An Overview of Participatory Design and its Effects on User Satisfaction

Nastaran Chegini

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Approval of the Institute of Graduate Studies and Research

Prof. Dr. Elvan Yılmaz
Director

I certify that this thesis satisfies the requirements as a thesis for the degree of Master of Science in Architecture.

Assoc. Prof. Dr. Özgür Dinçyürek
Chair, Department of Architecture

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Science in Architecture.

Assist. Prof. Dr. Beril Özmen Mayer
Supervisor

Examining Committee

1. Assoc. Prof. Dr.Hıfsiye Pulhan
2. Assist. Prof. Dr. Guita Farivarsadri
3. Assist. Prof. Dr. Beril Özmen Mayer

ABSTRACT

The architect' job is no longer to merely relying on designing environments for the people who lives in. The necessity of having an interaction with the user in the design process has become an important aspect of architecture. Thus, participatory design may shape the final product in providing better professional service, as well as increasing user satisfaction in the built environment. In this research, it is aimed to overview the participatory design concept, and its effects on the user satisfaction. Thus, the thesis will investigate user participation issue as a solution to the problem of user dissatisfaction in the designated environment. The thesis also aims to explore and evaluate the innovative methods to manage user involvement in the building design process. Besides, it is attempted to discuss to what extent the architect would let the user to be involved in the design issues. The methodological approach in this research is a mixture of methods in both qualitative and quantitative types. The various methods, tools and approaches are examined to unfold the research questions, and some participation methods are reviewed to undertake the further investigation. The analysis of the precedents is based on the study of recent successful projects of participatory methods. Cases are selected from several housing groups in Gazimagusa, North Cyprus to see availability of the concept. They are evaluated according to user categories as occupants, visitors and owners through data observation, questionnaire and interviews. In the conclusion, it has been shown that the user participation concepts are more efficient to overcome the problems, which are frequently experienced by the users. This procedure could be successfully

applied in the design process to clarify and satisfy user needs and to define an interactive dialogue between the architect and user.

Keywords: Participatory design; Participative methods; User participation; User Satisfaction, User Involvement

ÖZ

Günümüzde mimarların işi sadece insanların yaşayacağı fiziksel mekanlar tasarlamak değil, tasarım sürecinde kullanıcıya danışmanın gerekliliğini bu mesleğin önemli bir parçası haline getirmelidir. Anlamlı bir katılımcı tasarım son ürünü şekillendiren kararlar üzerindeki kontrol mekanizmasının oluşturulmasıdır. Bu araştırmada, kullanıcıların tasarım süreci hakkındaki farkindaligi ve profesyonellerden beklentileri tartışılmaktadır. Buna ek olarak, bir yapılı çevre tasarımında mimarların kullanıcı katılımını nasıl yönetebileceklerini göstermektedir. Bu araştırmada, katılımcı tasarım konseptinin tarihsel geçmişi ve kuramsal çerçevesi açıklanarak, kullanıcı-tasarımcı bilgi alanları ve sınırları tartışılmakta ve ortaya cikan olumlu ve olumsuz noktalardan bahsedilmekte ve araştırma alanı tanıtılmaktadır..Mevcut ve yeni katılımcı tasarım metodları tartışılarak, kullanıcı katılımı ve mimar kullanıcı iletişimi gibi tasarım sürecinde uygulanan yöntemler, alan çalışmaları, sonuçları ve veri analizlerini incelenmektedir. Katılımcı tasarım alanında başarılı üç projenin analizleri üzerinden diğer çalışmaların değerlendirmesi yapılmıştır. Kuzey Kıbrıs Türk Cumhuriyeti, Gazimağusa şehrinde bulunan diğer örneklem analizleri ile de katılım konseptinin geçerliliği ve kullanıcı memnuniyeti açısından bakılarak değerlendirilmiştir. Kiracılar, ziyaretçiler ve ev sahipleri olarak üç tip kullanıcının ağırlıklı olduğu farklı konut grupları seçilerek, veriler gözlem, anket ve mülakat yöntemleriyle toplanmıştır. Sonuç olarak görülmüştür ki katılımcı tasarım genellikle kullanıcılar tarafından yaşanan problemlerin üstesinden gelmek için iyi bir yöntemdir. Bu yöntem tasarım sürecinde kullanıcının ihtiyaçlarını netleştirmek, kullanıcıyı tatmin etmek ve mimar ve kullanıcıyı ortak bir paydada

buluşturmak için kullanılması gereken önemli ve zaruri noktalardan biri olarak tesbit edilmektedir.

