Ethnographic Design Research - learned in a first world country and applied in a third world country

Lessons from a case study in Colombia

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ABSTRACT

The human-centered approach to design has established that understanding the future user is integral to a successful design solution. The purpose of this article is to assess how effective ethnographic design research can be, in conjunction with Human-Centered Design, as a part of the research phase of design development in a foreign setting. The study is based on a literature review and a case study performed in Medellín, Colombia. It was found that ethnographic research methodologies were important to achieving a broader and deeper understanding of the end-user group by establishing context and empathizing with users in a foreign country more fully, where traditional HCD research alone would be limited.

KEYWORDS: Ethnographic design research, human-centered design, ethnography

1. INTRODUCTION

When designing a new solution, knowing how to reach the intended users is key. In this respect, human- and/or user-centered design (HCD/UCD) have in recent years become well known and frequently used methodologies. They are used universally and are generally an integral part of design studies and development [1, 2]. HCD and UCD are very similar, and both introduce the importance of the users and how to develop the solution with the future user as a focus [3, 4, 5]. For a successful solution the designer should therefore relate to the users and learn how to see the world through their eyes. What does the designer then do when designing for someone with a different background than his or herself? When designing for someone from another culture or country? Or when designing for a context different from the developed western world? This is where ethnography can be a useful tool to combine with the design research. Ethnography then functions as the bridge to understanding the intended users, to empathize and comprehend their situation [6].

This article is based on a literature review of design and ethnography methodologies, and a case study in Colombia. The first sections in this article introduce design research and ethnography and how they can be combined as both a tool and a methodology. The article then presents the case study and its findings, conducted in Medellín, Colombia, where ethnographic design research (EDR) was applied in a research project. The article further presents reflections on the process followed by a discussion and conclusion.

1.2 Ethnography and Design

Design research with an HCD focus aims to understand the humans as future users, their

underlying needs and challenges, and how they will interact with the future solution [4]. This research can then be used to create the best possible design specifically tailored for the intended users. Ethnography is, in many ways, similar to the research conducted for HCD as it enables the researcher to empathize with the subject of study [6]. Ethnography uses observations and interviews in the same way as design research, and also aims to understand the world from the users' point of view [7]. The design research is only a part of a larger design process, albeit a very important one, while ethnography is a field of study itself, and therefore usually has a broader scope [8]. Understanding these similarities, one can argue that ethnography has a natural role in design research and can enhance the efficacy of the research [6, 9].

1.3 Case Study

The case study took place in Medellín, the second largest city in Colombia [10]. The aim of the study was to experience and learn how to carry out EDR in a foreign, less developed country. To reach that aim, it was seen as best to conduct a research project, applying the methodologies and tools learned in the author's home, first world, country. The project aimed to document waste management in public spaces in different areas of Medellín. The focus on observations, interviews and secondary research showed that ethnography and design research do seem to complement each other, especially in the context of designing in a foreign setting.

2. ETHNOGRAPHIC DESIGN RESEARCH

2.1 Ethnography

Ethnography is an approach to research aiming to understand human behavior and cultures [11], originating from the social and cultural branches of anthropology [8]. Ethnography bases research on learning directly from the community, and immersion with the residents [7, 12]. With non-disruptive methods, ethnographers witness the natural environments of those involved [13]. By observing the world through the eyes of the user, an ethnographic researcher develops empathy for their subject [8]. Researchers can even go as far as learning the language and discovering the connotations that their languages share. Participating in the subjects' culture can contribute to the understanding of their values and social norms [12, 13]. It is common, and often preferred, that involvement within the environment of study is continued over an extended period of time. This gives the ethnographer ample opportunity for full immersion and to identify clear patterns of behavior [9, 12].

