USER-PARTICIPATION IN ARCHITECTURAL DESIGN-PROCESS
User involvement in healthcare architecture

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I RESEARCH METHODS IN ARCHITECTURAL EDUCATION

Mapping and case studies are the most fundamental context-led methodologies that are imprinted since the beginning of architectural education. Elements like historical context, green, water, roads, orientation, routing and lighting are familiar definitions that are used to analyze the environment to make a base for architect to interpret and come up with possible findings which can lead to certain design decisions. This of course is one of many example of how we were introduced with methodology in school. Being aware of the research methodology in architectural profession is dichotomous in a way that it eases the design process by creating certain guidelines of how certain elements should be perceived, but on the other hand this 'framing' can also be eliminating numerous options that could lead to an intervention. The chosen methodology influences the design progress and will be eventually affect the final design.

During the lecture series of the research methods, different aspects of research methodology was defined which enriched and specified my concept of research methods, leading into being more aware of what type of methodology I was using and the possibilities of approaches within the methodology. The most eye-opening topic was material culture for me. This was interesting to see that certain projects leading theme was the material that also defined project's concept from the beginning of design process. Material for me was always something that we have learnt to 'attach' at the end of the design process just like 'sustainability'. Also material aspect of the building is something that every user can feel without much explanation unlike 'concept' – which in many cases are set from the beginning without bringing the materiality in design process. It is an aspect that heavily influences the outcome of a project and forms the atmosphere, yet in many cases this is something that is still neglected in design process.

My graduation project is about creating a healing environment for people with dementia. Since this is a topic where the user's needs and opinions are accounted heavily, whether that may be patients themselves, nurses, family or even volunteers, where materiality is an aspect that should be brought into the beginning of the design process. Typology and programming in this case is less significant than the element that triggers senses of the patients. The lack of ability for wayfinding and orientation, makes the materialization one of the most important features since it can trigger many senses – sight, hearing, smell and touch – which contributes to the wayfinding ability for a patient. Also establishing of the right atmosphere, preferably a home-like situation where the amount of stress that a patient receives can be diminished. This also suits to the methodology that is used within the Health@BK Lab, which focuses itself on user-participation, the emic account. [1]

The research question has its focus on vulnerable target group In the Netherlands that are neglected, which are elderly migrants there are currently ageing in the Netherlands. Therefore the research question is : "How can architecture provide a fundamental possibility of aging safely and a socially inclusive life for Asian migrants in the Netherlands?". Since the studio's approach Is based on user-participation this topic can be researched through people there are more experienced and have acquired knowledge that cannot be found in any books. The result thereby will lead to an architectural solution that is based on users experience end will meet their needs and requirements.

II USER-PARTICIPATION IN HEALTHCARE ARCHITECTURE

For a project in healthcare tree, the emic account is much more preferred over the etic account in general. The view of an observer, or a user, from within a culture tells the realistic stories and findings that leads to specific list of requirements that is frequently more accurate than an assumption of a single architect. This means that within the healthcare chair, the user-participated methodology-led research is used. The research started as an investigation of the general consensus about the topic dementia. During the site visit, the explanation about the current state of healthcare facilities were given. There were several elements that caught attention that caused problems within these facilities. Most of these Problems were due to the fact that the main emphasize during the design process were costs and clinical functionality, where quantity seems to be the main consideration rather than quality,[2]

[1] Ray Lucas, Research Methods for Architecture (Laurence King Publishing London, 2016).
[2] MCBF Caixeta et al., "Value Generation through User Involvement in Healthcare Design" (paper presented at the Proc. 21st Ann. Conf. Int'l. Group for Lean Construction (IGLC), Fortaleza, Brazil, 2013).

but still some of the architectural features that were used in these nursing homes were not suitable for the people that live inside these care facilities.

