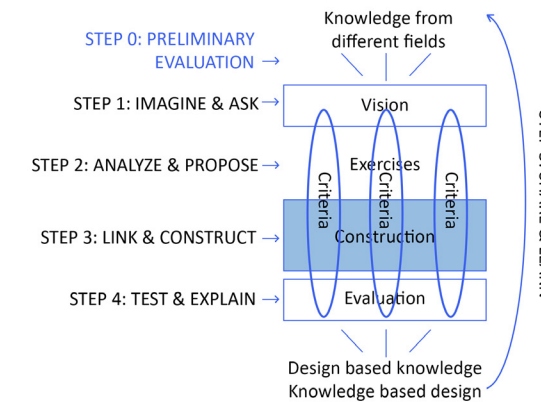


Fig. 3 - Procedural model + Step 0

lieve that because whether we did it on purpose or not, in the first moments of a new project we made some “actual conditions” analysis to understand which ones were the issues with the space and the lighting and which were the needs of the final users.

Making the evaluation of the lighting setup is of fundamental importance at the beginning of a new project in order to get an understanding of the actual conditions and of the necessities of the users, so that we will be able to ideate a functional and consistent lighting design. While following this step we have often used both quantitative and qualitative registrations of daylight and artificial light conditions and it was surprising how both types of analysis when combined together, gave a valuable and useful result for us to use as a starting point of our design process.

However, it often happened that we used methods related to space and light and how they interacted together, such as measurements of illuminance levels, analysis of the spectrum of the light sources, HDR pictures to study the contrasts in the scene, surveys, 3D virtual daylight simulations over the day and the year, etc.

On the other hand, we seldom applied methods related to people and how they experienced and practiced the space and the light. When we did this, it was a pleasant discovery and we were actually facilitated in the ideation of the lighting design because we now knew of and were able to document the needs of the users of the space, who, as already said, should be the protagonists of the scene.

Thus, having learned the importance of this approach, with my thesis I wish to investigate qualitative methodologies that focus on the human being, in order to

broaden the toolbox of methods to evaluate existing lighting designs, which aim to support human experience and practice in natural lived environments.

I believe that every lighting design should be made for people and from people. For this reason, it is important from the beginning to have a clear idea about the motives of why people use the space, how they use it, which are their purposes and their emotions and feelings while they experience the space of light and while they live in the light (Böhme, 2016).

As discussed in the introduction, the beauty of the human being is also that each person is different from each other meaning that not everyone is behaving and responding in the same way to certain inputs from the environments, such as light. Thus, this leads to the fact that each person experiences their surroundings in different ways and that each person has a reason to practice space in different manners.

In order to investigate which are the ways to discover how people make experience of the space of light, I decided to dive into the procedures used by anthropologists to study people's experiences and practices of space of light and evaluate the potential of applying qualitative methodologies as a tool for evaluating lighting designs.

Which kind of methods?

Methods must be selected according to purposes.
(Hammersley & Atkinson, 1983, p. X)

It could be said that it is possible to apply any method to any kind of situation. This is true, but according to the context in which they are applied, they will reveal different types of data, they will ask for different amounts of time and they will require different contributions from the researcher; in other words, they will work differently.

Furthermore, the conditions of the social actors of the scene under study might restrict the shortlist of methodologies within the researcher can choose; for example, in cases in which the community taken into consideration includes elderly people with dementia, it is not convenient for the researcher and for a good result of the evaluation, to use methods in which it is necessary the active participation of the informant.

In order to clarify which methods are good for what, I set myself a question to answer through the development of my thesis:

Which human-centric methods can be applied to make an efficient qualitative evaluation of an existing lighting design and how are you, as lighting designer, to choose between them?

To answer this question, I will test the various methods that I investigate in the state of the art, using as case study the environment of the Aalborg University Campus (Copenhagen). In particular I will conduct my study in two spaces that are used by two different kind of people: the first one is the university lobby where people

are usually in a rush, passing through and going straight to their destination; the second one is the silent study room located on the first floor of the main building where the users are students that spend a long time in that space and who need to concentrate, preparing for exams or for study-related tasks in general.

CHAPTER 1

STATE OF THE ART

The interest of this thesis lays on studying who the people are, what people are doing in the space and in the light, how people are practicing their activities, where they do their tasks, how they experience the space and the light and all what rotate around people and their interaction with what stays around them. For these purposes, some methods from anthropology that are developed to help the researcher in finding answers to those questions were selected.

First of all, the most basic and most applied ethnographic methods that are *Descriptive observations* and *Interviews*, were analyzed. The application of the former gives “personal attributes and approaches” to the scene and it is supposed to be useful to obtain a general overview of “what is going on there”, so it seems a valid method to try out to find answer to the mentioned questions. The method of *Interviews*, instead, is considered as part of “the verbal methods which help in building rapport

and holding conversation” (Mukherjee, 2002, p. 10). The choice of these two methods stems from the consideration that each culture and social situation is different from another, thus its idea “*should be reinvented [...] through an exploration of the “place” of culture in both the experiential and discursive spaces that people inhabit or invent.*” (Hastrup & Fog Olwig, 1997, p. 3)

Then the second goal of this project is to understand how to make an evaluation of a lighting design also from a people point of view, but since people are immersed in the buildings and in the light, a more visual approach was hypothesized to be beneficial for the thesis’ purposes. For this reason, researches were done also on some visual methods that will be introduced later in chapter 1.3 like the Pink’s *Video walking interview* (Pink, 2007), the use of *Cultural probes* (Gaver, et al., 1999) and the non-verbal methods of *maps, flows* and *videos* (Mikkelsen, 2005).



Fig. 4 - The anthropological methods

1.1 DESCRIPTIVE OBSERVATIONS

"You will make descriptive observations whenever you look at a social situation and try to record as much as possible. It means approaching the activity in process without any particular question in mind, but only the general question, "What is going on here?""
(Spradley, 1980, p. 73)

One of the most common and applied methods in anthropology is making observations. Spradley has talked widely about this topic in his book Participant observation, defining three main categories based on the kind of questions that the researcher wants to find answer to. They are: descriptive observations, focused observations and selective observations.

Making descriptive observations requires to not have specific and precise questions in mind but just the general and basic one: "What is going on here?". This is because the point of this method is to grasp as much infor-

mation as possible about what the researcher is looking at, not the fine details. While applying this kind of methodology it is important to participate in the social situation as well, because the researcher is the tool that is measuring, so he or she needs to get involved into it and remember him/herself that every observation he or she makes is the result of his/her actions and a combination of his/her personal feelings and thoughts.

According to Spradley there are two types of descriptive observations, one that is focused on the major characteristic of the scene under study, called *Grand tour observations*, and one that is related to more specific information about things already learnt during the first step, called *Mini tour observations*. The difference between the two types is that even if both of them seek knowledge about the *nine dimensions* of the social situation, listed below, the latter is a deepening of the former.

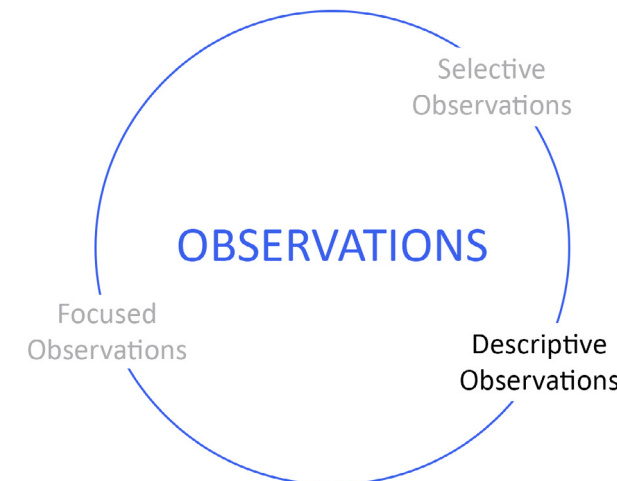


Fig. 5 - Different types of observations

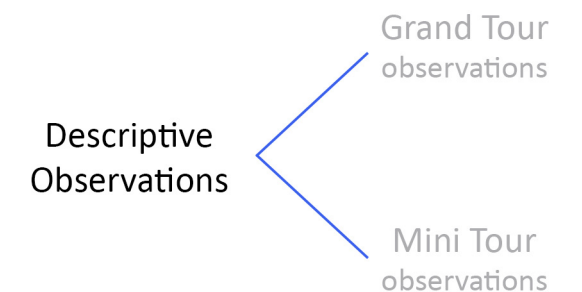


Fig. 6 - Different types of descriptive observations

The just mentioned nine dimensions defined by Spradley are:

1. Space
2. Actor
3. Activity
4. Object
5. Act
6. Event
7. Time
8. Goal
9. Feeling.

It is important to remember that Spradley specifies that these major features are not equally important in every social situation and it is the task of the researcher to understand which ones are valuable and relevant to ask questions about in the scenario under study and which ones are not (Spradley, 1980, p. 81).

Based on the definition of the two kinds of descriptive observation and on the nine major features of social situations, Spradley outlines a matrix to help the observer to conduct the research in the most complete way. Through the matrix, since the different features are interrelated, it is easy to ask all the possible questions for all the existing connections between them.

Descriptive Question Matrix

	SPACE	OBJECT	ACT	ACTIVITY
SPACE	Can you describe in detail all the places?	What are all the ways space is organized by objects?	What are all the ways space is organized by acts?	What are all the ways space is organized by activities?
OBJECT	Where are objects located?	Can you describe in detail all the objects?	What are all the ways objects are used in acts?	What are all the ways objects are used in activities?
ACT	Where do acts occur?	How do acts incorporate the use of objects?	Can you describe in detail all the acts?	How are acts a part of activities?
ACTIVITY	What are all the places activities occur?	What are all the ways activities incorporate objects?	What are all the ways activities incorporate acts?	Can you describe in detail all the activities?
EVENT	What are all the places events occur?	What are all the ways events incorporate objects?	What are all the ways events incorporate acts?	What are all the ways events incorporate activities?
TIME	Where do time periods occur?	What are all the ways time affects objects?	How do acts fall into time periods?	How do activities fall into time periods?
ACTOR	Where do actors place themselves?	What are all the ways actors use objects?	What are all the ways actors use acts?	How are actors involved in activities?
GOAL	Where are goals sought and achieved?	What are all the ways goals involve use of objects?	What are all the ways goals involve acts?	What activities are goal seeking or linked to goals?
FEELING	Where do the various feeling states occur?	What feelings lead to the use of what objects?	What are all the ways feelings affect acts?	What are all the ways feelings affect activities?

Fig. 7 - Spradley's matrix (Spradley, 1980, p. 81)

EVENT	TIME	ACTOR	GOAL	FEELING
What are all the ways space is organized by events?	What spatial changes occur over time?	What are all the ways space is used by actors?	What are all the ways space is related to goals?	What places are associated with feelings?
What are all the ways that objects are used in events?	How are objects used at different times?	What are all the ways objects are used by actors?	How are objects used in seeking goals?	What are all the ways objects evoke feelings?
How are acts a part of events?	How do acts vary over time?	What are the ways acts are performed by actors?	What are all the ways acts are related to goals?	What are all the ways acts are linked to feelings?
What are all the ways activities are part of events?	How do activities vary at different times?	What are all the ways activities involve actors?	What are all the ways activities involve goals?	How do activities involve feelings?
Can you describe in detail all the events?	How do events occur over time? Is there any sequencing?	How do events involve the various actors?	How are events related to goals?	How do events involve feelings?
How do events fall into time periods?	Can you describe in detail all the time periods?	When are all the times actors are "on stage"?	How are goals related to time periods?	When are feelings evoked?
How are actors involved in events?	How do actors change over time or at different times?	Can you describe in detail all the actors?	Which actors are linked to which goals?	What are the feelings experienced by actors?
What are all the ways events are linked to goals?	Which goals are scheduled for which times?	How do the various goals affect the various actors?	Can you describe in detail all the goals?	What are all the ways goals evoke feelings?
What are all the ways feelings affect events?	How are feelings related to various time periods?	What are all the ways feelings involve actors?	What are the ways feelings influence goals?	Can you describe in detail all the feelings?

1.1.1 How can this method be useful also for lighting designers?

Although all the different types of participant observations are part of the same process, going from the general to the particular, the first one *Descriptive observation* is the most adaptable and possibly useful also for lighting designers, because this way of observing is thought to get a general and complete overview of the social situation that the researcher is looking at, that it is supposed to be one of the first steps to go through in the design process.

The fact that doing descriptive observations requires the participation of the researcher in the social situation, is a valid pro for lighting designers as well because the lighting designer will be able to perceive and experience the light firsthand; as a consequence, he or she will get a better understanding of what the people are feeling and doing while practicing the lighting design and the space. This can open up interesting points of view on what could be improved in the lighting setup and on what is actually good.

The guide that Spradley has created, represented by the matrix, might be a very important and useful product also for lighting designers (Spradley, 1980, pp. 82-83). If anthropologists apply the descriptive observation approach using the matrix to get an understanding of the social scene that they are going to analyze, lighting designers can do the same, maybe with a re-design of the matrix, while they perform analysis of the lighting scenario having in mind the human being as the most important subject.

To conclude, getting an understanding of what is going on in the space within the lighting design under evaluation, can be of major help for the lighting designers to be able to create spaces through light that respect the social actors that make up them.

1.2 ETHNOGRAPHIC INTERVIEWING

When the purpose is to get a deeper insight in the social situation under study and to introduce in the analysis a collection of data on human experiences, it seems of big help to conduct some interviews with the users of the space (Kelly, 2016), (Mikkelsen, 2005), (Spradley, 1979).

For this reason, the study that Spradley made on this topic was investigated and his book *The ethnographic interview* was a great source of inspirations (Spradley, 1979).

Spradley sees the ethnographic interview as composed by two processes that are:

1. Developing rapport
2. Eliciting information

The former is the first step and it starts since the birth of the relationship with the informant; the latter encourages the growth of the settled rapport (Spradley, 1979, p. 78).

Lighting designer, as therefore non-expert of the ethnographic methodologies, might conduct interviews in a basic and simplistic way as real beginners. For this reason, now it will be presented the knowledge gained from research on Spradley's perspective about developing rapports in order to learn how to ask questions and how to talk with people in the quality of interviewer.

The *developing rapport* process is an evolving procedure and it changes its characteristic over time. In this part the researcher and the informant go through four different stages that are (Spradley, 1979, p. 79):

1. Apprehension
2. Exploration
3. Cooperation
4. Participation

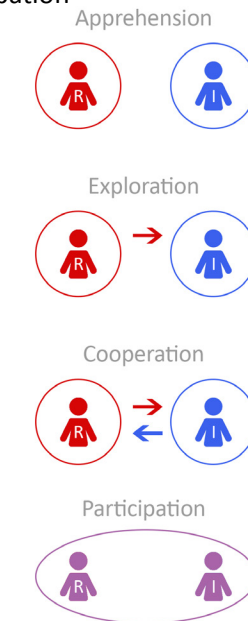


Fig. 8 - The four stages of "developing rapport"

The first two are the real beginning of the relationship between the informant and the researcher. In these stages they do not know what to expect from each other and thanks to the follow up questions made by the interviewer, they start to want to know more about which the intentions of the other are. It is of great importance that in these phases the interviewer makes repeated explanations, restates what informants say and it is fundamental that he or she does not ask for meaning but asks for use (Spradley, 1979, pp. 79-82).

The third and fourth stages are the ones in which the researcher and the informant feel at the same level. The informant has understood that the interviewer is really interested in what he or she is saying, so the informant

becomes willing to collaborate and teach the researcher about what he or she knows on the topic of their discussion. It is the task of the ethnographer to keep the informant describing the topic always from his or her point of view, without interfering too much with the informant's opinion (Spradley, 1979, pp. 82-83).

"In ethnographic interviewing, both questions and answers must be discovered by the informants"
(Spradley, 1979, p. 84)

In ethnographic interview, questions and answers are combined in a unique element in human thinking because each question implies an answer and from each answer it is possible to take inspiration for another question.

There are three ways to discover questions (Spradley, 1979, pp. 84-85):

- 1.The ethnographer can record the questions people ask in the course of everyday life.
- 2.The ethnographer can inquire directly about questions used by participants in a cultural scene.
- 3.The ethnographer asks informants to talk about a particular cultural scene.

In this direction, descriptive questions come to the aid of the ethnographer. Asking this kind of questions will help the informant, that in this case will be the expert, to take control of the situation and talk even for a long period of time about the topic. According to Spradley there are five types of descriptive questions (Spradley, 1979, pp. 85-91):

- 1. Grand Tour questions: in which the result will be *"a verbal description of significant features of the cultural scene."*
- 2. Mini Tour questions: in which the researcher investigates *"smaller aspects of experience."*
- 3. Example questions: in which *"They (the interviewers) take some simple act or event identified by the informant and ask for an example."*
- 4. Experience questions: *"This type merely asks informants for any experiences they have had in some particular setting."*
- 5. Native-language questions: in which the researcher *"[...] use(s) the terms and phrases most commonly used in the cultural scene."*



Fig. 9 - Types of descriptive questions

1.2.1 How can this method be useful also for lighting designers?

From a well-done interview session, it is possible to grasp information about how people experience the space and the light and how they use them. This information is fundamental to design lighting solutions for the end user, so the method of making ethnographic interview could be of great benefit also for lighting designers.

Following on the Hastrup and Olwig's idea that people should be studied in their natural environments (Hastrup & Fog Olwig, 1997), asking descriptive questions as suggested by Spradley, makes the lighting designer able to put the informant in a context and leave him or her talking about it, without taking off the control on the direction of the conversation from the hands of the lighting designer.

Through the interviews session, the lighting designer can come to know the deepest feelings and opinions of the informants on any kind of topics, so also on the light in the space. This will give to the designer important input for then develop a meaningful lighting design for the users.

1.3

THE VISUAL METHODOLOGIES

After having analyzed the two most basic and applied ethnographic methodologies, it was decided to study also some more visual methods. This comes from the fact that designers usually work with drawings and graphic tools to show their ideas, so the study of some visual methodology is supposed to be valuable also for lighting designers in the early analysis phase.

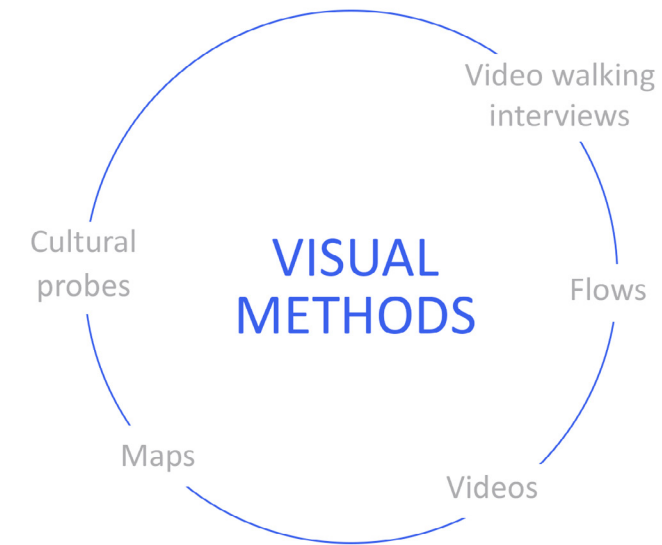


Fig. 10 - Visual methodologies

1.3.1 VIDEO WALKING INTERVIEW

In the research in the visual studies for a methodology that opens up data about how people practice and experience the space, the researcher approached the article of Sarah Pink about video walking interviews. In her article *“Walking with video”*, Pink describes the “[...] ‘walking with video’ as a phenomenological research method that attends to sensorial elements of human experience and placemaking.”. The “walking” activity is meant as a sharing with the informant and it is presented as a procedure to “learn empathetically about their (informants’) experiences” (Pink, 2007, p. 240).

The “walking activity” has been studied also by Lee and Ingold (Lee & Ingold, 2006) as a way to socialize with people. It leads to a physical co-presence through the sharing of movements and it helps the ethnographers in their research on how people practice the space, because participating in the walking activity of and with the informant, the ethnographers replicate the same way of behaving of the people under study, experiencing in firsthand how the informant makes use of the surrounding.

“[...] ‘walking with’ can bring us closer to understanding how other people perceive their multisensory environments, constitute place through everyday practice and live ‘in their bodies’.”

(Pink, 2007, p. 246)

Then the “video” part comes with the aim of getting information about how the informant experiences and how he or she engages with the environment.

“... the integration of video into this method can serve as a catalyst for creating ethnographic understandings of other people’s experiences, and representing these experiences to a wider audience.”