Ethnography employs different qualitative tools like observations and interviews to discover underpinning factors that make up complex social structures [11]. A common method of research is participatory observations [14]. By the observer being a participant, he/she is directly involved and experiences the roles of the subjects of study. This experience is a unique way of understanding the users' behaviors and can be done during a single activity or over an extended period of time in daily community life [9, 15]. Non-participatory observation is also common practice, as it gives the ethnographer the opportunity to study subjects without interfering with the activity, and only observing natural occurrences [13]. It is a useful method for identifying actions and patterns of behavior that the subjects might not be self-aware of. This can be carried out by, for example, 'fly-on-the-wall' observations, filming the subjects or shadowing [14]. Although observations can reveal an adequate picture of community life and behaviors, some information may not be visibly evident. Therefore, another commonly-used tool for ethnographers is to conduct interviews, which create the opportunity for detailed accounts [8, 14].

2.2 Design Research - First Phase of HCD Methodology

HCD is an approach to design a solution tailored specifically for the intended future users' needs and desires. It focuses on developing the solution in iterations, based on

knowledge and understanding gained through thorough user research [3]. HCD is based on prioritization of the user, finding what is important to those who will be affected and how to create the best possible solution that will fulfil their needs. According to IDEOs CEO, Tim Brown, there are three important aspects that makes a solution successful: feasibility, viability and desirability [1]. These can also be seen as different start perspectives to a design process, accordingly through technology, business or people [1, 3]. This can be interpreted to mean that to make sure the solution will be desirable, one should start with those who will use it.
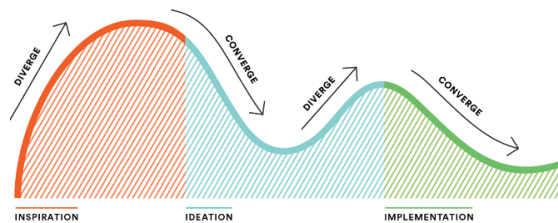

Figure 1: IDEO.org's approach to HCD, adapted from IDEO.org [16]

IDEO.org divides the design approach into three phases, where user research is conducted in the first phase, called the inspirational phase (see figure 1). This is the phase that creates the foundations of the solution development [4]. Designers identify the problem scope and create a development framework by using both qualitative and quantitative in-depth research methods. It is essential to know who the users are, those affected, the context around the future solution and what defines the success of the solution for the users [17]. There are a number of different methods and tools used to gain user insights, some frequently used techniques are surveys, stakeholder mapping, benchmarking, situation and user journey mapping, and secondary research. Other, and arguably the most common tools are observations and interviews [4, 17]. As with ethnography, the chosen observation and interview techniques can vary. Interviews can be unstructured and in-depth or fully structured, almost as if it were a survey, in order to compare responses [3, 18]. Observations can be participatory or non-

participatory in conjunction with or without interviews [3, 4]. All of these techniques are widely used, the most fitting method depends on the type of information that is required. To make sure adequate knowledge is gained, combining a few or several techniques is beneficial [4].

2.3 How to Conduct Ethnographic Design Research

User research for design development seeks to create a holistic understanding but often focuses on the aspects impacting the activity/behavior related to the future solution [2]. This could mean that one might overlook other important influencing factors [9, 1]. It has often been the case that products designed for user-demands have failed because they do not consider the cultural norms that may affect its adoption [19]. The time and effort put into a design research phase is often key to avoiding this. However, these factors are often limited by the design teams' resources, which are usually determined by the business model for the undergoing project [20]. This is where ethnography can make a difference, as understanding the socio-cultural world of the subjects of study is an essential principle [8]. Ethnography and design research, therefore, both have similar goals of understanding how subjects view the world, however ethnography expands on this. Ethnographic research methods can be beneficial to the design and innovation process because it can increase the value of knowledge gained during the inspiration phase by ensuring that the outcomes appropriately reflect the subjects' worldview [7, 9]. Despite the benefits, ethnography can also be time-consuming and effort must be put in to adapting its methods to the overall design strategy and business model.

There are no rules of how ethnography should be adopted into design research or which mode of user involvement is best suited, it varies on a case by case basis. The following are examples of acquiring, representing and transferring ethnographic methods and gained

insights. An ethnographer might be hired by, or work on behalf of a design team, carrying out an ethnographic study on the group of focus. Further, the insights can be analyzed by the ethnographer before it is given to the design team, or the design team can take part in the analysis. Another possibility would be to add one or more ethnographers to the design team for the inspiration phase, e.g. letting the ethnographers lead the study and the designers participate. This way, the designers are able to understand the users through first-hand experience, whilst making sure the ethnographic approach is utilized. A third possibility would be to not employ ethnographers but to adopt the ethnographic methodology into the design research [9, 12]. The latter approach was applied for the research project carried out in Colombia.