The user-centered approach of the chair uses research methods that starts off with several interviews with the target group and making a short documentary film which is based on these interviews. After taking the interviews, the results (requirement and needs) are translated to architectural features that are going to be used in the final design.

In order to acquire more knowledge to answer the research question "How can architecture provide a fundamental possibility of aging safely and a socially inclusive life for Asian migrants in the Netherlands?" a more thorough context of current state regarding the target group had to be formed. From the stories that were shared, it was clear that the theory that were made from reading the articles and books were different from the reality. The blank gaps in the information that was obtained from other sources were filled in through doing interviews.

Since the chair's focus lies on the healthcare and healing architecture, the user-driven methodology is crucial. As said in the lecture "By studying the praxis of architecture one can develop an eye for the actual users of building, and not the imagined ones". By using this approach, one can not only create a better understanding of the current state, but by involving the users during the design process the adjustments can be made to the liking of the users and the features that might have not gotten enough attention can be worked out in detail.

This method is a praxeological / anthropological approach that is based on ethnographic research that tries to accentuate the unheard voices, because in most of the architectural design process the focus is on the client and not the user. This can be found in the care facilities that are built currently, they usually lack meaningful public spaces, possibilities to create social inclusion or connection and this leads to stigmatization of the elderly that are suffering from diseases. This is clearly an aspect that had not been a part in the designing process with the experts. By affiliating the service and building design, rather than increasing efficiency and reducing the cost, the value for patients can be established as a "bottom-up revolution" in healthcare architecture.[3]

III HEURISTICS OF USER-PARTICIPATING METHODOLOGY

Historically, in the last decennia architecture was focused on representing the imperial, religious or economic power. This changed in the modern era where there was an increased awareness about their social and societal dimension, architecture was made for the public. Since then, a lot of architectural positions and approaches were formed around the interest for the public, whether that may be a peasant, citizens or the suburban masses.[4]

The definition of "public" is often not a well-defined group and it is a "concept that is defined, articulated, and rearticulated in various ways". It is often interpreted as a "social category" which in general would be associated with the working classes, the lower-income groups and the badly housed, and in healthcare it can be linked with the patients and caregivers who are the main users of the building.[5] The definition is an sheer concept that architects assume or think what the public is, and therefore the requirements of the public can be different from the assumption which can lead to either numerous design alterations during the design process, or lead to a waste and disappointment among the users or additional costs to the project.[6]

A typical example of this top-down approach can be found in multiple "care homes" that were established for people with uncurable illness during early 1900's. People that were suffering from mental illness such as dementia were placed in an asylum alongside lunatics, addicts and homeless where they could not receive the care that they needed. People were placed in a room with 50 other people with similar illness, where they were restricted to their beds with no privacy. Daily life of these people had no meaningfulness and it seemed like as if the main purpose for them and caregivers was waiting till the end rather than healing and curing them.

[3] Ibid.
[4] Tom Avermaete, "The Architect and the Public: Empowering People in Postwar Architecture Culture," Hunch 14 (2010).
[5] Ibid.
[6] Caixeta et al.

This situation had changed after the war around 1950 where architects started to think for the "public". They tried to see the "patients" as "inhabitants" with requirements and needs. The improvements included reducing the size of these facilities, adding specialized compartments for different diseases, adding single rooms, improving privacy and diminishing the architectural features of a hospital. An interesting feature here was that the architects made use of colour coding in the interiors of healthcare facilities, which was supposed to help the patients, that were disoriented, with wayfinding. This is an excellent example of an architect making architectural decisions according to assumptions of the patient's needs, because they found out that this approach did not work leaving patients in unfamiliar surroundings leading to discomfort, since colour coding is not something that is usually used in households.

Due to the mistakes that were made, there has been a lot of architectural improvement and findings which opens up a possibility to better understanding of the importance of user-participation in the design process. Mainly in the early stages of the healthcare design process where changes can be made easily, the involvement of users as "experts on their own experiences"[7] often brings tremendous amount of knowledge about the usage of the building making it easier to meet users' needs, expectations, preferences and requirements when the building is completed.