(Pink, 2007, p. 240)

1.3.1.1 How can this method be useful also for lighting designers?

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Through the interviews session, the lighting designer can come to know the deepest feelings and opinions of the informants on any kind of topics, so also on the light in the space. This will give to the designer important input for then develop a meaningful lighting design for the users.

1.3.2

VISUAL “TASKS” FOR THE INFORMANT

Continuing on the idea of more visual methods, the researcher came across the article “*Cultural Probes*” of Gaver et al. and she was inspired by their concept behind the choice of *sending “probes”* to the communities that they were studying in order to get information about them and from them. They were engaged in a European Union-funded research project in which the goal was to increase the elderly presence in the local communities.

“The cultural probes were designed to provoke inspirational responses from elderly people in diverse communities”

(Gaver, et al., 1999, p. 22)

Instead of directly working on the project without asking the participation of the final users, they designed cultural probes as “... *part of a strategy of pursuing experimental design in a responsive way.*” (Gaver, et al., 1999) with the hope of getting an understanding of the communities to then come to a solution that is relevant and well-integrated in the local cultures.

The probes that they proposed were:

- Postcards with questions in the back
- Maps with stickers to identify areas with a specific purpose for the participant
- Camera to record some important moments of the day / people
- Photo album and media diary to make people able to tell their stories through pictures and images

The designers in this case didn’t want to analyze the results from the probes but they understood from that

the main features of the different communities and so they were able to stick to them during the creation of their designs. They found very valuable the fact that the probes were thought “*specifically for this project, for those people and for their environments*”, so they gave them really significant information on which characteristics the final designs should have had in order to make those specific users feel part of it.

From the reading of this article the researcher got inspired about possible other methods to gain knowledge from the informants and she remembered about some of the last year lectures held by Professors Ellen Katherine Hansen and Mette Hvass as part of the semester course *Light and Context* included in the Lighting design Master Course curriculum. In those lectures, they presented to the students how to analyze light and life in the city.

During the lectures, among other architects, urban planners and lighting designers, students were introduced to the way in which Ulrike Brandi represents light through *drawings* (Brandi & Geissmar-Brandi, 2006). Thanks to her ability in depicting light, she is able to communicate it and to give to the observer an understanding of how the space is lit. Of course, she represented in her drawings her personal vision of the light, in fact it is possible to say that this approach is subjective and personal since, as it has been already pointed out in this thesis, each person experiences the surrounding and the light in a different way, having a different point of view on it influenced by personal background and culture (Hastrup & Fog Olwig, 1997). Therefore, the drawing is a mirror of the “artist’s” personal perception. However, this kind of drawing seems a very powerful method to communicate light.

In Brandi's book *Light for cities: Lighting Design for Urban Spaces*, she does not use the drawing as a methodology to study people or evaluating the lighting design, instead as a way of representing light.

However, thanks to the strict relationship between the subject of what people draw and the way in which they see it, asking people to represent through a drawing what they are seeing could be a useful method to understand their point of view on the lighting.

On the same strand the *taking pictures* was seen as a possibly successful visual method to investigate as well. Photography is used as a research method for data collection since several years in ethnography. At the beginning pictures were considered as a trustworthy tool to analyze a social situation. From the article of Close *The use of photography as a qualitative research tool*, it emerges the fact that: *"More recently, participants have been asked to select and take the image themselves. This work is based on the belief that that the 'meaning' of a photograph is not inherent to the image itself but is a 'negotiable property that lies within a conceptual triangle formed by the subject, the filmmaker and the audience' (Banks 2001)." (Close, 2007, p. 28)*

From giving the power to the informants to take pictures of their everyday lives and to select some of them to have a conversation about in the following meeting, Close was able to perform a longer in terms of time and a more in-depth interview with all the informants that decided to participate actively in this process.

1.3.2.1 How can these methods be useful also for lighting designers?

During the lectures about Brandi's way of representing light, the researcher got fascinated by her drawings and she felt as part of the represented scene. For this reason, during the evaluation phase of a lighting design, handing in some sketches of the space under study and ask people to draw on them the light that they are looking at, was considered by the researcher to be an interesting and valuable method to get to know how they perceive and where they see light, as a support for their activities.

By applying the qualitative participatory technique of photography, instead, Close was able to conduct a better research and more detailed interviews, giving the "power" to the informant and understanding more closely which their emotions and life experiences were. In a lighting design perspective, asking people to take picture of the 'light' in the space under analysis could work in a similar way as the "asking to draw the scene" method could do, in the sense that, it could be a substantial way to understand *what is* and *where is* light in the informants' opinion.

From the results of the application of this method, and in general from the use of similar kinds of "probes", it could be possible to get relevant material that can help lighting designers in evaluating the lighting conditions with constructive and consistent opinions based on the responses of the real users, and therefore in creating lighting designs that are actually made *for* and *from* people.

1.3.3 MAPPING FLOWS AND VIDEO

The last group of visual qualitative methods that were taken into consideration, are based on some previous personal experiences of the researcher. It wasn't possible to find a proper title for this subchapter because it talks about approaches that are similar and different from each other at the same time, and they could be actually included in the "Descriptive observation" section since they are basically a different form of making observations, just with a more specific goal.

However, it was considered meaningful to dedicate them a separate subchapter because during their application the researcher is focused on one precise aspect of the situation in front of him or her, while in the descriptive observation method the attention is on obtaining a general overview. Furthermore, they give a more visual result, aspect that it is often close to the designers' common approaches.

The methods that are included in this section are:

- mapping of the activities of the area
- taking account of the flows
- video recording the scene.

Once again as part of the project at Urbanplanen Syd that the students were working with in the first year of the MSc, during the analysis of the actual conditions phase, they mapped the neighborhood, they took account of the flows of people and they recorded the scene in order to understand which ones were the most used areas and what people were actually doing in the space. What the students obtained from that was very successful and it was of great importance especially when they had to document their observations and support their ideas for the design.

For these reasons it was considered a loss to leave these ways of analysis apart so they were studied in more depth.

Britha Mikkelsen talks about mapping and flows as Space-related PRA (Participatory Rural Appraisal) methods in relation to ethnography.

She considers them as good ways for getting information on the relation that people have with the space in their real lives. She refers to them as *social mapping*, *resource mapping* and *mobility mapping*.

As Mikkelsen says "*The social map is used to depict the habitation pattern [...]. Mobility mapping is used to depict and analyze the mobility patterns of the local people [...]*". (Mikkelsen, 2005, p. 67)

It is for this reason that the social and mobility mapping can be translated into the field of lighting design in order to understand how people make practice of the space and therefore of the lighting.

The last visual method taken under consideration is the *video*. It is more intended as a means to show and demonstrate the results from the mapping and flows methodologies' application. It was added it in the toolbox of qualitative methodologies for studying people, because of the researcher's previous experience.

1.3.3.1 How can these methods be useful also for lighting designers?

By sketching the space under consideration and drawing on it how many people pass by, walk through and stay in it and the places with the most affluences of people divided into "areas of activity", it is possible to understand which are the spots in which the lighting designers have to focus their attention in a possible future re-design of the lighting.

This methodology helps in the evaluation of the "supporting the user practices and experiences" level, because if an area is supposed to accommodate people performing a particular task but then from the application of mapping and flows methods it understood that people are not using it for that purpose, the designers should ask themselves which the reason of that could be, and also maybe deepening the research by conducting an interview session with the users and ask directly to them the motivation for this "non-use" use.

Video recording the social situation under study can be beneficial for the lighting designers in the moment in which they have to prove the results of their research. From the researcher's personal experience, having a short video of the conducted field work to show during the presentation of her university works of space analysis, was very useful in order to demonstrate her and her groupmates' thoughts and deductions.

Furthermore, the audience usually enjoyed the moment in which they played the video because it made them feel as part of the project group and going with them into the field. Therefore, the use of video gives also a sense of participation and sharing with the researcher, that can always be beneficial when the goal is to transmit personal ideas.

CHAPTER 2

HYPOTHESIS

In this chapter the methodologies explained in the state of the art section, will be analyzed according to potential benefits for lighting designers and some hypothesis of how the different methods would work for a lighting design evaluation will be formulated.

2.1

THE BENEFITS OF THE STUDIED METHODOLOGIES FOR LIGHTING DESIGNERS

Thanks to the combined literature study and discussion of ethnographic methods, it is possible to understand that each method can direct the researcher to the discovery of different kinds of data.

From Spradley we have learned that descriptive observations can open up data about how people use and experience the space, while conducting ethnographic interviews can help you also to get an insight on the reasons why people behave in that way instead of another. Then if the video walking activity is added during the interview session, it is possible to get knowledge also on how people practice the space. Thanks to the application of these methods, lighting designers can therefore understand which kind of atmosphere the lighting design should transmit and which activities it should support; on a second step they can realize if the lighting design is working in this direction or not.

From asking the informants to perform some visual tasks, that could include above other things, drawing a particular scene or taking a picture and talking about it, as it is possible to read in chapter 1.3.2, the lighting designer is able to understand when the users perceive the lighting design as a support for their activities or not and where they see light. Thus, this kind of methodology can be applied in lighting design to re-think the light setup in a way that is facilitating the users' usage of the space.

Then, the application of mapping the space and the areas of activities and of taking account of the flows are other methods to understand how people practice the space. Therefore, as by making observations, also by applying these two methodologies, lighting designers can become aware of the activities that are performed in the space and that need to be supported by the lighting

design; as a consequence, they can evaluate it on this basis and then take measures.

Finally, recording a video of a social situation can be used as a support for the other methods but also it can reveal aspects that maybe during the application of the others, were not noticed.

This considerations are summarized in figure 11 .

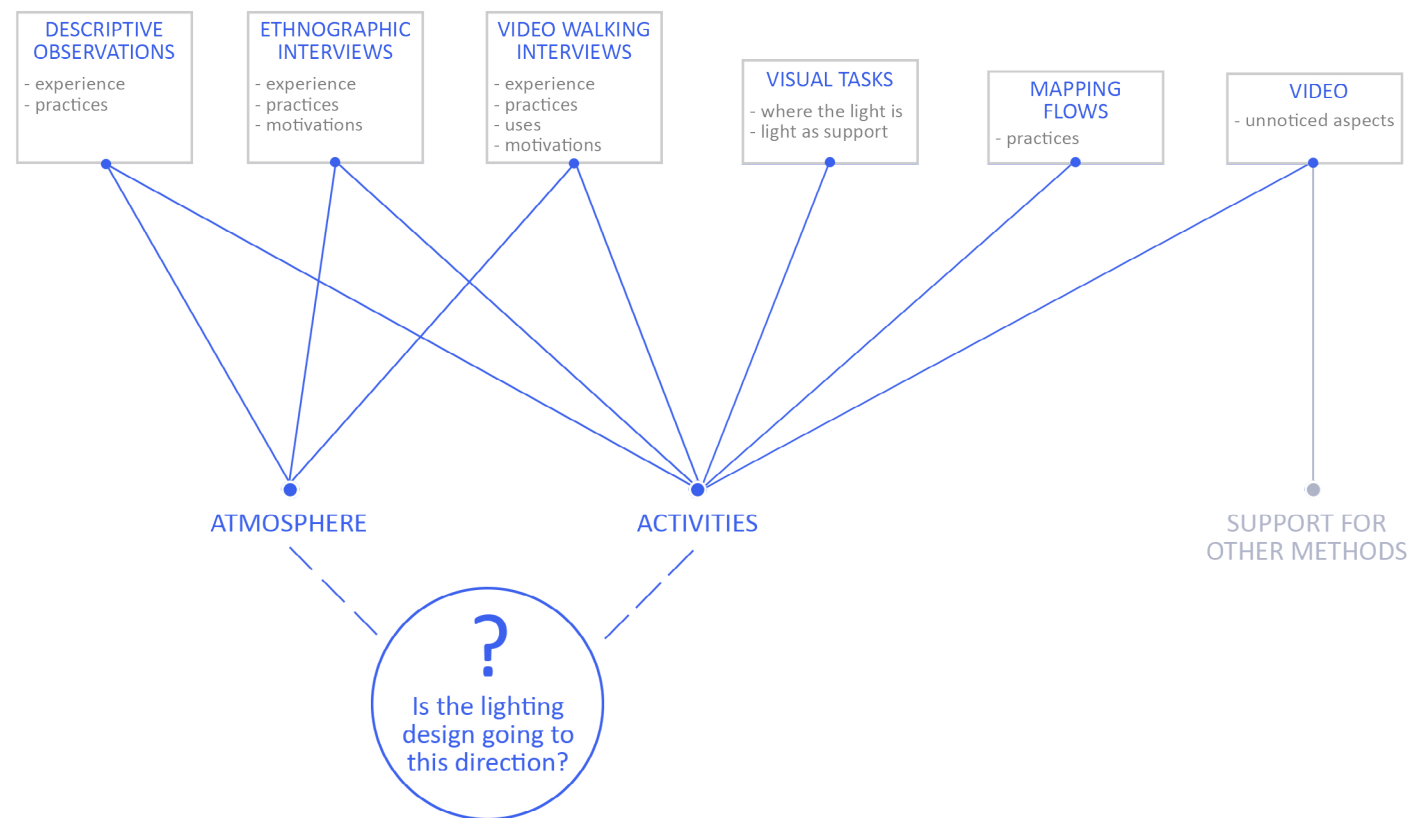


Fig. 11 - The categories of the information that the studied methodologies open up

2.2 QUALITATIVE METHODOLOGIES MATRIX FOR LIGHTING EVALUATIONS

In order to be able to make both an evaluation of the lighting design and also of how the methods work in a lighting design context using the researcher as an instrument, some hypotheses to test in the study case were set. These hypotheses are the result of the state of the art study; therefore, they are based on conclusions that anthropologists have made after applying the methods with anthropological purposes in mind.

However, even if it can sounds not applicable in a lighting design perspective, since the purpose of this thesis is to study if it is possible to make an evaluation of a lighting design, that should support the users’ practices of the space, through the application of methods that have the human being at the center of their focus, it is assumed that the translation of the anthropological methods in the lighting design sphere could be beneficial for enrich the lighting design toolbox of qualitative

methods.
On the basis of Spradley’s approach to the study of social situations through the use of a matrix (Spradley, 1980, p. 81), a similar line was taken to categorize the methodologies under consideration. The hypotheses were formulated after an analysis of which kind of data they can open up and the results of this analysis are summarized in table 1.

METHOD	GOAL			
	HOW PEOPLE PRACTICE ...	HOW PEOPLE EXPERIENCE ...	WHY PEOPLE USE ...	WHERE PEOPLE SEE THE LIGHT
Descriptive observations	✓			
Ethnographic interview	✓	✓	✓	✓
Video walking interview	✓	✓	✓	✓
Visual “tasks”		✓	✓	✓
Mapping/flows	✓			
Video recording	✓			

Table 1 - Matrix of the categorization of the studied methodologies according to the information’s field that they dive into

From these considerations the formulated hypotheses to test are the following:

HP 1: Through making descriptive observations, the lighting designer will understand how people practice the space and which are their lighting needs to perform their tasks.

HP 2: Conducting ethnographic interview will bring the lighting designer to understand how and why people practice and experience the space, so that it will be possible to conclude if the lighting design is helping them in doing so or not.

HP 3: Through the video recording of the scene, the lighting designer will support his/her conclusions on how people make practice of the space.

HP 4: Taking notes of the flows of people and mapping the social situation in front of him/her, the lighting designer will understand how people practice the space and if the lighting design is motive of attraction or repealing for the users.

CHAPTER 3

TEST IN THE CASE STUDIES

In order to test the hypotheses mentioned in the previous chapter, the application of the methods in the study case of the Aalborg University Campus in Copenhagen will now be displayed. In this phase of the thesis the student plays the role of the researcher, because she wanted to try out in first-hand how the method work.

The two spaces in which it was decided to conduct the field work are part of the Aalborg University campus in Copenhagen and they are the university hall and the si-

lent study room located in the main building. Even if they are part of the same environment (the university) in which the users are mainly students and university employees, it is not true that they have the same kind of ambience and people with the same goals, in them and this is one of the reasons why the choice for the study cases fell on them: they have similarities, but they are different at the same time.

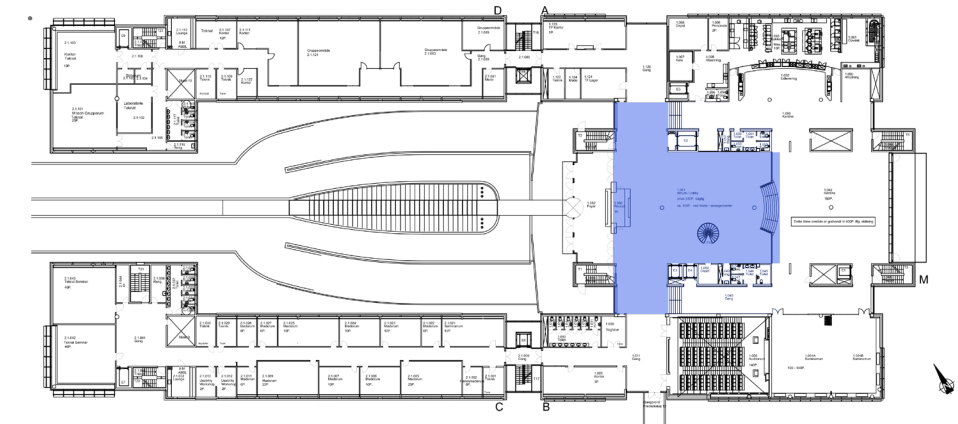


Fig. 12 - Building A first floor plan view - Aalborg University Copenhagen campus (lobby area delimited by the blue part)

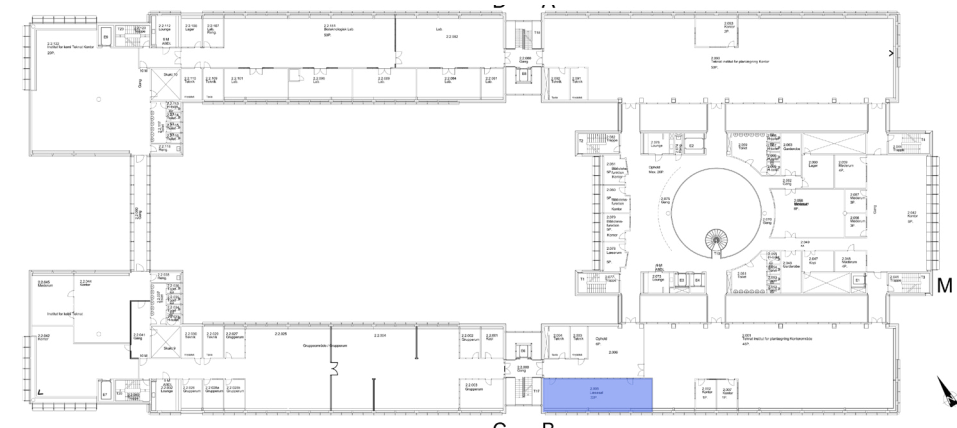


Fig. 13 - Building A second floor plan view - Aalborg University Copenhagen campus (silent study room delimited by the blue part)

The university lobby is an open and dynamic space with a lot of flows and activities going on that are not necessarily study-related, so the atmosphere that it is possible to perceive can be relaxed, active, crowded, cozy and many others according to the time of the day; on the other hand, in the silent study room people are only students who go there to study creating in this way a very serious and static mood.

Another aspect that makes a difference between them is about the light: in both the areas there is general lighting coming from artificial and natural light, but in the study room there are also some desk lamps that can be turned on by the users, so there is more freedom of usage from the users’ side.

	PEOPLE	ACTIVITY	LIGHT	SPACE	ATMOSPHERE
University lobby	- students - university employees - visitors	different kinds: - study - reading - waiting - eating and drinking - relaxing - meeting - working - using laptop	- general lighting - artificial light - natural light	- open space with different areas	- noisy - relaxed - calm - hurry
Silent study room	- students	study related: - reading - studying - writing - research on internet - research on books - using laptop	- general lighting - task lighting - artificial light - natural light	- “closed” space	- silent - still - focus - concentrated

Before starting to test the methods in the study cases, some factors that could play an important role during the application, are taken into consideration in order to select the most appropriate methods not only according to the kind of data that it would reveal, but also to the kind of “test” conditions that would be found. The considered factors are:

- the amount of **time** at disposal of the researcher
- the type of people that would be the **informants**
- the **context** in which the study cases are placed
- the **equipment** at disposal of the researcher
- the level of **experience** of the researcher in the application of the procedure.

In order to understand how they helped the researcher in making the choice of methods, they will be introduced in relation to each study case at the beginning of the two following subchapters about them (3.1 and 3.2).