As discussed, goals of design research and ethnography are comparable. The methods both approaches use also overlap in some instances. Integrating them can, therefore, help the designer in research and development of a new design [9]. The following are three typically used methods of EDR: interviews, observations and secondary research [9]. All three of these were employed during the case study in Colombia.

Interviews are a useful way of directly interacting with the subjects of study and recording explanations and stories first hand. The type of required information, type of interviewee and the setting determine the criteria on which the interview is constructed [2]. Both formal and informal interviews are used [3], although a less formal approach is more typical for EDR [12]. This is often because ethnographic research is usually conducted in-field, meaning that the interview may take place in a variety of different locales. The interviewer will, therefore, typically let the interviewee control the conversation by not directing their responses. The interviewer might have a number of prepared questions but will not structure the interview by these. Instead, the interviewer listens and selects questions that best suit the conversation [8].

Informal approaches are often used in in-depth interviews where the aim is to paint a complete picture of the subject's viewpoint. In-depth interviews are preferable in EDR as it is a qualitative technique and can provide information at a highly detailed level [21]. The interviewees should usually represent a diverse sample of stakeholders and users to ensure the information contributes to this complete picture. The questions are open-ended to avoid yes/no answers as the responses are anticipated to be more descriptive. This can also make it easier to follow the interviewee's body language from which further insight can be gained [4, 21]. In-depth interviews can also provide a more comfortable atmosphere for the interview, which encourages the interviewee's willingness to share information [3, 21]. An important rule for such an interview is that the interviewees are to be allowed to speak their minds, meaning the interviewer needs to be open-minded and should interrupt as little as possible. The role of the interviewer is to introduce the topic of interest and then let the interviewee carry out their chain of thoughts and ideas [22].

Narrative interviewing is very much related to this way of interviewing. Here, the role of the interviewee is more like that of a storyteller. The interview agenda is not set for a narrative interview, it is open to changes and developments according to the storyteller whom, with his/her own chain of thoughts, is in control of the direction. The interviewer can, if necessary, ask the interviewee about specific topics or pose questions to get back on topic. This is usually done as a follow-up to avoid causing the interviewee to feel like the story was not relevant or of interest. As an example from the case study to follow, one interviewee went off topic. He diverged from talking about his family business of recycling to how his neighbor was displaced by the government. In order to keep the conversation relevant, the author allowed him to finish his story and then interjected with a more topical question. These questions are preferably done after the story is told, so as to not impede the interviewee [23, 24, 25]. Narrative interviews are beneficial for

EDR for the rich data they can capture, as they combine historical, symbolic and social backgrounds with the life stories, emphasizing the underlying motivations of behavior [26]. Although narrative interviews do not have a set list of structured questions, according to Bauer & Gaskell, the procedure of the interview should follow a certain structure as seen in Table 1 [26].

Phases	Rules
Preparation	Field exploration Formulation of outstanding issues
Initialization	Formulation of the initial narration topic Employment of visual aids
Main narration	Do not interrupt Only non-verbal encouragement to continue the narration Wait for signs of completion
Questioning phase	Only ask: "What happened then?" Do not give opinions or ask questions about attitudes Do not argue about contradictions Do not ask "why" questions Change from outstanding questions to immanent questions
Conclusive talks	Stop recording "Why" questions are allowed Make notes immediately after the interview

Table 1: Principal phases of a narrative interview, adapted from Bauer & Gaskell [26]

Bauer & Gaskell divide the procedure into phases. Further, they state that the "rules" for each phase should be interpreted as guidelines to the interviewer to ensure a rich narrative from the interviewee and avoid the risk of a question/answer scheme [26]. They also suggest the use of a recorder in their procedure, which is a well-known, helpful strategy to ensure everything is captured [3, 12].