Anahtar kelimeler: Katılımcı tasarım; Katilim yontemleri; Kullanıcı katılımı; Kullanıcı Memnuniyeti, Kullanıcı dahiliyeti

To My Parents

(Mohsen and Azar)

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I would like to thank my parents, Mohsen and Azar, my sister Yasmin and my two brothers, Abtin and Arvin; and everybody who has believed in me, supported me and put up with me until this stage of my life. The path I followed has not been easy.

I would also thank my supervisor, Asst. Prof. Dr. Beril Özmen Mayer for her significant contribution to this work. Finally, I offer my special thanks to my lovely friends, Leila Mikaeely and Faeze Afshan for their genuine friendship.

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INTRODUCTION

1.1 Problem Definition

It has widely been accepted that an architect can't design a building without having a series of communication with the actual user. As a matter of fact, the necessity of consultation with users in the design process has become an important part of this profession since the 1960s. In participatory experience we switch our concentration from architects to users as vital components of the design process. Participatory design can be described as a controlling act over the decision making without denying the architect's significant role in the design process. At the same time sharing ideas with the user becomes more reliable and a democratic way of designing.

Most of the designers claim that it would be less annoying and less expensive if that interaction does not take place, believing that in most of the project, applying user knowledge and preferences to the design proposal is worthless. As far as housing plays an important role in people's lives, it affects new tendencies of development in participatory design. Additionally, user dissatisfaction has been identified from the user's reaction to housing complexes in the history of architecture due to realization of designing a building without any user touch. The user satisfaction issue is now a new concept which shapes the democratic trends of housing design on the bases of the human capital and human rights as well as an ethical issue in our age.

One of the major problems of user participation in the design process is the complexity of this issue. On one hand, ordinary people usually do not have a good comprehension of professional vocabulary, roles and methods and are generally unaware of design regulations and standards that should be implemented in the design process. Thus, this causes the designer think that potential users' involvement occurs as inactive subjects in a passive mode.

On the other hand, because of the time pressure, many architects are used to designing without any consultation with the end-user in their offices. This reality emphasizes an excessive power in the hand of designers that user requirements cannot effectively address. In fact, it will become more obvious in public spaces where it is more difficult to adopt the design concepts according to the public's interest if there is no user involvement in the process.

All these factors create a conflict between the architect's values and user expectations of the built environment. This causes doubts on the type of method that would work better for user and benefit them more during the design process.

In this thesis, the author tries to explore the effective and actual methods to practice user participation issue in the whole design process due to being as an appropriate solution for the user dissatisfaction with the built environment. In addition, the awareness of the users about the design process and their expectations of professional services are to be discussed. Lastly, tools and techniques are to be examined to understand how architects can manage the user involvement in the designing of a quality building environment.

1.2 Aims and Objectives

As far as we know, designers are the gateway for bringing millions of users into the construction industry. It is incredibly significant to examine, how user participation affects user satisfaction, and how architects can manage user involvements in the design process. Finding appropriate answers for these issues above thus become the aims and objectives of the present research.

The main purpose of this thesis is to investigate user participation issue as a solution to the problem of user dissatisfaction with the built environment. It also aims to explore and evaluate the available methods to manage user involvement in the building design process. In other words, it attempts to find out to what extent the architect would let the user to be involved in the design process. As a matter of fact, awareness of current housing problems could help them to design according to the user's needs in a more realistic way.

1.3. Methodology

This research uses a mixture of methods in both qualitative and quantitative types of research. In this section, the methodological approaches, which have been used in this research are introduced. We use some theoretical approaches to unfold the research questions and to understand the applied participation methods.

The analysis of precedents and three case studies in chapter four will be based on evaluation of successful projects with user participation, which aimed at detecting if any relationship and availability of participatory approaches and its effects on the user satisfaction may exist in the North Cyprus built environment. These precedents have

been selected from the recent examples from European Countries where the democratic tradition to adopt participatory theories and implementations are still in their agenda of approaching the citizen issues. The first two projects are selected from Denmark. The first one is a municipal project, the new Town Hall in Hillerod City, which is sponsored by Arkitema Architect Company, the second one is Mikado House Project in Orestad, Copenhagen. The last case is taken as an example from France; Le Fauvelles Social Houses in Courbevoie town. Although these precedents have different conditions from each other by design and implementations, construction and structural perspective, they have a common essence of the participation concept.