At the end of each description of the method’s implementation, there will be a section about the kind of information that it opened up, while in chapter 3.3 it is possible to read about how the methods have worked and how the researcher found herself in using it as a lighting designer and as the “measuring instrument”.

Table 2 - Summary of the case studies’ differences

3.1 THE UNIVERSITY LOBBY

The university lobby was the first place in which the application of the methods started. From the study of this space the researcher's wish was to get information about how people practice and experience the space of light (Böhme, 2016), which reasons lead them to live it in those ways and possibly also where they see the light.

These motivations and some consideration on the factors that were introduced in the previous section, helped the researcher in the selection of the most suitable methods to apply. The considerations made on the information about the case study gathered until now are the following:

- In the university lobby the people that are the users of the space and of the light are in general people with no specific physical needs neither they are unable to actively participate in the methods' procedure; this allows to be free in the type of methodology to select.
- The context of the lobby, as already mentioned in the previous section (see table 2), has different facets according to the time of the day, but in any case it does not preclude the application of any method.
- The equipment at the researcher disposal during the "field work" is suitable for apply any kind of methodology since, a part from the methods introduced in the "Visual "tasks" for

the informant" chapter, they do not require any kind of specific instruments.

- The available time frame is long enough to apply any methodology and even to make several iterations of some of them with the aim of keeping an open mind in order to be as much deductive as possible in their application, as suggested by Karen O'Reilly in her book *Ethnographic methods* (O'Reilly, 2005, p. 4). However, considering the fact that the researcher in this case will have a period of time to try out the methods limited by a master thesis demands, and that the time to prepare in advance the material to use during the application session wouldn't be appropriate for the task, some of the methodologies included in chapter 1.3.1 and 1.3.2, will not unfortunately be included in the "test".

For this space, though, five methods to apply are selected:

1. Descriptive observations
2. Mapping
3. Ethnographic interviews
4. Study of the flows
5. Video

It will now be presented the application of each of the five methodologies, supported also by some examples of the researcher's field notes taken during the various sessions (the complete version of the field notes can be found in Appendix A, B, C, D and E).



Fig. 14 - Applied methods in the "university lobby case study"

3.1.1

THE UNIVERSITY LOBBY

—

DESCRIPTIVE OBSERVATIONS

The method that the researcher wanted to apply first was the descriptive observations because she wanted to familiarize with the space and the people under study and because it seemed to be the best method to kick start an analysis since it is supposed to give a general overview of the scene.

In the days before going on site, thoughts were made about what the researcher wanted to look at during the observation session in order to get help during the field work to be very focus on her scope. As a result, it was created a list of the different aspects that would have been the objects of the researcher’s attention during the session.

Inspiration was got by the matrix for descriptive observations given by Spradley, but it was decided that there wasn’t interest in all the nine features of a social situation that he identifies (Spradley, 1980, p. 78), but only on some of them; in fact, social dimensions as act, event

and goal were not included in the “check list”. This decision was taken because the methods are now applied from a lighting designer perspective, not from an anthropologist one, so the factors that were considered being the most useful to analyze in relation to the light are:

- 1. Object
- 2. People
- 3. Activity
- 4. Space
- 5. Time
- 6. Atmosphere.

Furthermore, it was decided that it was interesting to look also at which, how and when the selected dimensions are influenced by or are in control of the light in the scene, so some questions were formulated to keep in mind during the observations.

HOW	Object	People	Activity	Space	Time	Atmospheres
Electrical lighting	How are the objects lit by electrical lighting?	How are people using the electrical lighting?	How are the activity supported by electrical lighting?	How is the space organized through the electrical lighting?	How is the time beaten by electrical lighting?	-
Daylight	How are the objects lit by daylight?	How are people lit by daylight?	How are the activity supported by daylight?	How is the space organized through the daylight?	How is the time beaten by daylight?	-

Table 3 - Matrix of the six factors correlated to the different kinds of lighting to generate the HOW questions

WHEN	Object	People	Activity	Space	Time	Atmospheres
Electrical lighting	When are the objects lit by electrical lighting?	When do people use electrical lighting?	When are the activity supported by electrical lighting?	When is the space organized by the use of electrical lighting?	When is the time organized by the use of electrical lighting?	When are the atmospheres influenced by the use of electrical light and vice versa?
Daylight	When are the objects lit by daylight?	When do people use daylight?	When are the activity supported by daylight?	When is the space organized by the use of daylight?	When is the time organized by the use of daylight?	When are the atmospheres influenced by the use of daylight and vice versa?

Table 4 - Matrix of the six factors correlated to the different kinds of lighting to generate the WHEN questions

WHICH	Object	People	Activity	Space	Time	Atmospheres
Electrical lighting	Which are the objects lit by electrical lighting?	Which people use the electrical lighting and which not?	Which kind of activities are performed with electrical lighting on?	Which are the spaces lit by electrical light?	-	Which are the atmospheres when electrical lighting is in use?
Daylight	Which are the objects lit by daylight?	Which people use the daylight and which not?	Which kind of activities are performed with daylight?	Which are the spaces only lit by daylight?	-	Which are the atmospheres when daylight is used?

Table 5 - Matrix of the six factors correlated to the different kinds of lighting to generate the WHICH questions

It is not possible to say if the level of the questions was a grand tour or a mini tour one (Spradley, 1980, pp. 80-83), because they were thought not in order to see how the six quantities listed above, interact with each other, but they were supposed to make the researcher think about how they relate with the light, so they can be considered as both general (grand tour) and, some of them, more specific (mini tour).

Examples of how the various questions were formulated in order to see the correlation between the six factors listed above and the light, are presented in tables 3, 4, 5.

During the days of the application of the method the researcher didn't actually try to answer each of the questions, but she considered useful to have thought about them before going on site, so she was prepared. The reason why she didn't follow them one by one, is that once seated down and turned on her laptop to write about the scene, she was just overwhelmed by her willingness of notice and write about everything she was looking at; therefore, she just kept in mind the main points to observe and she wrote down her thoughts about them.

Furthermore, as Spradley says in his chapter about the matrix, it is actually not necessary to answer all of the questions from the matrix and it is even possible that the user of the matrix will find more questions to ask himself compared to the ones that the matrix gives (Spradley, 1980, p. 81).

An extract of the researcher's notes taken during the implementation of the descriptive observations is reported at the end of this subchapter.

3.1.1.1 Evaluation of the data that it opened up

By the application of this method it was possible to understand which kind of atmospheres are perceived in the space of the lobby. The pre-assumptions made on previous experiences of the space, that classified it as noisy, relaxed, calm and dynamic, were confirmed. In fact, some people were just chilling on the sofas, other people were having a meeting to study so they needed to concentrate, other people were just passing by, other people were having a gathering with some friends and so on. This mix of ambiances is due to the fact that the space is multifunctional, but unfortunately the lighting design is not completely supporting that. It is very flat and general, so the mood that is perceived is confused.

In addition, from the application of the descriptive observation it was possible to notice that the space has two light incomes: one that is represented by the daylight coming from the window located on the roof, the ones behind the reception area and the ones on the wall of the canteen on the opposite side of the reception, and one that comes from the electrical lighting represented by several lamps dislocated on the ceiling. This lighting setup gives a good amount of light enabling the basic usage of the space, but it does not foster the specific activities.

Thanks to that, the lighting designer now knows that a future re-lighting of the space should balancing these atmospheres and giving the user the possibility to choose between different lighting settings in order to find the most appropriate one for his task.

Extract of the researcher's notes taken during one of the Descriptive Observation applications

DATE: 09/03/2018

PERIOD OF OBSERVATION: 9:30 – 14:30

ACTIVITIES AND PEOPLE

AT 9:30 CLEANING GIRL PASS BY.

ONE CHILD SITTING ON THE SOFA 1 SINCE 9:30 WAITING FOR SOMEONE, THAT LATER IT WILL REVEAL TO BE HIS FATHER, AND PLAYING WITH A TABLET. AT 12:08 THE CHILD IS REACHED BY HIS FATHER AND THEY LEAVE THE BUILDING.

ONE GUY SITTING AT THE TABLE 3 SINCE 9:30. HIS GIRLFRIEND JOINED HIM AT 10. HE SEEMS STUDYING. THEY HAVE A CHAT ABOUT GENERAL THINGS. THE TWO OF THEM GO OUTSIDE SEVERAL TIMES FOR A SMOKE. AT 11:30 THEY LEAVE.

AT 11:00 A DELIVERY GUY COMES TO THE RECEPTION TO LEAVE SOME PACKAGES. AT 11:45 ANOTHER DELIVERY GUYS COMES WITH A PACKAGE THAT SEEMS PERSONAL FOR THE RECEPTIONIST.

[...]

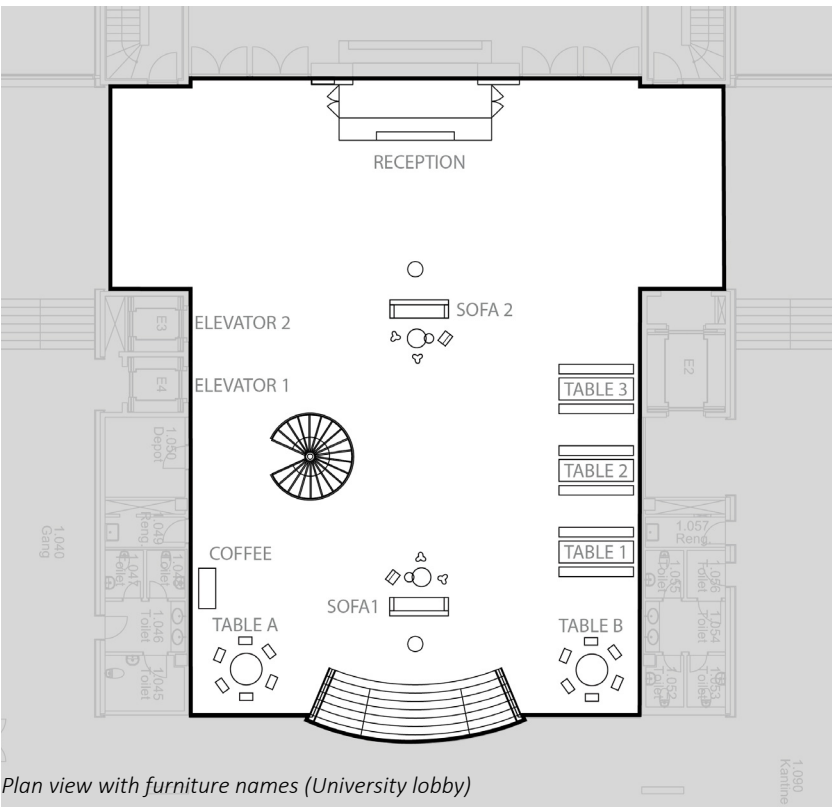
LIGHTING

THE ELECTRICAL LIGHTING IS ON SINCE THE BEGINNING OF MY OBSERVATIONS (9:30).

THE DAY IS A SNOWY/RAINY ONE AND THE SKY IS OVERCAST BUT THE DAYLIGHT INCOME COULD BE ENOUGH FOR THE ACTIVITIES GOING ON.

THERE ARE LAMPS ALL AROUND THE CEILING AND THEY HELP PEOPLE TO GATHERING AND DWELLING IN THE TABLES 1, 2 AND 3. IT HELPS ALSO MYSELF IN TAKING NOTES AND DRAWING ON THE MAP OF THE SPACE.

THE CHILD WAITING ON SOFA 1 IS TAKING ADVANTAGE OF THE RELAXING ATMOSPHERE MADE BY THE FURNITURE OF THE MINI SPACE AND BY THE LIGHTING. IN THIS MINI-SPACE THE MAJOR LIGHT INCOME COMES FROM THE DAYLIGHT.



Plan view with furniture names (University lobby)

THE CEILING IS PARTLY COVERED AND PARTLY OPEN TO THE SKY, SO THE DAYLIGHT INCOME IS QUITE BIG CONSIDERING ALSO THE GLASS DOORS CLOSE BY THE RECEPTION AND THE OPENING TO THE CANTEEN.

PEOPLE DON'T HAVE THE POSSIBILITY TO TURN OFF THE LIGHT AND USE ONLY THE DAYLIGHT. THEY DON'T HAVE CONTROL ON IT.

[...]

3.1.2 THE UNIVERSITY LOBBY — MAPPING

During the application of the descriptive observation method it was easy and useful to perform at the same time the mapping of the area. In order to proceed with this method, in the first application it was drawn a simple plan view of the area with the location of the various furniture. Secondly a name to every object in the scene was associated to be able to refer to them in the notes for the descriptive observations.

Afterword, at the end of each session of the application of the mapping method, going through the collected data it was possible to identify the areas that were mostly used during that session.

At the end of the entire testing period, there were then created a final map with the most used areas grouped according to the relative most performed activities and another one with the lighting zones on the top, to help the researcher in the evaluation of lighting design through the mapping methodology.

3.1.2.1 Evaluation of the data that it opened up

From implementation of the mapping methodology in the university lobby it was possible to clarify and visualize which are the most used areas for a specific purpose. Combing these results with the ones from the descriptive observations, the lighting designer can evaluate if the lighting setup support the users’ practices and experiences of the space.

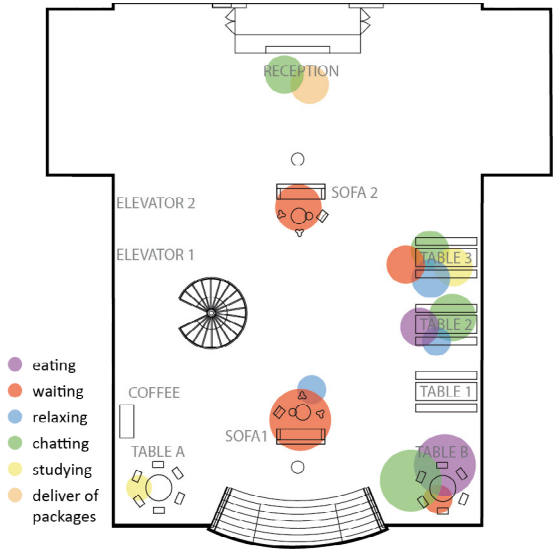


Fig. 15 - University hall plan view with most performed activities and their location of practice

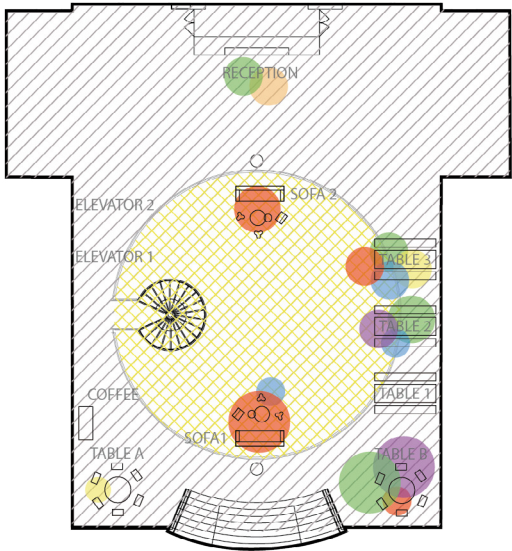


Fig. 16 - University hall plan view with most performed activities and their location of practice + the lighting zones (yellow lines direct daylight income; grey lines electrical lighting)

3.1.3
THE UNIVERSITY LOBBY
—
ETHNOGRAPHIC INTERVIEW

By the application of the ethnographic interviews the hope was to investigate who the people using the space were, how they practiced and experienced the space of light and if any of the activities that they were conducting or any of the emotions they were feeling was anyhow related to the light in the space.

To do so, it was taken inspiration about which kind of questions to ask, from both the chapters about *Descriptive Questions* in the Spradley’s book Participant Observation (Spradley, 1980) and the chapter *Asking Descriptive Questions* from his book *The Ethnographic Interview* (Spradley, 1979), and the found questions were then adapted to the university lobby case. This arrangement was done also by following the Spradley suggestion of adapting his guidelines according to the social condition that the researcher has in front of him or her (Spradley, 1980, p. 81).

From these researches, during the conversation with the informant, instead of talking about all the nine dimensions of every social situation identified by Spradley (Spradley, 1980, p. 78), the attention was focus again only on some of them and on other elements of the scene that the researcher was interested in. As a consequence, the topics were:

- activity
- actor
- object
- light
- personal experience
- feelings
- time.

Since the first attempt of application of the ethnographic interview method, the conversation topics were arranged in a way in which each one would lead to the other as much naturally as possible in order to create a “logical mental path” that would have helped the researcher to not make the informant feel confused by the different subjects involved.

As a consequence, strong of some little previous experience and study of literature about how to make ethnographic interviews, the questions were arranged in the following order:

1. What do you do in this space?
2. Are you usually here alone or with your friends or colleagues?
3. Which people do you meet in this space?
4. Can you describe the objects in this space to me?
5. Can you describe the light in this space to me?
6. How do you experience this space?
7. Which are your feelings and emotions in this space?
8. When do you come to this space?
9. When do you use the lamps other than the daylight?

Example of one of the first interviews in the University Lobby

Informant/s: three girls sitting at the sofa 2	“WATCHED”.”
Q1: WHAT DO YOU DO IN THIS SPACE? P 1: “I USE IT IF I HAVE TO MEET UP WITH PEOPLE. IF WE HAVE TO GO TO FREDERIKSKAJ.” P 2 + 3: “LIKE WHAT WE ARE DOING RIGHT NOW: A WAITING AREA.”	P 1: “AND ALSO SINCE IT IS A WAITING AREA.” Q7: WHEN DO YOU COME TO THIS SPACE? P 3 + 2: “NEVER DURING WEEKENDS.” P 1: “ONCE ALSO DURING WEEKEND.”
Q2: ARE YOU USUALLY HERE ALONE OR WITH YOUR FRIENDS/COLLEAGUES? P 3: “IT DEPENDS BUT MAINLY I HAVE BEEN HERE ALONE WAITING FOR OTHER PEOPLE.”	Q8: DO YOU THINK THAT THE ELECTRICAL LIGHT IS NEEDED OR THAT IT COULD BE ENOUGH JUST THE DAYLIGHT? P 1: “I THINK THAT DURING BRIGHT DAYS LIKE TODAY WE DON’T REALLY NEED IT THAT MUCH. BUT MAYBE WHEN IT IS DARK OR RAINING OUTSIDE, THEN THEY HAVE TO BE ON.
Q3: WHICH PEOPLE DO YOU MEET IN THIS SPACE? P 3: “STUDY BUDDIES AND FRIENDS.” P 1 + 2 AGREE ON THAT.	
Q4: CAN YOU DESCRIBE THE OBJECTS IN THIS SPACE TO ME? P 3: “SEATING AREAS WITH CHAIRS AND SOFAS”. P 2: “SMALL TABLES” P 1: “BIG TABLES.” P 3: “COFFEE AREA”. P 1: “A COZY SPACE WITH CARPET”. P 3: “PLANTS. NOT A LOT OF THEM. THEY ARE MISSING SOME.”	
Q5: CAN YOU DESCRIBE THE LIGHT IN THIS SPACE TO ME? P 2: “I LIKE THE LIGHT BECAUSE OF THE BIG WINDOW HERE AND THE ONE ABOVE US”. P 1: “SO A LOT OF LIGHT HERE.” P 3: “THAT’S NICE!” P 1: “IT IS THE BEST PART OF THE ROOM ACTUALLY.”	
Q6: HOW DO YOU EXPERIENCE THIS SPACE? P 2: “I THINK THAT IT IS FORMAL.” P 3: “BUT ALSO BECAUSE EVERYONE CAN LOOK DOWN AND YOU DON’T NECESSARILY SEE THEM SO, YOU FEEL A LITTLE BIT	

From the first application of the ethnographic interview method the usefulness of the guidelines for the ways of discovering questions, stated by Spradley was experienced; in fact, for example, during the first attempt it was possible to perceive the need for making a sort of introduction to some of the questions that asked the informant to talk about a specific situation (Spradley, 1979, pp. 84-85).

In this way the informant had the time to imagine the situation and get involved, helping both himself or herself, for the just explained reasons, and the researcher, because in doing so she was able to get a longer and more exhaustive answer, that it is always precious when the goal is to grasp as much information as possible.

Another assumption that was confirmed for being useful by the first application of this method, is the one suggested by O'Reilly of being iterative (O'Reilly, 2005). This did not only lead the researcher to be more inductive, but it also helped to improve the way in which the application was performed, as explained few lines above.

In fact, problems like those ones happened not only one time during the interview sessions and each time after a day of interviews, it was possible to find some changes that the researcher wanted to introduce to the kind of questions, to the way of asking questions and to her approach to people.