The second method, observation, is often combined with interviews [12, 15]. There are several different ways of conducting observations, both direct and indirect, where direct is more commonly used in EDR. This is where the observation is made in a natural setting, e.g. a normal day-to-day activity in the home of the subject of study. Observations are beneficial for learning about the users in the intended situation. It is useful to set the framework before an observation, e.g. "the three W's": knowing who, what and where to observe. Another framework tool called AEIOU highlights the importance of determining the activities, environments, interactions, objects and users [3, 17].

The role of the observer can vary in levels between active and passive. This will depend on how engaged the observer needs to be to best understand and learn from the activity [3, 12]. The following are roles the observer can assume, presented with different observation techniques.

To gain insight into the experience of the subjects of study, the observer can play the role of the subject. If the goal is to experience the situation as realistically as possible, it can be beneficial for the observer to go 'undercover' [2, 3]. This technique is called the 'Wallraff observation' after the German journalist Günter Wallraff, where the observer pretends to be, for example, a normal customer in a store without giving away that he/she is observing the situation for research purposes. For this technique, it is important that the observer plays his/her role well so that the situation carries on as naturally as possible [3].

Another technique to avoid interfering with the normal situation is the 'fly-on-the-wall' technique. This is a direct observation where the observer is *in situ*, only he/she does not participate in the activity and observes from an external vantage point [3, 4]. Recording equipment such as a camera could also be used

as the 'fly-on-the-wall', however, this would be deemed an indirect observation [8]. The important factor the observer must remember when using this technique is to not attract any attention by his/her presence as it could create unnatural interactions or disturb any natural occurrences [8, 3]. There are also occasions where the observer does not need to participate in the activity, yet he/she wants to be visible as an observer. This could involve the subject of study to speak out loud as he/she carries out the activity, or to pose questions to the subject of study during the observation, in which case the observation can be combined with an interview [2, 3, 12].

The role of the observer does not have to be either active or passive. The technique of 'shadowing' is used so the observer can follow what the subject of study is doing. The observer can be both 'visible' or 'invisible' to the subject of study depending on what kind of interaction the observer prefers for the matter of study. The important factor the observer must remember is to avoid the subject of study experiencing any feeling of inferiority or insecurity during the observation as this can create strained behaviors [2, 3, 12].

No matter which role the observer chooses, it is important that he/she pays close attention to all details, meaning to observe not only occurrences, but also taking note of the surroundings, the experiences, the smells, what he/she hears etc. [2]. All of these observations can be of significance to the matter of study and should be documented either during or after the observation in field notes, by camera, recorder or other equipment so that it is easy to refer back to [12]. As an ethnographic method, observation requires substantial amount of time. It should not be hastened as it is used for qualitative research, hence a deep understanding will only be derived from significant time in the field [2, 12, 15].

The third typically used method of EDR is used to gain further knowledge of the topic of study. Secondary research can come from articles, online materials, books, etc. It is advantageous

as a contribution of information when trying to understand people and behaviors of a foreign country and culture. The goal is to widen the researcher's knowledge base to provide context and that way be better equipped for understanding and empathizing with the users [4, 9, 15].

EDR requires a lot of the subjects of study, which means that the informants must feel comfortable and willing to share their stories, thoughts and activities with the researcher(s). How to approach, handle and act around the subjects of study is therefore essential to consider for adequate research [12]. The presence of cameras, recorders or even taking notes can be disturbing or intimidating to the informant, and may therefore affect the responses, or cause abnormal reactions. It is important that the researcher is aware of these factors and frames the study settings accordingly [2, 12]. The researcher should also be aware of his/her own approach and attitude, making sure it is unbiased and the questions are not misleading, as this can influence the informant to answer what he/she thinks the researcher wants to hear [3].

Another key to effective research is establishing a relationship based on trust between the researcher and the subjects of study. The informant needs to know what the study is about and support the cause of the study in order to willingly participate and share their insights. Therefore, it is crucial that the researcher provides the subject with necessary information without affecting the results of the study [3]. The informants must also know what their information will be used for, how it will be handled and where it will end up. This is also linked to the informants' privacy, as they may often share private and personal data for the EDR. This information can be highly valuable to the study but also inflicts significant responsibility on the researcher in terms of respect, approach, handling, protection and understanding. Not all EDR needs to handle private information, but it is important that the researcher is aware and can offer the subjects of study confidentiality and anonymity when

needed, especially when it concerns particularly sensitive issues [12].