User-participated design process is usually more difficult, to form an interview that can lead to architectural decision making, since the users are usually not familiar with the language and design representations that are used by the architects, which were usually drawings of plans, sections, elevation and sketches in the past followed by renders and models. All of these medium are not perfect and in order to optimize the communication between the architect and the user multiple of these has to be combined in order to create the right image for the user to understand and to be able to discuss about the architectural features that may / may not work.

All of these possible representation has its strengths and weaknesses. For example, a technical drawing might be accurate, but it is hard to read for people that do not work in architectural field and may overlook some details that are crucial. A model contains a lot of information and user can dissect the design in multiple angles, but might not have enough detail and it is physically hard to make adjustments when needed. A rendered image is the easiest medium to communicate in this case and easy to adjust, but it is a singular image from a locked perspective which cannot show everything about a project. Due to the development in technology, there is a new medium that can be used to improve the communication which is the usage of virtual reality.[8] At first, it takes time to adjust and adapt to be able to fully understand, but it has its strength that it is easy to adjust and show different options in various angles. It is a combination of technical drawings, models and rendered images which enhances the effectiveness of communication.

IV REFLECTION ON USER-PARTICIPATION IN DESIGN PROCESS

When it comes to user-participation in design process, there are three forms of involvement : Informative, consultative and participative. The lowest involvement is the informative form, in this case users only bring and take information. The consultative form is the higher involvement where users can remark on a defined design. The highest level of involvement is participative form where the users can influence the decision-making during the design process.[9]

The user-involvement in design also has two approaches : user-centered design and co-design. User-centered design views the users as 'subject' where the architects develop knowledge through observation and interviews whereas in co-design users are considered as 'partners' and have more influence over idea generation, knowledge development, etc.[10]

The research to answer the main question was primarily structured around the interviews with the people that are in the position to share their experience with dementia-care in the Netherlands or people with migrant background that were ageing in the Netherlands. The idea generation has a user-centered approach where I formed an scenario around the interviews and observation along with case

[7] Ibid.
[8] Jelena Petric et al., "Virtual Reality in the Service of User Participation in Architecture," (2002).
[9] Caixeta et al.
[10] Ibid.

studies and literature study. The downside of research that is based on user-centered method is that the research is subjective and not complete. It provides the information that cannot be found in the literature, but the methods loses objectivity when there is limited amount of interviewees.

This is a methodology-led research that is interdisciplinary as well as transdisciplinary since both of the user's and professional's (from the different professional fields) views are needed to get an subjective outcome to compensate the risks of the user-participation methodology.

Another risk of this methodology is based on the famous saying of Henry Ford, "If I had asked people what they wanted, they would have said faster horses". This is true up to certain degree and is an important factor to consider when using user-participation method. This is why the use of tools is important to promote user involvement, since most of the users are not prepared to create the planned outcome through participatory approaches in the design process. The organization of multi-disciplinary teamwork, conversations and iterations enable participants to have a meaningful voice and designers to come up with inspiration for them. When this is not optimized, user involvement does not generate value.[11]

After processing the results of the interviewees, it is clear that the involvement of the care-givers often lead to more information that can aid decision-making since they have experience and knowledge about the operation of the building and the healthcare service pathway. With the results of the interview led by the users that are not care-givers, it is more difficult to make an architectural decision due to its diversity, nevertheless these information provided by the non-professionals can often inspire architects. Conclusively, basing the research solitary on user-participation will not work, it is an form of research method that can enrich a research when combined along other forms of techniques to fundamentally support the outcomes of user involvement research method.

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[11] Marc Steen, Lottie Kuijt-Evers, and Jente Klok, "Early User Involvement in Research and Design Projects–a Review of Methods and Practices" (paper presented at the 23rd EGOS Colloquium, 2007).