3.1.3.1 Evaluation of the data that it opened up

From the application of the ethnographic interview methods it was possible to become aware of the activities that the people are practicing, of how they experience the space at atmosphere level and which kind of feelings they have according to the lighting in the space.

In general, the information gained are summed up in figure 17.

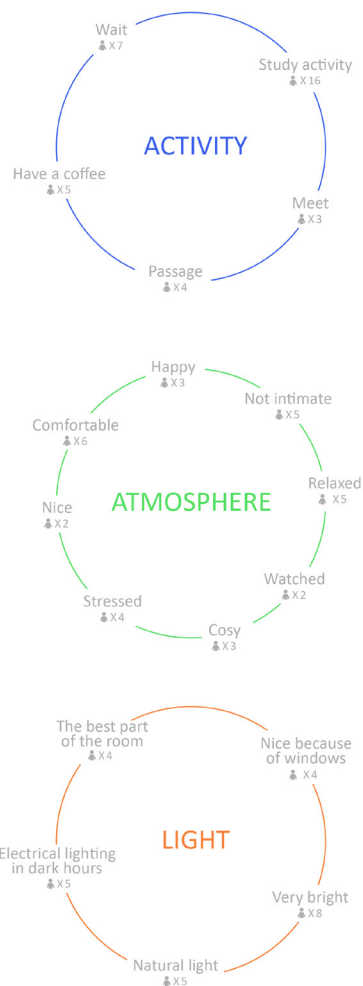


Fig. 17 - Ethnographic interviews' results (University lobby)

As it is possible to understand from figure 17, the space is used for **activities** that are different from each other and that in some cases need a specific lighting scenario. People are mainly using the space for studying or working tasks, therefore the light should enhance an atmosphere of focus and it should also give the possibility to change it according to the user's necessities of both individual studying and meeting with university mates or professors (e.g. when the student needs to read from a paper or write by hand, he or she might need a task and personal light instead of only the general lighting).

Other common practices of the space are related to less intense activities, as for example drinking coffee, waiting for other people or just passing through, so in these cases it is not necessary to have a customizable light, but it is enough to have an ambient lighting that allows people to see.

From the **atmosphere** point of view the space is mainly perceived as comfortable and relaxed, but also crowded and stressful. Even if it does not seem that this is due to the light, in a future renovation the lighting designer could include a purely artistic design that can make people escape with their minds and feel overall more at ease.

An important aspect that should be taken into consideration by the lighting designer is that the electrical lighting was seen as an extra by the informants present during the interview sessions. This was primarily because of the weather conditions that gifted those days with Sunshine. However, it should be considered to find a solution to adjust the artificial lighting to the daylight conditions of each day.

Example of one of the second interviews in the University Lobby

Informant/s: girl (sofa 1)

Q1: WHAT DO YOU DO NORMALLY IN THIS SPACE?

I GO THROUGH IT. I DON'T STAY TOO MUCH.

Q2: DO YOU USE IT MAYBE TO MEET WITH OTHER PEOPLE?

YEAH. I WAS ACTUALLY THINKING WHY NOT TO USE IT AS A STUDY SPACE, BUT I THINK THAT IT IS TOO NOT PRIVATE SO I THINK THAT IT IS TOO OPEN. IT IS NOT SO DISCRETE. AND THIS SPACE IT'S VERY OPEN, THERE ARE NOT ANY SMALL WALLS OR ANYTHING SO A LOT OF NOISE AND IMPRESSIONS EVERYWHERE.

Q3: AND WHAT DO YOU THINK ABOUT THE LIGHTING IN THIS SPACE? WE HAVE BOTH ELECTRICAL AND NATURAL LIGHT? DO YOU HAVE ANY OPINION ABOUT IT? DO YOU HAVE ANY PROBLEM WITH THE LIGHTING HERE? DO YOU THINK THAT IT IS GOOD ENOUGH TO PERFORM YOUR TASK?

I THINK THAT IT IS BEAUTIFUL ESPECIALLY WITH THE NATURAL LIGHT IT IS VERY BEAUTIFUL. YEAH A LOT OF LIGHT ACTUALLY NOW THAT I THINK ABOUT IT. PROBABLY THE ELECTRICAL LIGHT WOULDN'T BE NECESSARY. IT SEEMS LIKE A WASTE OF MONEY AND ENERGY.

Q4: DO YOU FEEL COMFORTABLE OR STRESSED OR HAPPY OR SAD OR ...? WHICH ARE YOUR EMOTIONS?

I FEEL LIKE UNDER A SPOTLIGHT, BECAUSE ALL THE PEOPLE CAN LOOK DOWN. IT IS LIKE A STAGE. YOU KNOW? YOU ARE WALKING INTO A STAGE. AGAIN NOT SO INTIMATE BECAUSE LIGHT IS VERY LIGHT LIKE WHITE AND NOT SO YELLOW. IT DOESN'T REALLY HAVE A GLOW AND I THINK IF YOU SIT ON A DESK OR SOMETHING IN A STUDY ROOM AND READ I LIKE TO SIT WITH A MORE SUNNISH LIGHT WITH YELLOWISH GLOW, INSTEAD THIS IS VERY WORKISH AND INFORMAL.

It is possible to have a look at the researcher's notes taken during the interview sessions and to read through the transcripts of the interviews in the Appendix D and F. Furthermore, for a deeper understanding of the researcher's experience with this method in the university lobby, it is possible to read Appendix A on it.

3.1.4
THE UNIVERSITY LOBBY
—
STUDY OF THE FLOWS AND VIDEO

The area of the university hall is a very dynamic space with a lot of activities going on that were investigated through the use of the methods explained in previous chapters. However, it is necessary to mention that it is an area with also a lot of people just passing through. In order to analyze this specific kind of practice of the space, it was decided to try out the two methods of recording the scene and of taking account of the flows.

Of course, unfortunately it is not possible to show through the text of this thesis, the video recorded during the application of this method, so a link to a YouTube page with it, is inserted below.

<https://youtu.be/hck8ZAJenWs>

To record the video, it was necessary to decide the spot from which taking it, so in order to have the most complete overview of the hall it was found appropriate to go to the first floor of the main building and take advantage of the fact that the different floors have an area facing down to the lobby.

On the other hand, in order to study the flows, during the application of the method it was used a map of the area sketched by the researcher and a pencil. Every time a person was walking through the hall, a line was drawn keeping the information about the path that the person was covering.

At the end of the observations the drawing was converted in a digital format through the use of a graphic software underlining the most “walked” paths and enhancing the joints of densities. This was done in order to understand which the most used routes are and if there are some not covered areas, with the aim to ana-

lyze them and see if these practices of the space of light are somehow related to a lack of or a good level of light. An example of the result from a study of the flows is shown in figure 18.

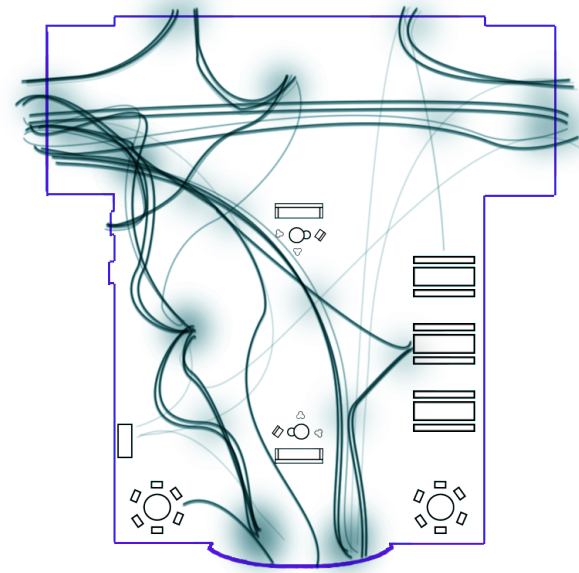


Fig. 18 - Study of the flows' results (University lobby)

3.1.4.1 Evaluation of the data that it opened up

Unfortunately, the video method didn't show any specific details about the lighting. However, what was possible to understand from the comparison of the videos taken during two different days of a quite long period of time (the first taken on the 15th of March 2018 and the second one on Wednesday the 16th of May 2018), is that the lighting is not actually controlling the movements of the people around the space.

This is because on the second day of recording, the furniture of the university hall was moved in order to leave the space empty for an exhibition, so the area had less objects around and the people were passing by using the entire floor area, so they were not sticking to the paths that they normally use. Even if it wasn't carried out in this day, it is supposed that an eventual flows' study it would have shown the same result.

This means that the lighting is not influencing in an evident way how the “walking users” make practice of the space, instead what is playing an important role is the furniture disposition.

3.2 THE SILENT STUDY ROOM

The silent study room is located on the first floor of the main building of the Aalborg University campus in Copenhagen. It is an enclosed space facing on one side the canal and the bridge that connect the two building of the campus and on the other side a lounge room that serves also as a corridor.

The reason why this room was chosen as a second study case, as already said in the introduction of chapter 3, is that this is a different space at users and atmosphere level compared to the university hall. The purpose of the application of the methods in this case was to understand in which different way the users make practice of the space as purely environment and also as space of light (Böhme, 2016) and which atmospheres are perceived in it.

As it was done before the field work in the university lobby, some considerations on the five factors (*time, researcher's expertise, informants, context and equipment*) that can influence the success of the analysis sessions, were performed:

- In the silent study room, the possible informants do not usually have any particular health condition, so it is supposed that they will be able to actively participate in any of the methods' procedure; this gives the researcher the possibility to select the type of methodology that she considers more suitable.
- The context of the silent study room is very quiet and still (see table 2) and probably it is the same during almost the entire academic year. This limits the choice of method to the ones that are not requiring a dynamic participation of both the researcher and the participants (like e.g. video walking interview) and the ones that are recording the movements

in the space since there are not a lot of them.

- In this case as well, the equipment at the researcher's disposal is suitable for apply any kind of methodology that the researcher wants to.
- As in the other study case, since the application of the methods were performed in the same period, the available time frame is suitable to apply any methodology, iterating them also some times (O'Reilly, 2005). However, it still valid the issue related to the master thesis demands, so some methodologies were not taken into consideration because of their requirement of a longer period of preparation in advance and other ones, as the ethnographic interview, were unfortunately not applied as much times as they are supposed to be.

Keeping in mind those reasonings the methods that were decided to be applied are the following:

1. Descriptive observations + Mapping
2. Ethnographic interviews.

Now, it will be presented the application of these methodologies in one chapter for each of them and, as it has been done for the university lobby, at the end of each chapter there will be a section with the gained useful information for making a lighting design evaluation, while the description of how the method worked during their implementation is included in chapter 3.3.



Fig. 19 - Applied methods in the "silent study room case study"

3.2.1 THE SILENT STUDY ROOM — DESCRIPTIVE OBSERVATIONS + MAPPING

The reasons why it was decided to apply the descriptive observations methodology in the silent study room are very similar to the ones that influenced the choice for descriptive observations in the university hall. The aim was to understand how people practice the space and how they experience it; furthermore, it was functional for the researcher's knowledge enrichment regarding the perceived atmospheres in the room.

The attention of the researcher was "trained" in the days before going on site, to look at the six quantities that were considered also in the university lobby (object, people, activity, space, time, atmosphere) and how are they related to the light.

However, during the application of the method, as it happened in the university hall case, not all the questions generated by those relations (see tables 3, 4, 5) were answered, because again they needed to be adapted to the situation that the researcher found in front of her (Spradley, 1980, p. 81).

In fact, the focus of the observations was directed mainly to activities and possible connections between them and the light.

In this occasion, since the application was conducted after the one in the other study case, it was decided in advance to perform also a mapping of the area in the meanwhile in order to help the researcher in making references to the space while taking notes of activities and people.

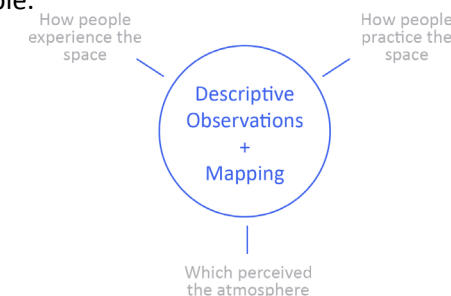


Fig. 20 - Aims of the descriptive observations + mapping application

3.2.1.1 Evaluation of the data that it opened up

In this room the light income is a combination of electrical lighting and daylight coming from the windows facing the canal and the bridge.

During the observations it was noticed that the electrical lighting is always turned on, but from sunset on it starts to be controlled by a presence sensor, so it happens that if the sensor does not detect any big movement in the space, then the light remains turned off. Another interesting point about the light, that was observed during the application of this methodology, is that the blinds change their position according to the time of the day and to the Sun position. This is probably because the window wall is orientated toward South-West, so the sunbeams point directly to it during afternoon becoming glary and disturbing for the study activities.

One of the things that were supposed at the beginning of the reasoning about why to choose this space, was the fact that in this room were noticed some desk lamps that give more flexibility to the lighting in the room. Unfortunately, during the descriptive observations process it was found out that those lamps are laying around the room and are disconnected. To understand the motivation of that, it was carried a short conversation with the employees of the library next to this room. From that talk it was discovered that the lamps were removed because people were stealing them in the previous years, so they need to find out a way to fix them to the tables to be sure that they will not disappear again.

This was a very interesting point for the researcher, because it gives to the lighting designer an important criterion to keep in mind during a possible future re-design of the lighting.

3.2.2 THE SILENT STUDY ROOM — ETHNOGRAPHIC INTERVIEW

The goal of the implementation of the methodology in the silent study room was to understand who the users were, which practices of the space and of the light they were doing and why, and if any of those ways of make use of the room were depending on the kind of light into the space.

As second study case also in chronological order of application of the methods, the silent study room saw a better performance of the ethnographic interviews. This was a further confirmation of the validity of the O'Reilly principle of iterate the process to get a more and more beneficial and well performed application of ethnographic methods (O'Reilly, 2005).

The asked questions were mostly the same as the ones asked in the university hall case since, as explained in chapter 3.1.3, it was found more useful and meaningful to just have a list of topics to cover during the interview with the informant and then going with the flow of the conversation.

3.2.2.1 Evaluation of the data that it opened up

From the application of the ethnographic interview in the silent study room it was possible to extrapolate some interesting information regarding both the light specifically and the atmosphere and practices of the space.

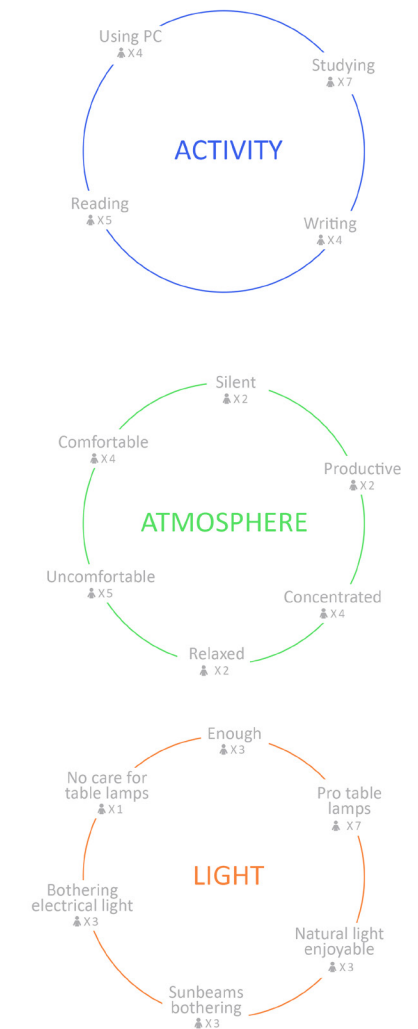


Fig. 21 - Ethnographic interviews' results (silent study room)

People stated that they go there mainly to perform study-related activities; in details those usages of the space include studying for the majority of the participants, reading, writing and using laptops. In their opinions the room facilitates their tasks because the atmosphere perceived is comfortable and therefore they feel concentrated and productive. However, some of them do not feel at their ease, because the room is too small, and people are too closed to each other, plus the silence that permeates the room is very noticeable and it is perceived as an obstacle to any kind of little noisy movement.

On the other hand, the natural light coming from the windows was the most appreciated aspect of the study room, but it was also considered a restriction when the sunbeams were pointing directly to the room, because it became glary due to the reflections on their tables. (This happens only for few moments immediately before the positioning of the window’s blinds, because probably the clock that is in control of this system, is not 100% precise with the timing.) In general, the light was considered enough to perform their activities, but when the option of a personal desk lamp was proposed they welcomed it very positively. The only negative opinion about the electrical lighting was related to the fact that at a certain point in the afternoon the lamps turn off automatically and, unless a movement is detected by the sensor, the light stays turned off.

In general the lighting designer should create a light scenario that pays attention to the daylight possible issues in sunny days; furthermore, it should be taken into consideration the installation of durable desk lamps that can allow the user to have a more specific lighting for his or her study activity and to not make him or her worry

about the movement sensor to turn on the light in the late afternoon.

Example of one of the interviews in the Silent Study Room

Informant/s: girl (sitting on sofa)

TALKING IN THE LIBRARY SEATS) BECAUSE HERE YOU CAN BE MORE DISTRACTED.

Q1: WHAT DO YOU DO NORMALLY IN THIS SPACE?

MOSTLY WRITING PROJECTS AND NOW I AM WRITING MY THESIS.

Q10: DO YOU COME HERE DURING WEEKDAYS OR ALSO DURING THE WEEKENDS? MORNING, AFTERNOON?

NEVER IN THE WEEKENDS AND IT DEPENDS THE TIME OF THE DAY IN WHICH I AM FREE AND I DON'T HAVE TO BE IN A MEETING.

Q2: SO DO YOU USUALLY USE YOUR PC OR SOMETIMES DO YOU READ ALSO FROM BOOKS AND PAPERS?

YES I DID. IN THE FIRST SEMESTER WHEN I HAD EXAMS I READ A LOT THERE, BECAUSE IT IS A NICE ENVIRONMENT. IT IS A NICE SPACE WHERE NO ONE TALKS.

Q3: ARE YOU USUALLY ALONE IN THAT SPACE OR DO YOU STUDY WITH SOME FRIENDS OR COLLEAGUES?

NO I COME HERE WITH FRIENDS ALSO, STUDYING ONE IN FRONT OF EACH OTHER.

Q4: WHEN YOU WERE INSIDE MAYBE READING FROM BOOKS DID YOU EXPERIENCE ANY NEEDS OF HAVING MORE OR LESS LIGHT?

NO, NO I THINK THERE IS A VERY GOOD LIGHT DUE TO THE BIG WINDOWS.

Q5: I REMEMBER THAT LAST YEAR SOME DESKS HAD A DESK LAMP AND NOW I SAW THAT THEY ARE LAYING AROUND IN THE ROOM AND NOT WORKING....

YEAH AND ALSO LAST YEAR THERE WERE NOT ALL THE DESKS.

Q6: SO IMAGINE THAT THEY ARE WORKING, WOULD YOU LIKE TO USE THEM?

YEAH YES ESPECIALLY DURING WINTER TIME WHEN THE DAYS ARE LIKE THIS.

Q7: ANOTHER THING THAT I'VE NOTICED IS THAT DURING THE SUNNY DAYS THE SUN IS SHINING FROM THAT SIDE IN THE AFTERNOON. IS IT SOMETHING THAT BOTHER YOU?

NO IT DOESN'T BOTHER ME.

Q8: COULD IT BE SOMETHING THAT MAKES YOU DECIDE TO SIT IN A DIFFERENT TABLE OF THE ROOM?

YEAH IT COULD BE BECAUSE WHEN THE SUMMER APPROACHES THE SUN IS NOT SO HIGH SO THE LIGHT CAN ARRIVE AND BOTHER YOU. BUT I'VE NEVER BEEN HERE IN THE SUMMER.

Q9: WHICH ARE YOUR FEELINGS IN THIS SPACE? AND WHICH YOUR EMOTIONS? DO YOU FEEL RELAXED, STRESSED OR...?

I FEEL IN A VERY GOOD WRITING FLOW BECAUSE EVERYONE IS DOING SO, SO I FEEL VERY FOCUSED. MORE THAN HERE (WE WERE

3.3

DISCUSSION ON THE APPLICATION OF THE METHODS

Applying ethnographic methodologies in the two study cases turned out to be a very interesting experience because they made the researcher appreciate some small details that in a normal usage of the space she wouldn't notice. This happened mainly because in order to perform the test of these methods, it was required to spend a long **time** in the space of the application, so in the end a more profound knowledge about what was going on there was gotten, as expected by the literature research on these approaches (O'Reilly, 2005), (Spradley, 1979), (Spradley, 1980).