Language is a third fundamental key to unbiased research and trust. According to Murchison: "Your familiarity with specific languages is another determinant of your access to particular field sites" [12 p. 31]. A shared language is the basis of interaction; for interviews and conversations, it is crucial. Not being completely fluent in the language the subjects of study speak, including local expressions and terms, can, in the worst cases, lead to misunderstandings and false information [8, 12]. As Murchison states further, "If you are planning to work in field site(s) where English is consistently spoken, you may still find that there is a specialized language or vocabulary —for instance, slang or technical jargon — that you have to master quickly in order to carry out effective research" [12, p. 31]. This means that the chances of this happening are even greater if the researcher does not know the language at all. In such cases, he/she would be dependent on a translator, which can also lead to less precise information [12]. Some ethnographers, if they do not know the language beforehand, learn it in-field during the research. This requires time and typically necessitates long-term stays in-field, which are therefore more common in ethnography than EDR [12, 15].

3. CASE STUDY – LESSONS FROM COLOMBIA

During a seven week stay in Medellín, Colombia the author performed a research project on how to conduct EDR in-field in a foreign country and culture. The following sections describe experiences and reflections regarding the methods and lessons from the case study. To achieve a real experience of EDR, a separate research project was created. This was done together with EAFIT university in Medellín and EAFIT Social, the volunteer department of the university. In Medellín, the author was to individually carry out the first phase of EDR; the inspirational phase. The findings would then be passed on to EAFIT and EAFIT Social, for future development. The problem statement of the project was entitled "Cultural, social and institutional aspects that influence the environmental deterioration regarding waste handling in public spaces in various areas of Medellín." The author then applied EDR methodologies to investigate this problem.

3.1 Methods

A number of the methods detailed in the former sections were employed in this case study. During the seven weeks in Colombia, more than 30 interviews and over 25 observations were performed, as well as the building of a wide foundation of secondary research. For the accuracy of the study, it was essential to get varying perspectives by visiting several different places, both in Medellín and in other areas of the country. Colombia has a highly stratified society; every citizen is classified in a strata from 1 to 6 depending on their social class [27]. The author made sure to interview people from all stratas as users are found in each one. Observations were performed in a variety of neighborhoods, both rich and poor.

The observations were carried out in parks and other public areas for varying amounts of time. The time of day also varied, to achieve a more complete picture and to look for patterns of behavior. Most of the project work was conducted in Medellín, but the author also travelled other places in Colombia for comparison and context. The different levels of participation were also assessed, most frequently the 'fly-on-the-wall' and the Wallraff technique. In the latter, the author would act as any other visitor to the park would, without being recognized as an observer. As the 'fly-on-the-wall,' the author would find a place with an accessible overview of the park, stay for a longer period of time while taking note of actions, activities, interactions and details, similarly without drawing any attention.

The first interviews of the project were the most rigidly structured. The author framed the structure based on the type of information

desired; one set for primary users, one for secondary users, one for community leaders, etc. and created open questions meant for in-depth interviews. After a few interviews, it was discovered that there was little need for much more structure in the interviews, and the author opted mostly for narrative interviews. The author had prepared a set of questions as backup, although it never became necessary. The interviewees were given a brief introduction and then presented with the topic of study about which they supplied their stories. As in the example mentioned previously, it was at times necessary to steer conversation back to the topic at hand. However, this was intended to seem as though it were a natural follow up to the story the interviewee had told. To understand differences and gain a third perspective, not only were users interviewed but also 'outsiders' and Subject Matter Experts (SMEs). In these cases, especially for the latter, the author used semi-structured interviews.

As a supplement to the in-field investigations, secondary research was performed to establish a wider context to the matter of study. The author sought knowledge from articles, reports, newspapers and online research ranging from national and local history to culture and social behavior.