The case studies were selected from three examples of residential houses in Sakarya Quarter in Gazimagusa City in North Cyprus. As stated by Kernohan et al. (1992) there are three main types of users; occupants, visitors or guests and owners. He claims that these groups should be observed and interviewed separately for better results in the view of participative methods and user satisfaction issues. According to this approach, Hasan Hoca 2 and Hasan Hoca 3 Apartment Blocks have been chosen for the visitor group example in Aladag Street. As the owner group focus, Social Houses building has chosen with the typology of single family row / terrace houses. Finally, as the occupants group example, Social Housing Apartment Blocks have chosen in the same district with other cases because of having the same environmental conditions.

While the population of users consists majorly of the young people, mostly university students who live in Hasan Hoca apartment flats in the visitor group, the population of people who live in the social row / terrace houses consist of the middle aged and elderly people (most of whom are retired). In the social housing apartment blocks, the inhabitants, as the occupant group, are the middle age people by the random selection.

This methodology is constructed in order to find an appropriate answers to the following questions:

- How can we generate a successful connection between the end user requirements and architectural design? (The Method)
- How can we transform the results of the participation activities into successful format of the architectural design process? (The Product)

The data collection for this research involves a process of personal observation of the case studies, collecting information by asking a set of structured and undisguised questions as a sample of individual user requirements and their satisfaction from the built environment. The last method is a face-to-face interview with the architect with open ended questions. These methods were selected according to their suitability for the research requirements and each method addresses a different research question. The questionnaires are prepared as multiple choice types in English and Turkish to find out if the design met their expectations. They are distributed between 90 people randomly to avoid any bias in the participant's responses. By these questionnaires, the researcher tries to capture the users' perception of their built environment.

1.4. Limitations and Further Remarks

There are some limitations which impact on the findings and results in addition to answering the research questions. Likewise, although the participation movement has survived since 1960, this research focuses on the recent developments at the new Millennium. Hence, this study attempts to introduce the user participation issue as an effective orientation for the designers by clarifying general principles and describing

existing methods and techniques in the late developments excluding the known and traditional methods of participation.

Another criterion for limitation relies on the selection of the place of precedents, which are mostly from Scandinavian countries, but European generally. Because, first of all, they have been pioneers of democracy and user centered approach, and these notions are still stronger in these countries in last decades. Therefore, the author tries to bring some successful examples for public uses from the literature.

In Cyprus case studies selection, the focus should be on the residential buildings due to there is no option to cover public buildings. On top, the population of the experimental participant group does not cover the majority of each user group. Since the content of the questionnaires is designed in a way to obtain the requirements and expectations of only occupants groups, it cannot provide absolute results and conclusions for other cases like owners and visitors. Another important issue is that the users' answers had a higher level of objectivity, for the reason that the author provided extra comments in the face to face process of filling the questionnaire and in the interviews.

The participatory design research needs a great amount of time due to the whole design and construction period of the building. Because the design participation processes normally have three phases: first - in the design process, second - during the construction process and third post-construction and post occupancy or use period. It was not possible for the author to engage in the whole three phases of the design process because of the time limitation. Therefore, the focus of this research is on the prior stages of the design process by integrating useful knowledge on the user participation if any in the post occupancy period.

Chapter 2

USERS AND DESIGNERS: TWO DIFFRENT CULTURES

The architects are responsible for designing a better place for the people to live in. The common point of both clients and architects is seeking to satisfy the user's needs. Therefore any design proposal should meet a specific range of needs and requirements. The users may find some difficulties when they want to use a facility and they blame the architects who are the guardians of the aesthetic quality for this, but in return the architects claim that the users should be educated in a way which leads them to correctly perceive architectural space quality and related facility so that it could work properly as it was designed. In the Figure 1, we could see the heavy walls between the user and architect side which shows the cultural differences between these two groups.

The mismatch between what facilities are needed and which ones could be delivered depends on designer's concept creates a conflict in both sides. This conflict is mainly between the academic theory and practical ones. .