During the performance of the descriptive observation method it was discovered that in order to conduct detailed and valid observations that can give a general overview of the space, it is necessary to spend a long period of time in the field; then, after the implementation of the other methodologies, it was understood that this observation can be applied to all the ones that were tested, because it is also from the dedication that the researcher puts in his or her job that wonderful results can be obtained.

Another reason for the time-consuming feature of these methods is related to the level of expertise of the researcher; for example, for carrying some ethnographic interviews it was necessary for the researcher to iterate it several times because of her lack of experience with it (O'Reilly, 2005).

This consideration leads to the introduction of some thoughts on the **expertise** criterion that influences the grade of easiness of the implementation. Having more or less experience in the development of a methodology played an important role in general in all the tests, but more specifically it was felt very meaningful in the

ethnographic interviewing; a lot of "mistakes" would not have been made if the researcher would have been more familiar, for example, with the *developing rapport* aspect (Spradley, 1979, p. 78).

However, some other methodologies were experienced as easier to apply by the researcher, probably because of her design background and her previous study of the state of the art of those kinds of approaches to social situations' visual studies.

A little mention should be done about the post-application analysis of the data gotten from some methodologies. For example, after the application of the "flows method", the analysis process was done through the use of a graphic software, so it required the researcher knowledge of some programs, like e.g. Adobe Photoshop CC. Therefore, in that case it was necessary some personal experience with advanced graphic software. However, it is not a demand to analyze the "drawing" taken during the application, with this procedure; it is up to the researcher to decide if he or she wants to show it directly as it is or with some elaboration of the data, creating a more "easy to read" graphical result.

In some cases, it was necessary to come prepared to the application of the method. As mentioned in chapter 3.1.1, for the development of a meaningful descriptive observation session in the university lobby the researcher made some **pre-work** about what would have been her interest during the application, because that space is full of possible objects of attention, so it was important to have a clear idea in advance of what to look at.

Another aspect that influenced the application of the methods was the **context** in which the researcher was.

The social situation in which the researcher found herself during the test sessions in the lobby study case, was supporting almost all the methodologies. This was because being surrounded by a lot of other people facilitate the researcher activity, in the sense that it seldom occurred to be at the center of other people’s attention, so it was possible for her to carry the tests in a relaxed and undisturbed way.

On the contrary, this wasn’t valid also for the application of same methodologies in the silent study room. In fact, some issues were found because of the particular context in which that room is. The space is very silent and the atmosphere that it is possible to perceive is of concentration and hard-working, so any kind of noise is not welcome. For this reason, for example, during the ethnographic interviewing the researcher preferred to sit outside the room and wait for the people coming out to stop and ask them if they would have liked to have a little chat with her.

In the performance of some ethnographic methods was fundamental the kind of person that the **informants** were. Of course, this is not the case of methods as the mapping or the taking account of the flows, because in those cases it wasn’t necessary a real interaction between the people and the researcher and because they were the experts in this case, by solely practicing the space and the light in their natural environment. However, for methods as the ethnographic interviews it was important to have a collaborative person as informant.

What it was noticed is that in the university silent study room case the informants, in general, behaved in a nice and useful way for the researcher, even if it was found a higher number of people that didn’t want to have a

chat with her compared to the one of the other study case. This was associated to the fact that in this context the users are more occupied and stressed than in the university hall, because they need to study for an exam or to finish some tasks for the next lecture.

Another parameter that has been considered valuable, was the type of **equipment** necessary to perform the method’s application. In general, all the tested methodologies didn’t require specific and very advanced tools, but for the ethnographic interviewing it is not possible to say the same.

Since in this case the researcher was a beginner, to conduct ethnographic interviews it was necessary to use some equipment like a tape recorder (that it was usually substituted by the “recording app” of the researcher’s phone) and paper and pen, in the occurrence in which the informant preferred to not be recorded. It was very important to have such equipment, because in order to support a satisfying conversation and move further in the various steps of an interview (apprehension, exploration, cooperation and participation) (Spradley, 1979, p. 79), from the state of the art study, it was clear that it is better to keep talking and not stop the chat, even only for few seconds, to take note of what the informant just said.

Finally, **being the “measuring instrument”** in charge, was from some points of view difficult and from others not so much, and sometimes it was even enjoyable, like e.g. in the descriptive observations, mapping and flows tests, because the researcher felt as part of the single user’s life and closer to feel the atmosphere that he or she was living in that moment. On the other hand, playing the instrument role in a very active and dynamic

space, as the university lobby, asks for a high usage of the researcher’s attention and concentration, because in order to record as much as possible it is necessary to keep open eyes for any small occurrence.

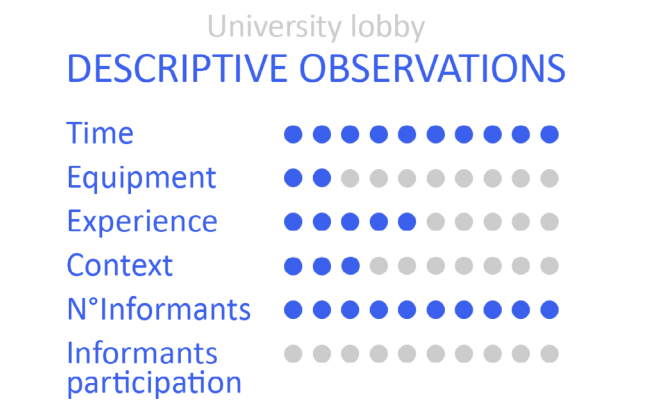


Fig. 22 - Rating of the descriptive observation method based on its application in the University lobby case study

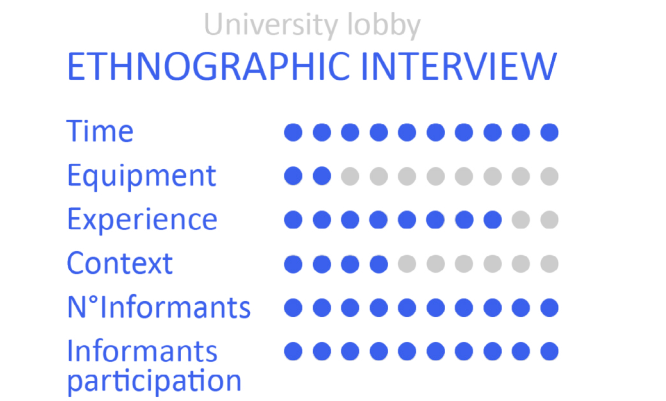


Fig. 24 - Rating of the ethnographic interview method based on its application in the University lobby case study

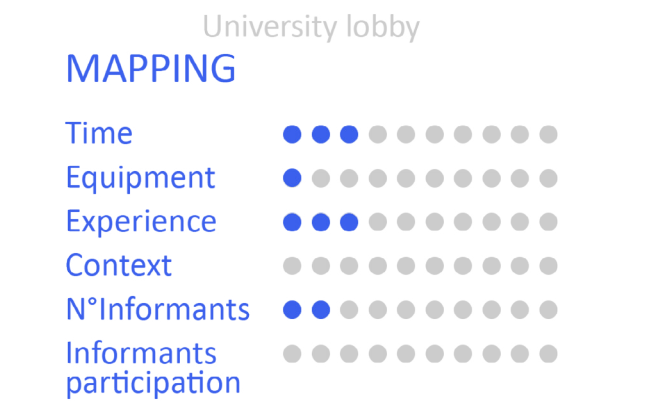


Fig. 23 - Rating of the mapping method in its application based on the University lobby case study

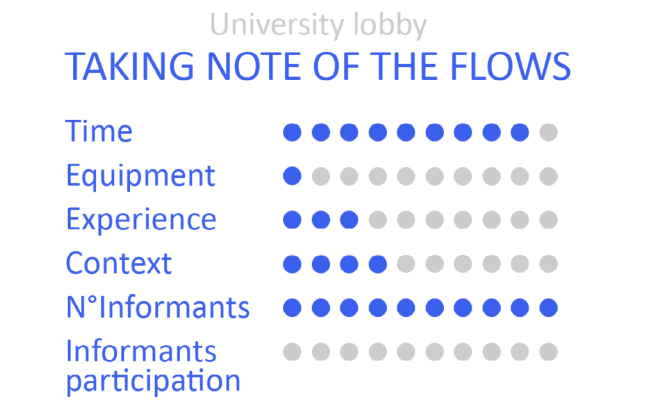


Fig. 25 - Rating of the taking note of the flows method based on its application in the University lobby case study

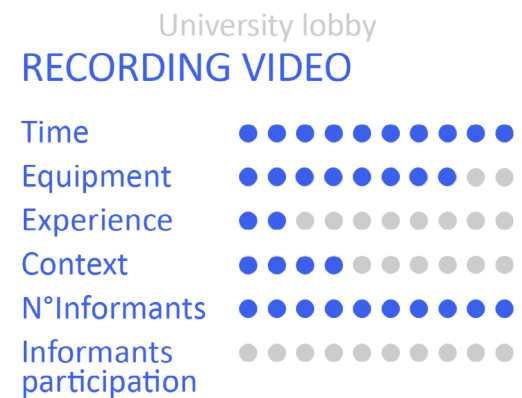


Fig. 26 - Rating of the recording video method based on its application in the University lobby case study

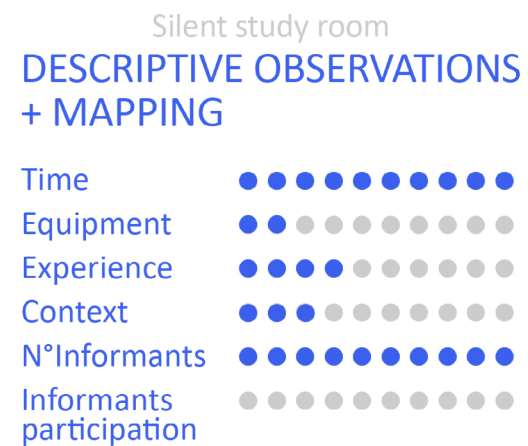


Fig. 27 - Rating of the combination of the descriptive observations method with mapping based on its application in the silent study room case study

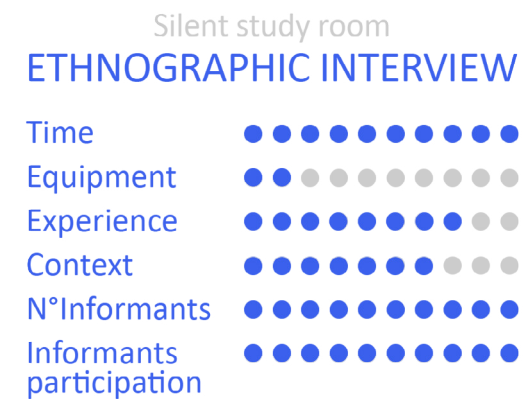


Fig. 28 - Rating of the ethnographic interview method based on its application in the silent study room case study

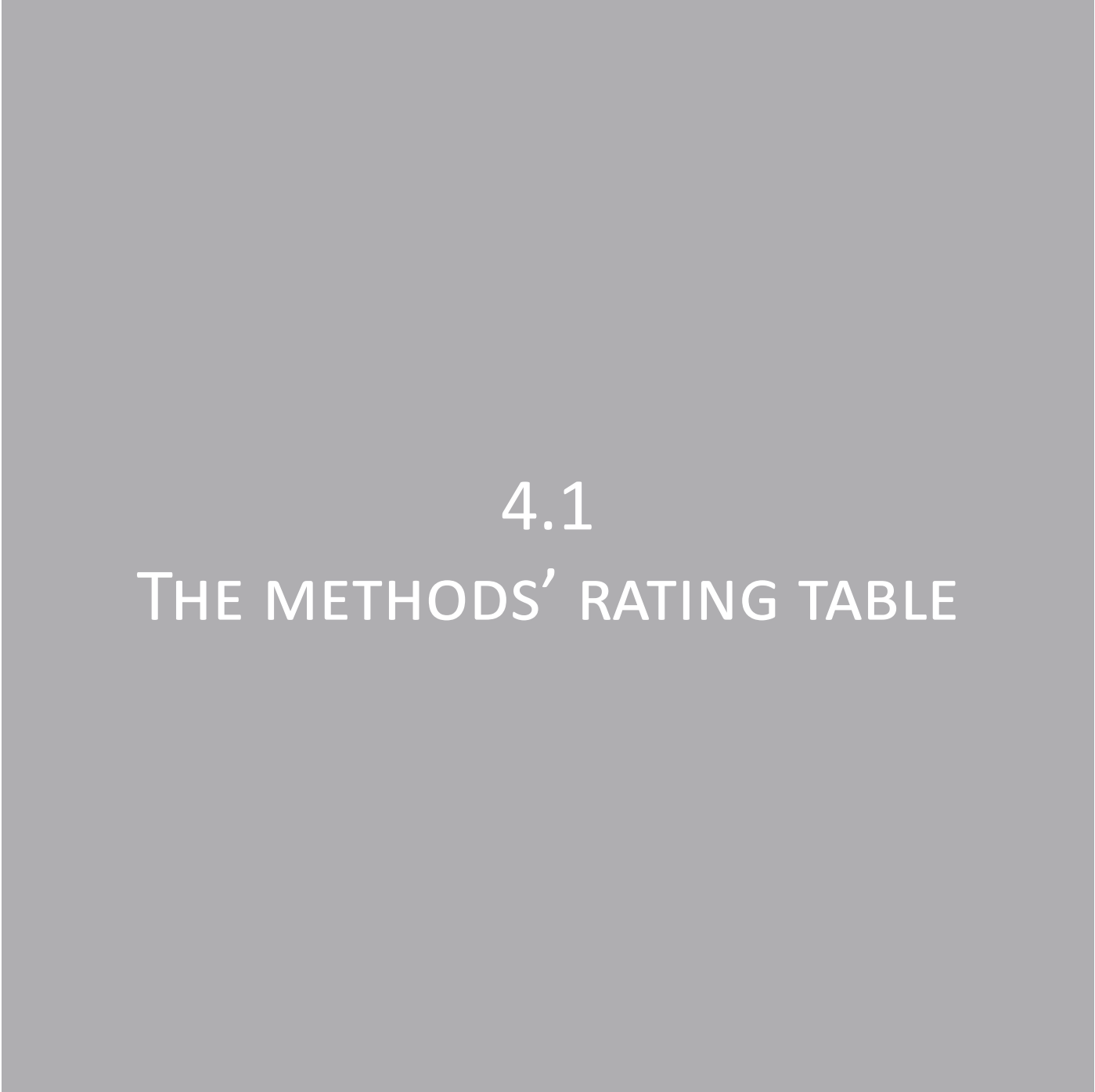
CHAPTER 4

EVALUATION OF THE METHODS

At this point of the thesis, it seems useful to make some general comments about the different methodologies studied in this research.

Therefore, there will be a section about the evaluation of the methods using some criteria to rate them and another section in which there will be tables of pros and cons for each method to help the reader and a possible future user of this research in deciding which methodology works better for him or her.

Thanks to these two “products” the reader will be able to have an idea of which are the main features of each methodology without needing to read all the other chapters of this thesis, that on the other hand will be at the reader disposal to get a deeper understanding of how some of the methodologies worked out in two specific study cases.



The criteria taken into consideration to make an evaluation of the methods are related both to the application itself of the methodology and to the gotten results. In this way it will be possible to have an idea of how much effort the researcher will need to put into it and which kind of results he or she will obtain from the method's implementation.

The criteria related to the application of the methods are the following:

- Time to organize in advance the application
- Needed time for the application
- Number of needed informants
- Informant's involvement
- Researcher expertise
- Needed equipment

The first two criteria concern the money-time both at preparation in advance level and at needed time to be spent in the application itself level. The second two criteria are related to the informant aspect, considering how many of them are necessary during the application and at which extent they have to participate in the methodology's process. Then, the last two criteria are regarding the level of expertise in the method's application that the researcher needs to have to perform it and the level of sophistication of the necessary equipment.

- The criteria connected to the characteristics of the post-application results are listed below:
- Feasibility of the method's application
 - Usability of the obtained results
 - Light relevance of the obtained results
 - Readability of the obtained results
 - Objectivity of the obtained results

The *feasibility* criterion is considered as how easy the method is to be applied; the terms *usability* and *light relevance* refer respectively to the level of usefulness and of direct connection to light of the obtained results. The *readability* parameter means the level of easiness in sharing the data gotten from the application of the method with the other teammates. Finally, the *objectivity* criterion reveals how much the results are objective and not influenced by the researcher or the participants opinion.

	APPLICATION CRITERIA						RESULT'S QUALITY EVALUATION					
	Time to organize	Time to apply	Number of informants	Informant's involvement	Experience	Equipment	Feasibility	Usability of the results	Light relevance of the results	Readability of the results	Objectivity of the results	
DESCRIPTIVE OBSERVATIONS	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
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MAPPING	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
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VIDEO RECORDING	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
VIDEO WALKING INTERVIEW	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
VISUAL TASKS FOR THE INFORMANTS	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
RATING VALUES	Not needed <div><div></div><div></div><div></div><div></div><div></div></div> <div>—————></div> Very needed <div><div></div><div></div><div></div><div></div><div></div></div>						Low <div><div></div><div></div><div></div><div></div><div></div></div> <div>—————></div> High <div><div></div><div></div><div></div><div></div><div></div></div>					

Table 6 - The methods' rating table

4.2 METHODS' ADVANTAGES AND DISADVANTAGES

In this section some tables about the advantages and disadvantages of each methodology will be presented. The table representation is used as a graphic way to ease the reader in grasping information from these comments.

DESCRIPTIVE OBSERVATIONS	
PROS	CONS
No need for <i>previous experience</i> for the researcher.	It needs <i>time</i> to be applied.
No need for particular <i>equipment</i> .	It needs <i>time</i> to prepare its application.
No need for <i>informants</i> with specific characteristics.	It needs a good <i>number of informants</i> to give reliable results.
Flexibility of the <i>context</i> in which it is applied.	Possible difficulties in applying it in <i>very crowded spaces</i> with a lot going on.
Useful to be applied for goals that include: <ul style="list-style-type: none"> - How people practice the space and the light - How people experience the space and the light 	It requires a high level of the researcher's attention.
Useful to understand how the light makes people appear.	The results could be faked by the researcher's lens.
Fast to learn how to apply it.	It could lead to a high variety of results, so they need to be "coded" and translated before becoming useful.
The gotten results are suggestions that are useful and easy to apply for a future redesign of the lighting.	
Once coded, the results are easy to communicate.	

Table 7 - Pros and cons of the descriptive observation method

ETHNOGRAPHIC INTERVIEW	
PROS	CONS
It does not require a lot of <i>equipment</i> apart from the voice recorder.	It requires a long <i>time</i> of preparation in advance.
	It requires <i>time</i> to be applied.
	It requires sometimes <i>a lot of informants</i> to be as much objective as possible.
	It requires active and willing to help <i>informants</i> .
	It requires <i>several applications</i> to be applied meaningfully if the researcher is not an expert.
It gives results exactly from the user's point of view.	
Useful to be applied for goals that include knowledge of: <ul style="list-style-type: none"> - the fine details of user's experience and practice of space and light - the atmospheres perceived info directly about the light in the space	
It opens up interesting data since the first application, even if the best is obtained after several iterations.	
The results are easy to use for lighting design purposes.	
The results are easy to communicate after a fast coding.	
The results are subjective but from the users' side, so it is a value.	

Table 8 - Pros and cons of the ethnographic interview method

MAPPING	
PROS	CONS
It does not depend on the <i>context</i> .	
It does not require any kind of <i>preparation in advance</i> .	
It does not require any interaction with the <i>informants</i> .	
It does not require any special <i>equipment</i> .	
It keeps informants' freedom of living and experiencing the space as they would normally do.	It requires some application sessions to give valuable results.
It is easy to perform.	It needs some "post-production" work to create readable results.
It supports other methodologies.	
After some analysis of the obtained data, it gives easy to communicate results.	

Table 9 - Pros and cons of the mapping method

FLOWS	
PROS	CONS
It does not need <i>time</i> to prepare it.	It requires <i>time</i> to apply.
It does not need the <i>informants'</i> interaction with the researcher.	The more <i>informants</i> the better.
It does not require a previous <i>experience</i> of the method from the researcher side.	To create a digital version of the result, it needs a bit of <i>expertise</i> of the researcher in graphic software.
It does not need any particular <i>equipment</i> .	
It is easy to apply.	
It is objective because it does not depend on anyone's opinion.	
It is easy to communicate.	

Table 10 - Pros and cons of the taking account of the flows method

VIDEO	
PROS	CONS
It does not need <i>time</i> to prepare in advance.	It requires <i>time</i> to apply it.
It does not require the participation of the <i>informants</i> .	It needs a specific <i>equipment</i> .
It is applicable in any <i>context</i> .	
It easy to apply.	It does not reveal a lot about the lighting by itself.
It is useful as support for other methods.	
It gives an easy to communicate product.	
It is objective because it does not depend on the researcher's opinion.	