Aware of the importance of achieving trust, the author had an open and honest approach to the subjects of study. At the first moment of contact with each subject, the author introduced herself and the project as well as its relation to the subject. Mutual respect was established through sincerity and friendly conversation. Before interviews, the author made sure the interviewees felt informed and comfortable with sharing their insights, and ensured the topics were not too invasive. The author maintained an unbiased attitude and showed genuine curiosity to encourage the participant, as well as empathizing with the interviewees' stories. The official language in Colombia is Spanish. The author was not completely fluent in Spanish, which at times made full comprehension challenging. However, this also seemed to demonstrate

honesty and informality to the subject as the author willingly maintained a subordinate role in the conversation.

3.2 Findings - efficacy of the methods

The research methods used in the case study mostly enabled the ability to learn from and about the users. The author assessed a variety of techniques, regarding both the roles and the approach. Interviews proved to be an effective way to gain first-hand information directly from the users. Both semi-structured and unstructured interviews were conducted where the latter worked best under the frameworks of the case study and for yielding insights. Semi-structured interviews did not work as well for the users because they failed to tap into the required depth of knowledge. The author also found it difficult to create questions that were probing enough, mostly due to unfamiliarity with the culture. Narrative interviewing worked very well as it was an informal way of getting to know the users, making them feel more comfortable. It was beneficial to use a more personal approach to get in-depth information and allow the users to reveal all that they wished to about the topics. Through narrative interviews, the author also found it easier to relate to and understand the users, as the users themselves gave life to the situations by way of explanations of their background and the surroundings.

The author found that it was often easier to conduct interviews in poorer neighborhoods as the interviewees there became the most engaged and seemed willing to give more of their time to the cause. These were also the areas that seemed to have the largest challenge with waste handling and, therefore, the author found it important to focus further on the poorer parts of town.

Interviews were not always possible due to restrictions surrounding certain situations, places and contacts, which made observations essential for developing the knowledge base, especially during periods of travel. Furthermore, in Medellín, observation was an easier method to conduct individually without

contacts and appointments. The 'fly-on-the-wall' technique worked very well for observing without interfering with normal ongoing activities and was a good way to make observations over a longer period of time. The Wallraff technique proved to be more difficult to employ, as the author did not always fit in as a normal visitor of certain areas, nor could she pretend to be a part of certain activities. Conducting observations was useful for learning about the users in a prescribed situation while also helping to understand the whole picture. It was useful to know who, what and where to observe by setting the framework of the 'three W's' before the observations as it made the objective of each observation clearer.

Secondary research was an effective way of learning more about the cultural differences as well as understanding the backgrounds of the users and their circumstances. It was also helpful in preparation for interviews and reflections after, as it increased comprehension of the context.

3.3 Reflections

Conducting an individual case study in a foreign country was challenging. There are many factors to consider in a research project, and even more when in an unfamiliar setting. In this project, understanding cultural differences was central to the understanding of the users, but immersion in the culture was not always feasible, especially since the cultural differences were specific to both the national and local levels. Working alone also invited its own challenges, as there are many roles in EDR that, in this case, had to be performed by one person. This did, however, enable a greater understanding of all the considerations one has to make in EDR, and gave the author first-hand experience in project management.

In this case study, more time to conduct research would have been beneficial as seven weeks did not prove to be sufficient for the amount of work involved, and considering cultural and language barriers. Also, if the topic of study had been planned before arrival,

preparations of the study could have been made earlier. Time spent in-field could have then been spent more efficiently, as a lot of time was forfeited waiting for initial responses and organizing meetings. The language itself was also critical for process development, although, in time, language became less of a barrier to interaction with subjects, despite complete fluency not being achieved.

All the methods used in the case study were learned at modern, Western universities. Applying them in-field in Colombia meant that some adjustments had to be made. With experience, it became easier to plan and perform interviews, and the observations and secondary research were helpful for contextualizing subject experiences both before and after the interviews. As the project progressed, the use of those methods developed and became more personal. Interview questions were first based on assumptions, then later based on a better understanding of the users. Secondary research started with a general focus and then became more specific to topics that were discovered to be valuable. This was an effective way of learning more about cultural differences, understanding the backgrounds of the users and their circumstances. It was also useful for preparation work and for reflections after conducting the research, as it increased contextual comprehension.