Table 11 - Pros and cons of the recording video method

VIDEO WALKING INTERVIEW	
PROS	CONS
	It requires <i>time</i> to be applied.
	It asks for long <i>time</i> of preparation.
	It requires for some specific <i>equipment</i> .
	It requires <i>informants'</i> participation.
	It needs a <i>space</i> where the path to follow is meaningful for the informant.
	It needs <i>time</i> be decoded/analyzed once it has been applied.
It possibly opens up data about where people see the light.	
Useful to be applied for goals that include knowledge of:	
<ul style="list-style-type: none"> - how people practice and experience the space and the light 	
the reasons why people practice the space	
It gives easy to apply results.	
It gives info directly based on users' opinion.	

Table 12 - Pros and cons of the video walking interview method

VISUAL TASKS FOR THE INFORMANTS	
PROS	CONS
It requires the active participation of the <i>informants</i> .	It requires the active participation of the <i>informants</i> .
	It needs <i>time</i> to prepare in advance.
	It needs a relative long <i>time</i> to apply it.
	It needs a specific <i>equipment</i> because of the visual task to ask the participant to perform.
	It needs a good <i>number of informants</i> to reach valuable results in space with a lot of users.
The informants feel a real interest in their opinion.	The researcher has to find a simple way to explain the informant how to perform the task.
The task to perform helps the informants, and consequently the researcher, to perform the interview or to give opinions in an easier way.	
It gives easy to communicate results.	
It gives results that are easy to understand.	
It opens up data where people see the light if the task is well studied and created by the researcher.	
It can open up data about how and why people experience and practice the space and the light.	

Table 13 - Pros and cons of the visual "tasks" for the informants method

CONCLUSION

From the use of qualitative approaches based on the human practice and experience of space and light it is possible to come *to see* the light, and not only *to looking at* it, from the user's perspective. They open up data about aspects that with only quantitative methodologies are impossible to understand.

Methods such as ethnographic interviewing and descriptive observations are open to various comments and notes that both the informant and the researcher may have on the space and the light in which they are living. This openness to more detailed answers is a characteristic of qualitative methodologies and it is difficult to find it also in the technical ones (Kelly, 2016).

As stated since the beginning of this thesis, quantitative methods give precise and specific results to the questions that the lighting designers want to answer. They are fundamental in the evaluation of a lighting setup to have a first opinion on which are the real conditions at technical level of the light in the space, and they can suggest which could be the solution to the lighting issues from a *positivistic* point of view (Hammersley & Atkinson, 1983).

On the other hand, the qualitative methods can explore more about the people experiences and practices, setting a landmark to follow for the lighting designers in the re-design of the lighting.

"The data collected in such research is rich because the researcher and reader not only find out what they did or did not do - but WHY. It is this aspect that allows a designer or engineer re-think something from the perspective of the user and provide a more user friendly solution."
(Kelly, 2016, p. 9)

Therefore, if the designer aims to come closer to the users' perspectives and understand the meaning of their usage and experience of the light, then he or she should use a combination of quantitative and qualitative methods.

From the test of the qualitative methodologies taken into consideration in this thesis, it was possible to see that they unlock information on the atmospheres, the activities and the motivations that the users experience in the space. It was also discovered that their successful application depends on some parameters that should be considered since the early phase of the evaluation of a lighting design (see chapter 4).

At the beginning of this thesis a research question was formulated with the aim of find an answer to it through the development of this research project:

"Which human-centric methods can be applied to make an efficient qualitative evaluation of an existing lighting design and how are you, as lighting designer, to choose between them?"

After the implementation of the different qualitative methodologies taken into consideration and after the analysis of the results that they opened up, it was possible to understand that they can be applied to any kind of situation; however, according to the researcher's goal and to the context, they will work differently, and they will reveal different data.

However, it was not possible to come to a precise conclusion on which method is the best for any specific circumstances. From the tests of the methodologies, as represented in chapter 4.1 (the table), it was found out

that each time a designer approaches a lighting design to perform its makeover, he or she has to first decide which is the goal of his/her evaluation and then consider the conditions in which the analysis will be carried out, according to “application of the methods” criteria explained in chapter 4.1 “The methods’ rating table”.

As Patton says:

“There is no rule of thumb that tells a researcher precisely how to focus a study. The extent to which a research question is broad or narrow depends on purpose, the resources available, the time available, and the interests of those involved.

In brief, these are not choices between good and bad, but choices among alternatives, all of which have merit.”

(Patton, 2002, p. 224)

To conclude, human-centric qualitative approaches deepen knowledge on the lighting from the users’ perspective giving detailed results, while quantitative methods set technical goals that have to be reached and adjusted in combination with the formers.

However, qualitative methodologies depend on some parameters that have to be considered before starting the lighting design evaluation, to successfully apply them. Therefore, every time a qualitative analysis needs to be carried out it is important to examine the conditions in which it will be performed.

CONSIDERATIONS

A new process model

Even if since the beginning of this research project, the human-centric qualitative methods were considered as usable exclusively in the early evaluation phase of a lighting design project, so much that it was suggested the introduction of a step 0 in the Hansen’s and Mullins’ procedural model (Hansen & Mullins, 2014), now after the development of this thesis, it was discovered that they actually can be applied also in an afterword phase.

It was understood that their application could fit also in the step 4 “Test and explain” of the process model. When the design is done and the designers want to test and evaluate their new invented lighting setup, they could benefit from the implementation of some qualitative research with focus on the users of their new lighting design. In this way, they will gather data on the experiences and practices that the people do of their design, and as a consequence they will test and evaluate its possible effect on the human being.

Therefore, here a new process model is presented with the introduction of the application of these methods in step 4.

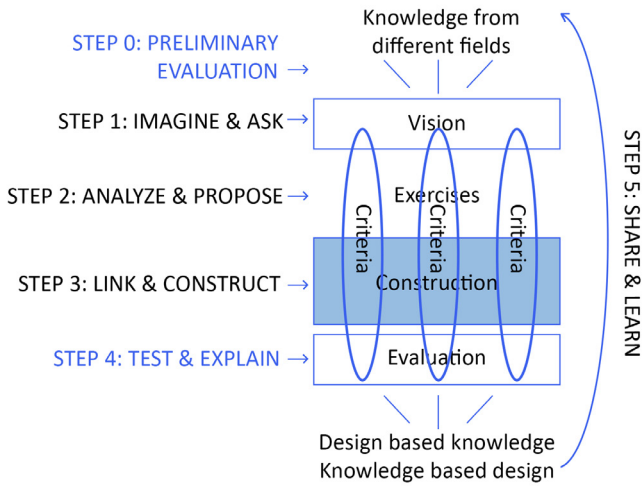


Fig. 29 - New process model

How these methods can work together

Investigating qualitative approaches based on the human practice and experience of space and light was illuminating. During the development of this project it was possible to see how when qualitative methodologies are applied, they can be the main method used to find answer to a problem statement, but also they can work as a support for each other, depending on the situation, on the project and on the data that the researcher wants to get.

This consideration was experienced several times in the testing phase of this research project. For example, in chapter 3.1.2 it is explained how the “mapping of the practices” method was needed during the application of the descriptive observations and at the same time, the implementation of the latter behaved as support for the former: in the test of the descriptive observations method in the lobby, it was found necessary to draw a map of the area in order to refer to it in the notes; then, thanks to the notes taken during the descriptive observations, it was possible to graphically represent which are the most used areas according to the relative most performed activities.

In this case both the two methodologies gave singularly important data about the lighting design, on the other hand in the silent study room case the mapping was used only as a secondary method because in that situation there was no difference in the kind of activities all around the space.

This was a confirmation of the fact that in qualitative methodologies there is not a sharp distinction between which method rules on the top of the others, but rather there is a toolbox of approaches that can be combined together according to the researcher goals.

APPENDICES

APPENDIX A THE RESEARCHER'S EXPERIENCE WITH THE ETHNOGRAPHIC INTERVIEWING METHOD

In the case of the ethnographic interviews method, it was found necessary to explain in a more extended way, the researcher personal experience with it in the university lobby study case, with the aim to be more exhaustive regarding the different “obstacles” that can be found in its implementation.

During the first attempt of application of the ethnographic interview method an uncommon scenario was present. It was a Friday afternoon after 12:00 and not a lot of people were around. Because of that, it was a difficult situation to deal with for the researcher in order to perform a conversation with someone. This was considered due to the small number of possible informants and to the fact that the majority of them were foreigners that came on that day to Aalborg University to attend a lecture in the auditorium, so they were very busy with that and they found themselves uncomfortable to speak in English language when the researcher tried to talk with them. For these reasons that day few interviews were conducted with the people that were present and not participating to the lecture.

Apart from that, during the following sessions of ethnographic interviews, an enthusiastic level of willingness in helping the researcher with her thesis was often found from the informants’ side and the amount of people was definitely bigger than the first time.

The time frame that was decided for the application of the method, was during week days and in periods of time included in the study/work routine (between 9 and 17) in order to find a good number of informants and a common “daily schedule” of the lobby (even if this wasn’t always found as it is possible to see in Appendix C).

As mentioned in the previous section, before asking the questions, it was created a sort of link between the them, in order to make the informant aware of the connection within each other. The order in which the questions were asked, was chosen by the researcher, so this means that it was a personal interpretation of what is considered more “normal” as sequence of topics. However, the result of this sorting was mostly a subdivision of the questions in different themes instead of a real series, but it helped her in having a path to follow during the follow-up questions.

As it is possible to understand from the transcript of the interviews (see Appendix D), due to the researcher shyness and lack of experience and practice in this field, in the first sessions some mistakes were made:

- The researcher behaved as if she was asking people to fill in a survey; in fact, she asked the questions one after the other and she didn’t really get into a real conversation with the informant
- The researcher, in some occasions, treated the informants as if they were the lighting designers in charge; for example, she asked them to say if in their opinion it was necessary or not to have electrical light turned on.

This called for a second and other attempts with improved guides to follow during the sessions of interviews, thereby giving credit to the point of O’Reilly that ethnographic methods are *inductive* approaches of research that needs to be iterated to be fully understood and useful (O’Reilly, 2005).

Furthermore, another thing that got confirmed directly

during the application of the method, is what Spradley says about the fact that *both answers and questions must be discovered by the informants* (Spradley, 1979, p. 84). In the sense that, even if the researcher prepared in advance the questions to ask, when she was “in the field” she tuned and changed them according to the situation in which she found herself and the informant.

For example, sometimes it wasn’t necessary to ask all the questions that she had prepared because they were already answered by the informant in his or her reply to another question, or because they were out of context. Or even sometimes the conversation diverged on themes that were not included in the list of questions to ask, but they were important for the informants to talk about, so since they are “the experts” when we are out into the field, the researcher considered interesting to dive into what they wanted to tell her (Spradley, 1980, p. 81).

APPENDIX B

UNIVERSITY LOBBY

DESCRIPTIVE OBSERVATIONS

MY NOTES DURING ATTEMPT 1

date: 09/03/2018

period of observation: 9:30 – 14:30

Activities and people

At 9:30 cleaning girl pass by.

One child sitting on the sofa 1 since 9:30 waiting for someone, that later it will reveal to be his father, and playing with a tablet. At 12:08 the child is reached by his father and they leave the building.

One guy sitting at the table 3 since 9:30. His girlfriend joined him at 10. He seems studying. They have a chat about general things. The two of them go outside several times for a smoke. At 11:30 they leave.

At 11:00 a delivery guy comes to the reception to leave some packages. At 11:45 another delivery guy comes with a package that seems personal for the receptionist.

At 11:23 two guys come to table 2 to sit and have a chat. They are probably organizing some event (meeting with some friends/meeting for university) through Facebook. At 11:35 another guy joins them to eat at their table since they are all friends/university colleague. At 11:40 one of them leave; he goes toward the canteen area to take food and then go to the Building B. At 11:46 the last two guys prepare to leave as well (the guy who was eating had finished to have lunch). They stay for some minutes talking close by the table. At 11:50 they leave (one in the direction of building B and one to the canteen).

A girl stays at A to make surveys for her thesis from when I arrived until 11:50.

At 11:15 people start to pass by to go to the canteen.

At 11:15 canteen employee starts to bring food to other areas of the campus. At 11:30 they do it again.

At 10:30 a girl sits on Sofa 2 waiting for 10 minutes then she took Elevator 1.

The most used elevator is Elevator 2.

At 11:45 the guys from the IT office (I know they are from IT office because one time I went there, and I recognize them) come to the reception and spend some time talking with the receptionist until 11:50.

At 11:56 a man sits at table 3 to have a coffee and use his phone and his pc.

At 12:02 a girl comes and sits at table 2. She eats her lunch brought from home and use her pc.

From 11:00 onwards people, alone or in groups, start to cross the area in order to go to take food from the canteen. And then either they go back from where they arrived, or they stay in the space or also around other areas for some time to eat.

At 12:09 an old woman enters the building and takes advantage of Sofa 2 to arrange some stuff in her backpack. At 12:11 a group of people comes to put their bags/jackets on the seats around Table B in order to reserve it and then they go to the canteen area. At 12:28 they come back, and they eat and spend some time at the table.

At 12:11 a guy come and sit on the seat at Sofa 2 area and stays there for some time waiting.

At 12:12 a woman and a man stay at Sofa 1. They talk, and she leaves for few minutes. Then she is back, and they seem just waiting for a specific time. He is on the phone and she eats some snack brought from home and talks with the receptionist.

Break 12:30 – 13:30.

When I came back to the observing spot, I found a more relaxed atmosphere in the space. A group of 3 girls sitting at Sofa 2 area using their pcs and phones, two of them have also headphones on. A girl sits at Sofa 1 working with her pc and wearing headphones as well; she leaves at 14:04. Two friends (girl and boy) sitting at Table A and working at their pcs.

At 13: 49 a guy comes and sits at Table B. He leaves at 13:55 to go upstairs.

At 13:58 a guy with his pc comes to sit at Table 3. He leaves at 14:07.

At 14:13 an old woman with a little baby comes and sits at Sofa 1 area taking advantage of the soft carpet and of the small table for the little girl. At 14:22 she leaves.

People seem to use a lower voice level compared to the morning and the lunch time.

At 14:24 a woman uses Table 3 to sit and probably wait for someone. At 14:28 she leaves with the person that she was waiting for.

At 14:20 a guy comes to take a coffee at the coffee spot and he stops to drink it at Sofa 1 area.

End of observations 14:30

Lighting

The electrical lighting is on since the beginning of my observations (9:30).

The day is a snowy/rainy one and the sky is overcast but the daylight income could be enough for the activities going on.

There are lamps all around the ceiling and they help people to gathering and dwelling in the tables 1, 2 and 3. It helps also myself in taking notes and drawing on the map of the space.

The child waiting on sofa 1 is taking advantage of the relaxing atmosphere made by the furniture of the mini space and by the lighting. In this mini-space the major light income comes from the daylight.

The ceiling is partly covered and partly open to the SKY, so the daylight income is quite big considering also the glass doors close by the reception and the opening to the canteen.

People do not have the possibility to turn off the light and use only the daylight. They don't have control on it. In the Table A area there is a floor lamp that is turned off.

The coffee area is lit not only by the general electrical lighting and daylight but also by specific electrical lighting on the top of it.

It seems that the two kinds of light divide the space in different zones: one for relaxing/waiting activities (supported by daylight and going on around the Sofa 1 and

Sofa 2 areas) and one for chatting/eating/studying/working activities so more active activities (supported by electrical lighting and going on in the tables areas and in the reception).

Underneath daylight people are well lit, and they seem a little bit whiteish.

The electrical lighting casts some shadows on the people's faces since it comes from above them and the daylight is not sufficient to avoid this "issue". Anyway, the bodies are well lit, and it is easy to see each other. The light seems to support the interaction between people. The objects in the area are well lit. There are no super dark areas, and everything is well recognizable.

People seems satisfied by their use of the space. They are not bothered by glary spots because there are none of them.

People don't seem to notice the lighting but especially in the after-lunch period it seems they prefer to use the sofas in the daylight instead of the tables under electrical light, probably also for the kind of activities going on (more relaxed).

APPENDIX C

UNIVERSITY LOBBY

DESCRIPTIVE OBSERVATIONS

MY NOTES DURING ATTEMPT 2

date: 16/05/2018

period of observation: 10:20 – 12:00

10:25 Two people go upstairs

10:26 one girl comes to the stairs to go to the left on the bridge

10: 27 One guy upstairs slowly. Another guy comes from reception to the stairs and go up while another take the elevator 1

10:28 Three guys come from the corner and go to the canteen and after 30 seconds another three go to the canteen passing from the centre of the hall and watching at balloons

10:30 Two guys are talking near the reception and another one comes out from the corner passing the hall to go to the canteen

10:32 One girl comes out from the corner and goes to the canteen watching the balloons in the centre

10:34 Three guys go from the canteen to the centre while another group of 4 people pass to go to the bridge

10:35 One man goes upstairs from the reception

10:36 One guy from the canteen go to the elevator 1 and takes it while a girl passing from the centre turn the corner to the bridge

10:37 People go up and down through the stairs. Two people talk near the elevators and then go upstairs together. Three guys do something around a screen in the right side of the hall probably connected with the exhibition of the balloons in the centre

10:38 People cross the corridor and another one goes to the elevator 2 while one guy go upstairs and another one go down

10:39 Guys go up with stair and another with the elevator. Two men cross the hall to go to the bridge

10:40 One boy and one girl go down with the stairs. A group of five people come out from the elevator 1 and

go to the canteen. While a guy crosses the hall to take a coffee near my observation spot

10:41 One man takes the elevator 2. A girl comes from the canteen and goes upstairs. While another one come to the coffee machine but without taking a coffee.

10:43 Some people cross the hall from canteen to the reception and then turn the corner. Another single persons pass in the hall e one of these comes to coffee area and take one coffee.

10:44 The girl finish to take the coffee and at the same time two men (that I recognized like my professors) come at the coffee area and take a couple of coffee. Two girl from the corner go upstairs.

10:45 Two guys go down with the stairs and another guy from the corner go to the canteen.

10:46 Some other guys and group of students cross the hall to go to the canteen

10:47 The professors finish the break and go to the left corner. Some people in the reception area and around the stairs.

10:48 One girl stops in the centre for a few seconds and then go to the canteen. Two girls from the canteen go upstairs.

10:49 A guy cross the hall to the canteen, and there are some people around the screen. In the same time at the reception a group of guys.

10:50 A girl go upstairs while two guys go down A guy comes back from the canteen. A professor takes one coffee and then go up with the elevator with another girl.

10:51 Some people cross the hall in two directions. A guy goes upstairs, and two girls go down. A girl arrives in the coffee area.

10:52 A lot of people: two in the elevator's area, three at the reception and another two come from the canteen and go to the reception.

10:53 Three people go upstairs, and one comes to the coffee area. One guy crosses the centre. Two guys go upstairs

10:54 Some movements around the stairs. People at the entrance and at the reception. One guy goes from the canteen to the stairs.

10:55 Two students come down with the elevator and one takes it. Two girls at the coffee area.

10:56 Another guy wants to take a coffee. A girl crosses the hall and some people take the elevator.

10:57 Two girls go to the canteen. The two-girl finish to take the coffee and go to the canteen. Two guys take the elevator 2, followed by other two.

10:58 The guy of the coffee finishes and left the machine to another girl. A guy comes from the canteen to the corner

10:59 Two guys cross the hall but stop them in front of the “totem”.

11:00 The girl of the coffee finishes to take it. Two guys go upstairs.

11:01 A guy takes the elevator

11:02 A girl cross the hall to go to the canteen. A girl goes upstairs.

11:04 A group of two people come from the reception and go to the canteen followed by another woman

11:05 A man go to the reception and then take the elevator 1 to go up with another woman who comes back from the canteen. A guy goes upstairs

11:06 A girl takes the elevator while a guy crosses the hall from the canteen to go to the corner on the left

11:07 A guy cross the hall to go to the canteen from the left corner while a girl goes down from the stairs

11:08 One guy takes something to the coffee area and then go upstairs while other two guys

11:09 A guy cross the hall to the corner. Another guy from the canteen goes to the corner.

11:10 A guy goes upstairs; a guy goes down.

11:12 Two guys from the corner go to the canteen. A girl takes a coffee.

11:13 A guy goes upstairs. A woman crosses the hall to the canteen.

11:14 A girl goes upstairs from the corner.

11:15 A guy from the left corner goes to coffee area. A girl crosses the hall and takes the elevator.

11:16 Two guys near the screen while a girl crosses the hall to the canteen.

11:17 A woman takes a coffee. Two guys go to the canteen from the reception

11:18 A girl from the canteen, initially stops herself in the centre and then goes to the left corner

11:19 A guy goes upstairs; a girl goes down.

11:20 Two guys go to the canteen. A girl from the canteen goes upstairs

11:21 A girl goes down. A man goes down and a girl crosses the hall to the canteen.

11:22 Two guys pass near to the other guys in the screen area and watch the centre of the hall.

11:23 Two guys go to the canteen. A guy takes a coffee while another one goes upstairs.

11:24 A guy goes upstairs. Quite movements in the reception area.

11:25 A girl takes a coffee. Another guy goes upstairs.

11:26 The guys in the corner right around the screen don't move from more than an hour.

11:27 Two girls from the canteen to the elevator. Another guy crosses the corner

11:28 Three girls from the left corner to the canteen. Another one from the canteen to the reception

11:30 One guy goes near the screen' area talks with one of the guy and then comes back to the canteen.

11:31 One girl goes down from the stairs to the left corner and two girls come from this corner, cross the centre

and go to the canteen.

11:32 Some movements in the reception and a guy takes an elevator. One girl goes upstairs.

11:34 Two girls from the canteen to the left corner. One woman with a kid goes near to the balloons. Another guy goes upstairs.

11:35 A guy from the canteen to the elevator. Some people cross the hall in different directions.

11:36 One guy goes down from the stair

11:37 A guy walks slowly to the canteen, another guy behind him goes in the same direction but faster, while a man comes from the canteen and stops in the coffee area.

11:38 A girl comes to the coffee area to trash coffee's glass. Two guys from the corner take the elevator

11:40 One man and a woman talk in the centre. In the reception area there is a lot of movements.

11:41 The man and the woman that were talking are now reached by other two person and walk in the direction of the right corner

11:42 A girl goes down from the stairs and goes to the canteen.

11:43 Two guys go down and then go to the canteen.

11:46 Two guys from the canteen cross the centre to the reception and another two from the corner go to the canteen.

11:47 Two girl cross the hall in front of me and go to the canteen

11:48 Some guys go down from the stairs and then go to the canteen

11:49 Two men go down from the stairs and one guy goes upstairs. Two girls from the canteen take the elevator

11:50 One guy goes down from the stair followed a few seconds after by another.

11:51 A girl goes upstairs with another one few seconds

after.

11:52 Two guys exit from the elevator and turn the left corner. People cross the centre.

11:53 One man and one woman cross the hall in the direction of the canteen

11:54 One guy goes down from the stairs and other two girls go upstairs. Two guys from the corner go to the canteen.

11:55 One guy goes down and a girl goes upstairs

11:56 The group of guys that I saw before finish to have a lunch and cross the hall to the left corner

APPENDIX D

UNIVERSITY LOBBY

ETHNOGRAPHIC INTERVIEWS

MY NOTES DURING ATTEMPT 1

The first approach to the methods of interview took place during Friday the 16th of March in the afternoon from 12:00 to 16:00.

During that afternoon there was not a lot of people, probably because it was just before the beginning of the weekend. In total were observed less than 40 people; most of them were there because of a conference and it was possible for me to understand that they were foreigners and new to the campus because they had luggage with them, they were speaking in another language (probably French) and they were going around the hall observing it with surprise and taking pictures of the roof window above the center of the hall.

It was difficult to approach those people. I tried with some of them (around 3) but they told me either that they were in a rush or that they didn't have time because they were going to take a cab soon. It was a pity for me to not have had the chance to talk with them since they were really admiring the big roof window in the hall, so I think that it could have been interesting to listen to how they experience the light in the room.

On the other hand, I succeeded in interviewing 5 people. They were students. Three of them were in a group and we performed the interview all together and the other 2 were alone.

The idea was to kick start my first interview experience based on this kind of interview process, but without asking myself and the participants too much. So, I didn't want to make a long list of questions but just a few in order to get as much information as possible out of a 5 minutes talks with the informants.

How did the first attempt work?

During the interview session I understood different things.

First of all, during the conversation that I had with my first informants (it was a group of three girls) I realized that I wanted/needed to introduce the questions before actually asking them. I noticed that it was better to explain a little bit what I was doing, and which was my purpose and that they could be asked to answer some questions that might sound weird to them but that there were no right or wrong answer to them, so they could feel free in express themselves.

Secondly, I noticed that since in the hall there is no possibility to turn on/off the light according to personal preferences, the last question was not appropriate to the situation, so I didn't ask it. Instead I asked if they would prefer a different light scenario or if they think that the light in that space is okay like that.

Furthermore, after this first session I understood that the question number 3 was already answered by the informant in the answer to question 2.

I also noticed that the people in the group gave me much more detailed answers. The atmosphere that it was possible to perceive was more relaxed and people seemed enjoying more the interview session. They supported each other in answering to the questions and they went in more details compared to the people that were alone during the interview.

So, for sure I want to come back a second time and make some changes to the questions and to the way in which I ask them (Iterative Inductive Process).

Transcript of Interview 1

Q1: What do you do normally in this space?

P 1: “I use it if I have to meet up with people. If we have to go to Frederikskaj.”

P 2 + 3: “Like what we are doing right now: a waiting area.”

Q2: Are you usually alone in this space or do you come/ stay here with your friends?

P 3: “It depends but mainly I have been here alone waiting for other people.”

Q3: Which people do you meet here?

P 3: “Study buddies and friends.”

P 1 + 2 agree on that.

Q4: Can you describe the objects in this space for me?

P 3: “Seating areas with chairs and sofas”.

P 2: “Small tables”

P 1: “Big tables.”

P 3: “Coffee area”.

P 1: “A cosy space with carpet”.

P 3: “Plants. Not a lot of them. They are missing some.”

Q5: Can you describe the light in this space for me?

P 2: “I like the light because of the big window here and the one above us”.

P 1: “So a lot of light here.”

P 3: “That’s nice!”

P 1: “It is the best part of the room actually.”

Q6: How do you experience this space?

P 2: “I think that it is formal.”

P 3: “But also because everyone can look down and you don’t necessarily see them so, you feel a little bit “watched”.”

P 1: “And also since it is a waiting area.”

Transcript of Interview 2

Q1: What do you do normally in this space?

“I only use it when I have to meet with somebody... before going to a lecture or a meeting or something”

Q2: Are you usually alone in this space or do you come/ stay here with your friends?

“I am often alone. Sometime with someone from my class.”

Q3: Can you describe the objects in this space for me?

“It is a very open space. That is quite nice about it. I think that it is one of the nicest space to spend time in at university when you are waiting.”

Q4: Can you describe the light in this space for me?

“It’s not so intense. It is nice that you don’t really realized where are the light sources apart from the big windows.”

Q5: How do you experience this space? Which are your feelings?

“Mostly relaxing when there are not too many people. But sometimes it is very crowded here.”

Q6: Do you think that the electrical light is needed or that it could be enough just the daylight?

“A lot of light is coming from the other floors in here, so they can maybe angle them so that they don’t shine out here but only on their floor.”

Transcript of Interview 3

Q1: What do you do normally in this space?

“Usually I work here, and I drink coffee.”

Q2: Are you usually alone in this space or do you come/ stay here with your friends?

“I am usually alone to do my tasks and assignments.”

Q3: Can you describe the objects in this space for me? “In which area do you mean?”

We have couches, the coffee tables, there is a nice carpet on the ground – I like it but in our section, it is worse than here. For me there a need for change to make more beautiful.”

Q4: Can you describe the light in this space for me?

“Here there is direct light from the roof that is very nice – I hate fake lights. It is nice to be brighter from outside.”

Q5: How do you experience this space? Which are your feelings?

“I think it is cosy. More cosy than in our section. I prefer to stay here on walking around.”

Q6: Do you think that the electrical light is needed or that it could be enough just the daylight?

“As we know in Denmark is very dark, so they could be necessary. But now that it is bright outside they are too much for me. And also, the white paint “brights” the atmosphere.”

APPENDIX E

UNIVERSITY LOBBY

ETHNOGRAPHIC INTERVIEWS

MY NOTES DURING ATTEMPT 2

The second approach to the methods of interview applied in the University lobby took place during Wednesday the 21st of March in the morning from 9:45 to 11:45. During that period of time I observed a lot of people. It was a completely different scenario compared to the one observed the first attempt. Probably because I went there in two different times of the day and of the week: the first time took place during an afternoon just before the weekend and the second time was during a morning in the middle of the week. The kind of people that I saw were mainly students and university employees.

Which kind of questions?

Again, the points in which I was interested were the same, so the idea was to ask the same questions as in the previous interview session but letting the informant talk more and guide the interview and using myself just as a tool for them to tell their story.

Transcript of Interview 1 – girl (sitting in A)

Q1: What do you do normally in this space?

I am writing my master/last year thesis. I am of the “Social Department”.

Q2: So, you spend your time in this space of the hall to...

Right now, just to concentrate and reading up a bit.

Q3: Are you usually alone in this space or do you spend your time here with some friends or colleagues?

Sometimes it's with other people, but most of the time since I come with the train I stay here before class.

Q4: And do you drink coffee in the meanwhile or not?

Uhm no, I don't drink coffee... tea sometimes.

Q5: So you don't take advantage of this (pointing to the Starbucks machine)

No

Q6: And where do you like to sit usually? In this space that is very comfortable and cosy or in the other tables...

Often, I sit in this space, I don't know... I think that it's because it's cosy and nice.

Q7: And what do you think about the lighting in this space? Because we have the big window over there and another one on the roof, do you think that it is nice? Do you feel comfortable?

I think that it is very nice also because you have a lot of light from the windows. I think that it is very cool.

Q8: You stay here to read or to study or concentrate; do you think that you would like to have a specific light that can help you in this task?

I don't spend much time in the evening so... If I did, maybe it would be nice so maybe yes.

Q9: Which are your feelings in this space? And which your emotions? Do you feel relaxed, stressed or...?

No, I am relaxed here. Actually, sometimes I sit here just to watch people... you know...

Transcript of Interview 2 – guy (sitting in B)

Q1: What do you do normally in this space?

Right now, it's just the same as every time: waiting for people.

Q2: Are you usually alone in this space or do you spend your time here with some friends or colleagues?

Sometimes we wait for a car and we sit here together. Now I'm the first so I am alone.

Q3: You are reading right now here; do you think that it is a nice space to read? Why?

No, because there are a lot of distractions.

Q4: There are some electrical lighting that are always turned on. Do you think that it is necessary or that it could be enough just with the daylight?

The normal light seems to be pretty much in here, but it depends if it is LED lighting it's probably not ???

Q5: Can you describe which are your emotions and feelings in this space? Do you feel stressed/relaxed/ etc?

I think that the stress level is high here because of the constant passing of people... it is more a corridor than a space.

Q6: Do you stay usually in these seats or in other parts of the room? Which is the reason of your choice?

I choose to sit here because those ones (the tables) are really uncomfortable.

Q7: Last question, can you describe me the objects in this space?

Chairs, tables, coffee machine.

Q8: Do you use the coffee machine?

Not that much... the coffee is not warm enough.

Transcript of Interview 3 – guy (walking along the reception)

Q1: What do you do usually in this space?

I take cab and nothing more or unless sometimes I don't know the room number and I ask the reception, but otherwise I don't use the space too much.

Q2: Is there any reason for that or not?

It could be because usually I don't have classes here, we have in the other building and the group room is in the other building too so...

Q3: What do you think about the lighting in this space, about the lamps, the daylight...? Do you think that it is nice?

Yes, that one yeah. I mean, I have some friends that weren't from Denmark or something and brought them here and they were impressed with the roof window.

Q4: And about the objects, do you think that they are cosy?

In general, yes but not the benches... I don't know, it doesn't seem like cosy the space.

Q5: Which are your feelings and emotions in this space? Do you feel relaxed or stressed or...?

Probably a bit stressed because when I come in is when I start the day but otherwise if it is when I am taking a break or something I feel relaxed, so it depends on the moment of the day and on what I have to do.

Transcript of Interview 4 – group of 2 guys (sitting on Sofa 2)

Q1: What do you do normally in this space?

We usually wait.

Q2: Do stay here also to have a coffee sometimes or to read while you are waiting?

P1: yeah

P2: no

Q3: Which kind of people do you meet here? Do you think that they are students or people that are working here? Are you usually alone in this space or do you meet with some friends or colleagues?

P1: I think they are students and friends. It is like a meeting point. You say: "Okay let's meet in the lobby, in the reception."

P2: For me it's more for external people that don't know the university because it is easy to locate it. You can say "Let's meet in the lobby, in the main entrance next to the couches."

Q4: And do you usually sit on these couches or on the other seats? Is there any specific reason in such case?

P1: It's the first time we are sitting here.

P2: No.

P1: Maybe for me yeah.

P2: But we go always for the comfy ones.

Q5: So you never use the tables?

P1: Tables? Yes, I used them last week. (He refers to the canteen ones)

P2: But to study.

P1: to study yeah. Because there at night at 5 the turn off the light so this is why I move from there (the tables of the canteen) to here (the tables of the lobby).

Q6: Which is your opinion about the lighting and the lamps in general in this area?

P2: I've never thought about that.

Q7: Okay. So for example here as you said there are the lights that are turned off around 5. Do you think that it is necessary to have them turned on right now? Because we have the big window over there and another one on the roof, do you think that it is nice? Do you feel comfortable?

P1: Now? No.

P2: Maybe but it's hard, it is too much.

P1: Yeah it is hard.

P2: I was just wondering if there is any kind of sensor that turn them on and off according to the people passing.

P1: I think that it is automatic. They set it.

Q8: Which are your feelings in this space? And which your emotions? Do you feel relaxed, stressed or...?

P1: Always stressed. But this is not my study area, this is more lounges, but I don't know if this is because of the light, I don't know a lot about this stuff I am sorry.

P2: I feel good and comfortable and I like the natural light.

Transcript of Interview 5 – girl (close to the elevator)

Q1: What do you do normally in this space?

Usually I use it to wait for my co-students or I walk through it to go to the canteen.

Q2: While you are waiting do you drink a cup of coffee or read or study?

I usually just wait and sometimes I buy a cup of coffee from the Starbucks machine.

Q3: Do you stay here alone or in group?

I usually just wait alone but sometimes also in group.

Q4: And where do you like to stay usually? In the comfortable seats and cosy or...?

When I am doing group works we use the tables but if I just wait I use the sofas.

Q5: Is there any specific reason why you use the sofas?

They are more comfortable.

Q6: And what do you think about the lighting in this space?

I think that it is okay actually

Q7: Do you like it? Do you think that it is good enough to perform your task? Also when you are here working with your colleagues do you feel the need of having another light?

I like and no I think that it is okay working here like that.

Q8: Which are your feelings in this space? And which your emotions? Do you feel relaxed, stressed or...?

Well, I feel comfortable but I am also aware that it is a lobby, so it can be a bit stressful with a lot of people passing through.

Transcript of Interview 6 – 6 girls (on table 3)

Q1: What do you do normally in this space?

P1: Normally group work like today.

Q2: While you are doing it do you drink a cup of coffee, do you eat?

All the girls showed me their drinks to tell me that “yes, they drink coffee or tea in the meanwhile.

Q3: You stay here usually in group not alone right?

All: yes.

Q4: Can you describe me the objects in this space? You don’t have to go into details but just a general description. What do you see?

P1: Mmm... what do you see? It is a relaxed area with comfortable couches, but it is also a little bit minimalist.

Q5: And what do you think about the lighting in this space? (They laughed so I said something more) We have both electrical and natural light coming from the big window, do you think that this is comfortable? Would you like to another light on your table to perform your task? Or would you like to have less light?

P1: I think that it is nice that it is not only electrical.

Q6: Which are your feelings in this space? And which your emotions? Do you feel relaxed, stressed or...? How does this space make you feel?

P1: I think this is a space that is energetic.

Q7: So when you stay here you feel productive?

P1: Yeah, I think that it is because of the light.

Q8: When do you come here? During morning, after-

noons, evening, weekdays, weekends? All day long?

P1: Weekdays all day long.

Q9: Do you stay here also later just to have some fun together or not?

P1: No after we finish we go home.

Transcript of Interview 7 – girl (sit at Sofa2)

Q1: Are you a student or do you work here?

I am a student. I’m studying Social Work.

Q2: What do you do normally in this space?

We often sit here to work, me and my group work. Right here or over there where there are the couches.

Q3: And exactly where do you usually like to sit? Do you have a favourite seat, or do you go wherever is free?

We usually try to sit on that couch (Sofa 1) and if it is not free than we sit here.

Q4: And is there any reason for that?

I think that the first time we just started to sit there, so then it became like a tradition.

Q5: Do you feel comfortable in this space or is there anything that is annoying you?

No actually we feel very comfortable, always, so that we would like to sit more here than home... close to coffee and food.

Q6: Which are the reasons? Because of the coffee, the food....?

Just coffee and food and if we need a teacher or our supervisor...

Q7: So do you stay never alone, always in group?

Yes. Alone I am always home actually.

Q8: And what do you think about the lighting in this space? We have both electrical and natural light coming from the big window, do you think that this is comfortable? Do you think that it’s a nice light, that is

enough to perform your task?

We really like natural light. There is so much glass and it is very comfortable to stay here.

Q9: And maybe this is the reason why you always sit in these two couches and not in the other seats?

Actually, we never thought about that but yes it could really be like that.

Q10: And do you think that the electrical lighting is needed and necessary or no?

I guess it is only in the afternoons when it is dark. In that case I would like to get more light.

Q11: Which are your feelings in this space? And which your emotions? Do you feel relaxed, stressed or...?

Relaxed, maybe a little too relaxed actually.

Transcript of Interview 8 – girl (taking coffee at the Starbucks point)

Q1: What do you do normally in this space?

Normally I sit over there, in the benches and tables. With my group, reading and studying.

Q2: Do you have a favorite spot?

We usually sit in the benches instead of on the couch because we use pc.

Q3: So you never stay here to relax?

No, not really. Unless it is of course during lunch.

Q4: And during lunch do you sit always on the benches or on the sofas?

Yes on the benches.

Q5: What do you feel in this space? Which are your feelings? Do you feel relaxed, stressed or...?

I feel comfortable. It is okay. Very relaxed.

Q6: In this space we have both electrical and natural light coming from the big window, do you like the fact that we have both natural and electrical?

Yes I do. I think that sometimes when the sun is shining very much, it's a bit annoying because you can't see anything looking in that way (towards the canteen), but otherwise I like it.

Q7: And when you are here working with your colleagues do you feel the need of having another light?

No I think that is perfect.

Q8: Do you stay here during weekends, weekdays...?

Sometimes both, but mainly weekdays.

Transcript of Interview 9 – guy (working at the reception)

Q1: What do you do normally in this space?

I always sit at the reception but sometimes I also sit and study.

Q2: When you are not working where do you usually sit?

I usually sit over there (in the tables that are not part of my space of study) to read or to eat my lunch. Or sometimes I also study there when I am not here to work.

Q3: Is there any specific reason why you usually use that space?

Because it is a little bit more quiet.

Q4: Which are your feelings in this space? And which your emotions? Do you feel relaxed, stressed or...?

I like it a lot. When I sit and work, I have a view of the big window at the end and I like that there is some green. It always makes me feel good when I come to work. There is a lot of light and a lot of space. I don't like the furniture too much.

Q5: Okay, and this is just because of the furniture itself or because when you sit there you feel uncomfortable...?

No no it is just because of them. I don't think that they match very well with the rest of the space. But a part from that I think that it's nice.

Q6: Do you stay here alone or with your friends when you are studying?

I usually alone because I don't study at AAU so I just sit and work. But sometimes we have some social events or gatherings with work, for example we have some Christmas Party in this area also so then I use the space in a

different way than the usual.

Q7: And what do you think about the lighting in this space? Do you like the light coming from the lamps and the windows?

Yes, I think that it is really good. I think that it is a good balance. Sometimes it can be too bright from out there (the big window of the canteen), if outside is very sunny then I can't see anything but other than that I think that it is very good.

Q8: So do you think that you would like to have some shadings for that window?

I think that it would be perfect.

Q9: Since you work here maybe you know. Are the electrical light always turned on or there is a moment in the day in which they are off?

After 6 o'clock they are turned down and then they turn off entirely. But there are some spots in this area that are always turned on, so they are never completely off. And then it depends if there is an event or something then they change the settings for the light.

Q10: But do you think that it is always necessary to have the electrical lighting turned on? For example today that is sunny or anyway during daytime?

I don't know... I think that maybe now you could have the lights turned off.