As well as determining which methods were applicable to the research, the author found that reaching a point as to where those methodologies could be applied was an even greater challenge. So how does a project manager know where to begin when conducting research in a foreign country? The preliminary work should include finding a topic, finding locations and subjects of study, finding and contacting interviewees, and setting up the framework of the whole project. Being in an unfamiliar culture, these challenges seemed even larger and were harder to tackle. They were, however, an essential part of the project and made for an important learning experience.

4. DISCUSSION

4.1 Ethnography in HCD

EDR helps designers to gain a holistic understanding of users. Its approaches and methods provide the opportunity for direct learning from users and in-field experiences that can be highly valuable for further development of the design. Through EDR, designers learn how the users perceive the world and which values are important to consider in the future design [9]. There are different ways to include ethnography into the design research, with or without the use of ethnographers. This article has focused on the adoption of ethnographic methods into the inspiration phase of HCD, as this was carried out in the case study. The findings from the study should not be interpreted as factual, as they are based on experiences by the author, so should therefore be regarded as a first-hand account.

IDEO's Design Kit describes a variety of methods recommended for design development in the social sector, where the aim of the inspiration phase is to build ideas based on empathy for the users. These methods evolve around engagement with communities and how to understand the needs and desires of the users [4]. The methods of ethnography are typically more in-depth and often focus on full immersion in the community, yet some of the methods IDEO suggest correspond to those of ethnography, e.g. interviews and 'fly on the wall' observations [4]. IDEO also recommends immersion as a tool to see and/or experience activities relevant to the design challenge [4 p. 52]. One can therefore discuss whether ethnographic methods, to some extent, already have been adopted into the research methods of HCD [6, 2].

Participatory observations and direct first-hand information gathering are other examples of ethnographic methods often applied in HCD. Although the tools are described and taught in specific ways, the implementation of them might vary. For example, there are many ways of performing an interview, and depending on the desired size and type of answer, the questions can be made to suit the situation [3, 4, 17]. During the seven weeks in Colombia different techniques within EDR needed to be used in order to learn which methods worked well in-field, whether they needed adjustments, or if they did not work well at all. All of the methods used in the case study had some impact on the research, and provided learning opportunities, although some were more effective than others.

Structured interviews, in particular, did not seem to work well for this research. The set list of questions did not engage deeply enough with interviewees, nor did it seem beneficial to follow the set structure. It also proved to be a challenge to create questions that were not biased in any way, as the questions were developed on the author's basis of knowledge, and in a foreign, unfamiliar setting, this knowledge can be lacking. On the other hand, structured interviews might, in other cases, be helpful as the set list of questions can more immediately withdraw the information that the researcher is looking for. Semi-structured interviews worked well for SME interviews. However, as the author found that informal, unstructured interviews were more fruitful when conducted with users, narrative interviews then became the most advantageous. Muylaert et. al. argue that, in qualitative research, "Narratives allow researchers to go beyond the transmission of information or content, making the experience revealed, which involves fundamental aspects to understanding both the subject interviewed individually as the context in which she/he is inserted" [24 p. 188].

Another challenge incurred was the language barrier in conducting of research, as it affected most of the methods to some extent. As Murchison argues, language is an important aspect of ethnographic research [12] and should therefore be taken into consideration in planning of the research. This was fully considered in the case study, but one can argue if this was sufficient as the author's limited proficiency of the language had a larger impact on the study than first expected.

Some methods were effective without many adjustments, such as establishing context to the study through secondary research. The 'fly on the wall' observation technique was also useful without changing the basic premise. It was simple to implement and, together with a set framework, was a good source of information to provide context. As IDEO suggests with their set of applicable methods, a combination of methods provides the basis of knowledge gathering [4], which seemed crucial for the success of the study.