Transcript of Interview 10 – group of guys (close to the reception)

Q1: What do you do normally in this space?

P1: In this area? Just passing by.

P2: I use it once for studying.

P3: We are mainly in the last building.

Q2: So you don't stay here for a long period of time?

P1 + P2 + P3: No.

Q3: Do you maybe stay here also for waiting for each other? Maybe you meet here and then you go somewhere else?

P1: If there is like a room we can't find we come here.

P2: Once everyone was waiting here but after that moment nobody.

Q4: How do you experience the space? Do you think that it is cosy or comfortable ...? Maybe you don't like it at all? Is there any specific reason why you don't stay here for a long time?

P4: Actually I think that it is cosy but a little too much away from where we usually have lecture.

P1: This is not very relevant for us. Also it is very open for group work and I prefer something more close as we are looking for a nap.

Q5: And what do you think about the lighting in this space? We have both electrical and natural light coming from the big window. Do you think that it is nice? Do you think that it can help you to perform your task? Since it is mainly walking do you think it helps you to see the space?

P2: It is very natural lit.

P1 + P3: Yeah.

P2: And natural light is very nice.

Q6: Would you like to have some more light or less light?

P2: Not for me.

P4: I think that it is very bright and happy.

P1: Yeah.

Transcript of Interview 11 – girl (taking coffee from the Starbucks point)

Q1: What do you do normally in this space?

Drink coffee.

Q2: Is there any reason why you take the coffee here? I mean they sell coffee also at the canteen and there is also another machine over there.

Because this is better.

Q3: So you drink coffee and then you go to other places or do you stay here?

I go upstairs.

Q4: Is there any specific reason why you don't use this space for other purposes?

I don't know. Usually I am here to drink coffee either I had classes I come here to study in my office. I don't know, I mean I don't come to Uni just to meet with people or just hanging around.

Q5: Do you like the lighting in this space? Do you think that this electrical lighting always turned on is necessary or that the daylight maybe could be enough?

No I think that it is nice.

Transcript of Interview 12 – girl (sofa 1)

Q1: What do you do normally in this space?

I go through it. I don't stay too much.

Q2: Do you use it maybe to meet with other people?

Yeah. I was actually thinking why not to use it as a study space, but I think that it is too not private so I think that it is too open. It is not so discrete. And this space it's very open, there are not any small walls or anything so a lot of noise and impressions everywhere.

Q3: And what do you think about the lighting in this space? We have both electrical and natural light? Do you have any opinion about it? Do you have any problem with the lighting here? Do you think that it is good enough to perform your task?

I think that it is beautiful especially with the natural light it is very beautiful. Yeah a lot of light actually now that I think about it. Probably the electrical light wouldn't be necessary. It seems like a waste of money and energy.

Q4: Do you feel comfortable or stressed or happy or sad or ...? Which are your emotions?

I feel like under a spotlight, because all the people can look down. It is like a stage. You know? You are walking into a stage. Again not so intimate because light is very light like white and not so yellow. It doesn't really have a glow and I think if you sit on a desk or something in a study room and read I like to sit with a more sunnish light with yellowish glow, instead this is very workish and informal.

Transcript of Interview 13 – two guys (Sofa 1)

Q1: What do you do normally in this space?

P1: Personally, usually I have done some group work here but when it is not too intense and now we are sitting here just to write an email so we come here when we want to sit down nice and comfortable. If I have to make some more intense work I would sit down either in our group room or at one of the tables.

P2: This is nice. Just a little bit more open light instead of sitting in a more close off office sometimes.

P1: And also the space in which we usually work is very little and close with bad air and bad lighting so this is why we come out here.

Q2: Do you have any preferred spots to sit in this area or you normally use the one that is free in that moment?

P1: I think that this one is my favourite actually.

P2: Those tables we use to meet with external people because it sounds more professional. And also by sitting here you have a great view if you look around.

Q3: Can you describe me the objects in this space?

P1: First of all I see a big blue carpet. There is a tree right behind you and I think that it gives something to the room.

P2: Staircase.

P1: It is also nice because stuff is happening around you.

Q4: Do you take advantage of the coffee area sometimes?

P1: No usually from the canteen.

Q5: Okay and is there any specific reason? Because for example that one is more expensive so...

P1 + P2: Yeah! That will be the main reason.

Q6: Can you describe me the light in this space? We have both daylight and electrical light, do you that it is nice, comfortable, it is helping you performing your task? Do you think that the electrical light is necessary or useless?

P2: I definitely like more when it is natural light. I think that this one is one of the reasons why this is the nicest area of the campus. I haven't thought about the electricity honestly.

P1: No but maybe we would have noticed it if it wasn't turned on.

Q7: If you are doing something like at the tables in which you need light, would you like to have some personal light, some table lamps or do you think that it's just enough the light that you have right now?

P1: Normally if I am working on my pc I wouldn't consider it but yeah...

P2: I wouldn't use this room for reading.

Q8: And then a last crazy question. Which are your feelings in this room? Do you feel comfortable, relaxed, stressed, happy, sad or whatever?

P2: I think it is very refreshing.

P1: Yeah we come here when we are sitting all day in the small table, a little tired and we go for a walk outside and sometimes we sit here to write an email or just to be somewhere else. Maybe it was the light that attracted us here.

P2: Yeah I don't know I feel happy.

P1: I feel comfortable here.

APPENDIX F

SILENT STUDY ROOM

—

ETHNOGRAPHIC INTERVIEW AND DESCRIPTIVE OBSERVATION MY NOTES DURING ATTEMPT 1

Observations and Interviews

This was the first approach to the methods in the University Silent Study Room. It took place during Wednesday the 21st of March in the morning from 13:00 to 16:45. In that afternoon I was able to perform both descriptive observations and interviews.

During that period of time I observed 11 people in total using the room; 8 of them stayed for almost all the time inside the room a part from small breaks in which I had a conversation with them, 1 guy came later around 15:00, another one left the room earlier around 14:30 and 1 girl came to pick up a friend around 16:00. It was a completely different scenario compared to the one observed in the lobby. People are not doing much a part from studying and/or working and it is very difficult to approach them staying inside. This is why at 13:40, after less than 1 hour I moved outside in the lounge room. This room is a valid spot for observing the scene and what is going on inside the silent study room, because the wall that separates the two has two big windows from floor to almost ceiling so there is a good view of the inside. Plus, in the lounge there is a seat, where I sat, very close to one of the two doors of the study room so it is easy to stop people when they are leaving it.

I found very difficult to approach people directly inside the room because the atmosphere, as it was also confirmed by some informants in the interview, is very focused and concentrated. Nobody is allowed to speak or to make noise. Even when I changed table they were staring at me because my jacket was making some little noises and this is for the users as a very loud music because the room is very silent and of course they need to stay concentrated on their tasks.

In the silent study room I observed that the light is com-

ing from 5x2 ceiling lamps and from the big windows with blinds (that can't be closed) facing the bridge and the canal. There are also 4 table lamps but they are disconnected and not mounted laying around the room.

Each people was working or studying with their personal laptops. They had on their desks the laptop, some of them had also something to drink an 2 girls had also a box with probably something to eat inside.

The kind of people that I saw using the room were only students; instead outside in the lounge room I think that a lot of the people that were transit through it were university employees because they had badges to open the doors.

Which kind of questions?

Again the points in which I was interested were the same, so the idea was to ask the same questions as in the previous interview session but letting the informant talk more and guide the interview and using myself just as a tool for them to tell their story.

So the questions that I asked were:

- 1. What do you DO in this space?
- 2. Are you usually here ALONE or with your FRIENDS/COLLEAGUES?
- 3. Which PEOPLE do you meet in this space?
- 4. Can you describe the OBJECTS in this space to me?
- 5. Can you describe the LIGHT in this space to me?
- 6. How do you EXPERIENCE this space?
- 7. Which are your FEELINGS/EMOTIONS in this space?
- 8. WHEN do you come to this space?
- 9. WHEN do you use the LAMPS other than the daylight?

Transcript of Interview 1 – girl (sitting on one of the armchairs in the lounge room outside the silent study room)

- Q1: What do you do normally in that space?**
Using my laptop, studying for a test
- Q2: Do you feel comfortable in that space?**
Yes.
- Q3: Do you think that the light is enough to do your task? Or would you like to have some more or less light?**
I think that's enough.
- Q4: Because I saw that inside there are some desk lamps that are laying around in the room and they are not working.... Do you think that if they were working you would like to use them?**
It could be good to use them.
- Q5: Are you usually alone in that space or do you study with some friends or colleagues?**
I study alone there.
- Q6: And then the last question is about the feelings that you have. Which are your feelings in that space? And which your emotions? Do you feel relaxed, stressed or...?**
I feel relaxed and concentrate most of the time.

Resume of Interview 2 – girl (sitting in one of the sofas who asked me to not record the conversation)
She use the space to study or read or using her laptop to study.

She is usually in there alone because it is a silent room so she doesn't see the purpose of going there with friends.

The light in her opinion is enough to do her tasks. The natural light is very nice a part from the window side.

She would like to have some table lamps to be able to read better during winter.

She doesn't feel very comfortable because it is too small, everyone is very close to each other. Not enough space. She uses the room only during weekday (doesn't matter the time of the day).

She uses it because it is the only silent study room in the campus.

Resume of Interview 3 – girl (sitting at the high table outside the study room)
It was very short because she didn't have time.

She doesn't use the silent study room because she doesn't feel comfortable inside.

Transcript of Interview 4 – guy (inviting me to move outside the lounge room to talk because from inside the study room you can hear people talking)

Q1: Do you use that room to study, to read, to write, or...?

To study and make a paper that include writing and reading.

Q2: Do you feel comfortable inside, or you go there just because it is the only silent study room?

It's alright but it could be better. They improved during the time, in the years.

Q3: Do you know what they did inside?

I don't know... The doors are better, there are not many in voices. The light is on all the time.

Q4: By the way I remember that last year some desks had a desk lamp and now I saw that they are laying around in the room and not working.... Do you think that if they were working you would like to use them?

Not really. For me it doesn't matter.

Q5: So, do you think that the light is enough to do your task?

Yes.

Q6: During the sunny days I know that the sun is shining from that side in the afternoon. Is it something that bother you?

No no, that's great.

Q7: Which are your feelings in that space? And which your emotions? Do you feel relaxed, stressed or...?

I am okay... reading... so...

Transcript of Interview 5 – girl (we were walking – she wanted to go out for a smoke)

Q1: What do you do usually in that space?

Study, read, write or write my thesis.

Q2: Do you feel comfortable in that space or relaxed, stressed, ...?

I feel relaxed. Yeah I think that it is easier to concentrate because no one is allowed to speak inside. So I think that it is a good environment to study and to concentrate.

Q3: Okay that's good. And do you have any issue with the lighting in that space that maybe I don't know... it is too bright or there is not enough light?

No, I don't think that there is a problem with the light. Yeah not that I've noticed.

Q4: I remember that last year some desks had a desk lamp and now I saw that they are laying around in the room and not working.... Do you think that if they were working you would like to use them? Because some times you have to read from a piece of paper instead of from a pc so you don't have the light of your screen.

Oh yeah... I think that it might be nice to have a small table lamp. I didn't try them before when they had them so...

Q5: Are you usually alone in that space or do you study with some friends or colleagues?

Actually usually I come by with someone because even if we study alone than we can take a break together.

Transcript of Interview 6 – girl (sitting on sofa)

Q1: What do you do normally in this space?

Mostly writing projects and now I am writing my thesis.

Q2: So do you usually use your pc or sometimes do you read also from books and papers?

Yes I did. In the first semester when I had exams I read a lot there, because it is a nice environment. It is a nice space where no one talks.

Q3: Are you usually alone in that space or do you study with some friends or colleagues?

No I come here with friends also, studying one in front of each other.

Q4: When you were inside maybe reading from books did you experience any needs of having more or less light?

No, no I think there is a very good light due to the big windows.

Q5: I remember that last year some desks had a desk lamp and now I saw that they are laying around in the room and not working....

Yeah and also last year there were not all the desks.

Q6: So, imagine that they are working, would you like to use them?

Yeah yes especially during winter time when the days are like this.

Q7: Another thing that I've noticed is that during the sunny days the sun is shining from that side in the afternoon. Is it something that bother you?

No it doesn't bother me.

Q8: Could it be something that makes you decide to sit

in a different table of the room?

Yeah it could be because when the summer approaches the sun is not so high so the light can arrive and bother you. But I've never been here in the summer.

Q9: Which are your feelings in this space? And which your emotions? Do you feel relaxed, stressed or...?

I feel in a very good writing flow because everyone is doing so, so I feel very focused. More than here (we were talking in the library seats) because here you can be more distracted.

Q10: Do you come here during weekdays or also during the weekends? Morning, afternoon?

Never in the weekends and it depends the time of the day in which I am free and I don't have to be in a meeting.

Transcript of Interview 7 – guy (close to the elevator)

Q1: What do you do normally in this space?

I normally study and reading articles or writing something.

Q2: So do you normally use the pc and also papers and books?

Normally I use my pc and also like a notebook to write stuff.

Q3: How do you feel in that space? Do you feel comfortable, relaxed, stressed or...?

It is quite hard to describe, but sometimes there are some people who are more noisy than others so sometimes I feel that I can't do anything because I don't want to disturb anyone but mostly I am comfortable in there because you feel that you should actually do something and be productive. So when I went there to do something else, then at a certain point I grab my pc and I sat outside.

Q4: And what do you think about the lighting in this space? Do you think that it is enough to perform your task or would you like to have more or less light?

So far I didn't have any problem but I've also never stayed here at night so I don't know. I've also noticed that if you sit in the last row and you stay there when no one else is there, then the light just goes down because there are movement sensors and the last one is not working.

Q5: I remember that last year some desks had a desk lamp and now I saw that they are laying around in the room and not working.... Do you think that if they were working and you have to read from books you would like to use them?

Yeah I think that I might use them and also it depends if it is too reflective so it might be annoying and also the heating I guess, but honestly I have no experience, this is my first year so...

Q6: Then another thing that I've noticed is that during the sunny days the sun is shining from that side in the afternoon. Is it something that bother you?

Oh yeah... that's a problem especially if you are sitting next to the windows.

Q7: Could it be something that makes you decide to sit in a different table of the room?

I am not shifting too much but sometimes I am thinking that I need to change seat because the light is too much and I can't see anything at all.

Q8: Do you go there alone or in group?

Normally I go there alone because with friends I want to exchange ideas and there you can't do it.

Transcript of Interview 8 – 1 girl (we went outside in the library space)

Q1: What do you do normally in that space?

I try to study.

Q2: And what do you use usually to do it? Your pc, books, ...?

My laptop and papers.

Q3: Okay, so since you use also papers you have to take advantage of the light of the room. In that room there are both daylight and electrical light. Do you think that the electrical one is necessary always turned on or not?

Not all the time. But with the weather we never know, you know so... And also during the night the light is automatic so sometimes it just shut down by itself and you have to move to turn it on.

Q4: Yes and you actually are not the first one that is telling me that, so of course this is a problem. Also I remember that last year some desks had a desk lamp and now I saw that they are laying around in the room and not working.... Do you think that if they were working and you have to read from books you would like to use them?

I was used to use them but, you know, I think that there were only two and I was always struggling for having one.

Q5: Are you usually alone in that space or do you study with some friends or colleagues?

Alone.

Q6: Is there any specific reason for that?

I don't have friends ahahah! I need this environment to study so...

Q7: Do you feel comfortable in that space?

I feel that there are other people also studying so you are just stupid if you don't do the same.

Q8: Which are your feelings in this space? And which your emotions?

Depression most of the time, tired, motivated, like I go through a lot of feelings, you know, from self-estimation to low estimation. If you are not gonna feel something, you just feel that your brain is exploding, I don't know, I feel that I am totally crazy in this room. But it is also productive so...

APPENDIX G
SILENT STUDY ROOM
—
DESCRIPTIVE OBSERVATION
MY NOTES DURING ATTEMPT 2

DATE: 16/05/2018

Observation started at 13:00.

There is a total of 20 people. Everyone is studying/reading/writing using their own laptop.

Only the guy sitting at table 7 is also reading from a book.

At 13:16 the girl sitting at table 6 next to the window goes out. At 13:18 she comes back with her glass bottle full of water.

At 13:19 the guy sitting at table 4 next to the window goes out. At 13:23 he is back with a cup of coffee.

At 13:21 two girls come back. They sit at table 11 next to the window and at table

At 13:24 the girl sitting at table 11 goes out again. She is pregnant. At 13:26 she is back.

At 13:25 the guy at table 7 takes his bottle and goes out. The girl sitting at table 2W is using a big ball as chair.

Six people have a bottle of water on the table. In fact the weather in these days is very hot and probably as a consequence they feel more the need of drinking.

At 13:31 the girl sitting at 2W takes her phone and goes out.

At 13:33 two people (a girl and a boy) come back and sit together at table 1W, but after few seconds the girl goes out again with her bottle.

At 13:36 the girl sitting at 5W and the guy at 4W go out together. She brings her laptop with them.

At 13:36 the girl sitting at 10W goes out.

At 13:38 the guy sitting at 4W comes back with a cup of coffee.

At 13:39 the guy sitting at ??D goes out and the girl sitting at 5W come back with her laptop smiling and she seems satisfied about what she has done while she was away.

At 13:40 the girl sitting at table 1W comes back with 2 cups of coffee.

At 13:41 the guy sitting at 7W comes back.

At 13:42 the guy sitting at ??D comes back.

The girl sitting at 2D is left-hand writer, so “since she is also writing on paper, could it be because of that she decided to sit on the left of the room so she has both the daylight and the electrical lighting coming from the good side?”

At 13:46 a guy enters the room and sits at table 9W after being undecided between sitting at 8W or 9W. Could it be that he decided the 9 because it is further away from the separator so the light is not blocked by it and there is as a consequence more light falling on the table? He uses his laptop.

At 13:48 the sitting at 3D goes out to answer her phone.

At 13:53 she is back.

At 13:49 the girl sitting at 2W come back.

At 13:50 the girl sitting at 10W come back with a bottle of water.

At 13:52 the girl sitting at 2W and the girls sitting at some table on the door side goes out. The first one brings her laptop with her as if she has to show something to the other one; the other one seems to leaving the room definitely. At 13:54 the girl sitting at 2W is back wither computer.

At 13:55 the girl sitting at table 3W goes out.

Since I am sitting at 1D in the back of the room and there are separators, my view is blocked and I cannot see the people sitting at the tables over the separator on the door side.

At 13:57 another guy enters the room and he sits at table 8W, probably because it is the only free table.

At 13:58 the girl sitting at 10W packs up, throws her garbage in the trash and leaves the room. She is pregnant.

At 13:59 the guy sitting at 4W goes out.

At 14:00 the girl sitting at table 3W comes back. She is pregnant too.

At 14:03 a girl with a lot of stuff enters the rooms. She looks for a tale close to a socket to plug in her laptop, so she is undecided about which table to pick. In the end, she is orientate to sit at table 10W but since it is far away from a socket she decides to sit at some table on the door side.

At 14:05 the guys sitting at 8W and 9W go out, but not to stay together. At 14:09 the one sitting at 8W is back.

At 14:07 the guy sitting at 7W goes out to meet a friend.

At 14:07 also the girls sitting at 2D goes out.

At 14:08 the guys sitting at 4W is back.

At 14:11 a girl enters the room and sit at table 10W. She was here also during the interview session. She and the girl sitting at 11W arrange the tables better in order to let the “just arrived girl” plug in her laptop.

At 14:14 the two people sitting at table 1W encourage each other and I can understand that they are a couple :)

At 14:19 the girl sitting at 11W goes out with her phone. At 14:24 she is back.

At 14:20 the sitting at 7W is back and he smiles to his friend sitting at 8W.

At 14:23 the guy sitting at 9W is back.

The girl sitting at 3D is pregnant and at 14:26 she goes out with her phone.

At 14:26 the guy sitting on the door side ??D is back. I haven’t notice when he left before.

The lighting.

It is a sunny day so the daylight income is very important. Anyway the electrical light are turned on but no one is using the task lamps.

At 13:56 the blinds at the windows move to orientate them in order to not make the Sun being glary since it is going to shine from that side.

The atmosphere is very calm and the light is in general welcoming and supporting the study activity. The light level is a little tuned down creating a relaxing but also concentrating ambience.

People are just sitting and performing their tasks without assuming strange positions because of some problems with the light.

The people that are using the pc have their backs more or less straight, while the ones that are reading from the books are curved on them. Could this be because of not enough light to read from paper?

14:29 end of observations.



Fig. 30 - Plan view with furniture names (silent study room)

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