4.2 Justification - why important to contextualize or not contextualize

Although HCD techniques were well understood, to apply them in-field in a foreign culture, they needed to be re-evaluated against such a different setting. Prior to the case study, the methods had all been learned and exercised at modern, Western universities; a far cry from a poor neighborhood in Medellín. In-field, developers will be designing a solution based on a background different from their own, hence it is important to establish empathy with the users. As IDEO states: "Empathizing with the people you're designing for is the best route to truly grasping the context and complexities of their lives" [4 p. 22]. A key element of ethnographic research is gaining empathy in a new field of study through a wide scope of study, and therefore ethnography can be a good tool for understanding the larger context. IDEO suggests that contextualizing is important for user understanding and further states that "the best route to gaining that understanding is to talk to them in person, where they live, work, and lead their lives." [4 p. 52]. Suri also reasons that contextualizing is important for design research. She states that "Designers need to be more broadly aware of people's goals, aspirations, rituals and values; personal, social, cultural and ecological contexts; the processes and interrelationships between different features, elements and objects within these contexts" [6 p. 41]. Further, she suggests that ethnographic methods are already a part of HCD methodology to understand the users'

needs and challenges, and to tackle the contextualization [6].

4.3 Worth using ethnography in design research?

One can discuss how apt methodologies, developed and studied in first world countries, are when applied in a foreign, less developed country. IDEO.org uses HCD in-field in the social sector and in less developed countries [4], and with Suri's suggestion that HCD already uses ethnographic methods for understanding the users, one can conclude that ethnography is beneficial in the inspiration phase of HCD for garnering empathy.

As ethnography is a research approach, with origins in anthropology, it is a study in its own right and typically has a wide span, in both time and scope. The approach is thorough AND delves deep into the area of study often involving lengthy periods of immersion [12]. HCD aims to learn from and about the users to be able to develop desirable solutions [3], meaning the main objective is beyond the study itself, whereas this is the goal in ethnography. In HCD the time span spent researching is usually shorter and the designers typically center the research around the intended future solution [2]. This stands to reason, as a designer wants to understand the users' behaviors or needs related to it. But as Suri argues, designers need to comprehend a broad range about the users, including activities, thoughts and feelings, and not just what is seemingly closely affiliated with the scope of study. She further suggests that ethnography is an essential addition to do that [6]. By adopting ethnography, designers can learn to see these links between seemingly unrelated aspects; this might still have an important influence on behavior of the users for the use of the future solution. Ethnography can also provide new insights, as IDEO states, "Immersing yourself in another world not only opens you up to new creative possibilities, but it allows you to leave behind preconceived ideas and outmoded ways of thinking" [4 p. 22].

The case study solely focused on the inspiration phase of design, meaning that the results of the study were not tested as the findings were not applied for a further design development. One can therefore not know with certainty the efficacy of the methods used. The findings were all based on first hand research and should not be interpreted as though they are verified facts. According to the methodologies however, they should provide qualified assumptions that create a proficient basis for the inspiration phase of the design approach. In the author's experience, ethnographic methodology was helpful for the preliminary work involved in HDC methods, and for bridging the gap between applying HCD in a familiar setting and in-field; a foreign, unfamiliar setting.

5. CONCLUSION

This article illustrates how ethnography can influence the inspiration phase of HCD. The discussion considers the research methods and how the wider than usual scope, yet high level of detail ethnography reaches, can trigger a broader and deeper understanding of the users for designers. According to IDEO, HCD is premised on empathy [4], and Suri asserts that ethnographic methods can be a key attributor to procuring empathy [6]. From experiences in-field by the author, adopting ethnographic methods into user research is valuable and helps to gain a better contextual understanding.

There are many contributing factors to the performance and efficacy of the methods, and they will not always be the same [9, 14]. It is therefore essential that the designers learn and understand which factors are derived from where, such as cultural aspects, social norms and symbolic values, and how these influence the specific case one is working with. As for the case study in Colombia, it was essential to understand how cultural aspects varied between neighborhoods, and how social norms differed between stratas.

As IDEO states regarding empathy with users; "All you have to do is empathize, understand them, and bring them along with you in the design process" [4 p. 22]. By following Suri and

Murchison, ethnography can lead to a deeper understanding of the users' needs and be used to gain valuable insights [6, 12], which means that ethnography can therefore be an effective tool in making sure that the future solution is desirable for the intended users.

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