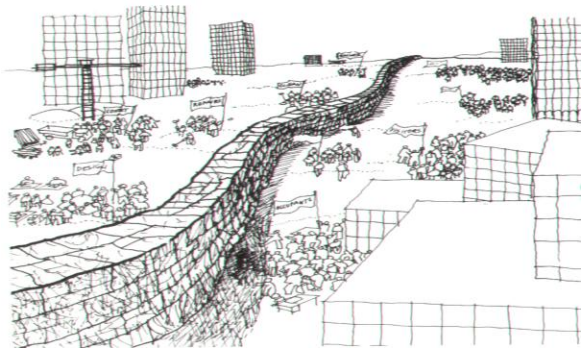


Figure 1: Users and Designers from Two Different Culture, (Kernohan et al., 1992)

Table 1: Comparison of the main diffrences between users' and designers' attitudes and expectations, (Kernohan et al., 1992)

Attribute	***Designers***	***Users***
Quality: what makes a good facility	Formal and technical qualities and properties of a facility as an artifact, e.g. how it 'looks', or how assured 'the idea'	Relation between a facility and activity, e.g. how it 'works' in relation to intended activity and perceived needs
Finance: who pays, and (as perceived) for what	Receive money (directly or indirectly from users) for technical or professional advice/services in provision and maintenance of facility	Pay money (directly or indirectly) for using facility
Market forces: roles, values	Supply-side role. Increasing competition with other suppliers, but still a tendency to wait for demand to make itself known	Demand-side role. Gradually increasing a critical outlook in a 'buyer's' market, but still tend to take what is offered
Activity in relation to Facility	Work on facility: work/career exists because of facilities	Work or live in or with facility: facility exists because of work or other activity
Reality: view of the 'real world'	View of reality acquired and maintained through professional training, associations and traditions, resulting in specific and predictable way of thinking and acting	View of reality based on direct experiences in operating in facilities; little or no formal training or knowledge about facilities; see facilities as 'background' to daily operations
Language	Technical: often jargon; narrow, precise vocabulary	Non-technical, loose, diverse, idiosyncratic
Knowledge base	Received, formal, documented; combination of education and professional experience	Experiential, informal, not documented
Perceived value of own and others' knowledge	High value attached to own knowledge and experience: 'we know best'; low value attached to users' knowledge	Low value attached to own knowledge and experience; moderate or high anticipated value attached to providers' knowledge: 'they must know best'
Self Image	Confident of value and correctness of own views and knowledge; self-image of 'expert'	Uncertain of value or correctness of own views; defer to 'experts'
Power to decide what is provided, to what quality	Considerable, derived through direct action, assigned or assumed authority based on expertise	Minimal, almost no participation in design decisions during the delivery stages of a facility; power limited to 'take it or leave it' points of decision

As it is indicated in Table 1, Kernohan et al. (1992) compare the main differences between the users' and designers' attitudes and expectations.

Generally accepted definition of culture might be applied to the user-architect relationship on the famous anthropologist Patricia Laing (1998)

> A culture can be simply and usefully defined as a system of shared understanding of what words and action mean, of what things are really important and how these values should be expressed. These understanding are acquired in the process of growing up in a culture and most become so thoroughly internalized that we cease to be aware of them, coming to think of them as natural or at least second nature in not only the right but only conceivable way to doing things, identifying our way as a human way. (Kernohan et al, 1992, p. 16)

As expectations and intentions are constantly changing between the users and architects, the social experiences are being modified and changed over time as well. Due to this fact, the negotiation between the physical elements and different behaviors in the built environment resemble to moving a big rock with bare hands. According to this sharp metaphor, it is useful for the people to collaborate with users in the process as a way to generate and share knowledge and experiences about behavioral conditions and changes. The benefit of this collaboration to establish a qualitative negotiation between both users and designers and it works better than isolating the process from the users and ignoring the synthesizing solution process (Kernohan et al, 1992).

2.1. User's Knowledge & Experience

In a general definition, the users are individual groups who use the built environment and they placed inside of the demand group. The architects are in the supply side, with traders and landlords. In between of users and Architects side, there are groups like facilitators and authorizing managers (Figure 2). User group could categorize into three

main categories. First group is occupant, the people who temporarily or permanently occupy the building. Second group is visitors, who are the temporary user group uses the facility on a regular basis. These types of occupants are identified as "passing through" groups who may use the facility for uncertain times. The third group, owners, who may or may not occupy the building. What is significant in this group is their financial interest with the building facilities. In other words, they are providers of the facilities (Kernohan et al, 1992).

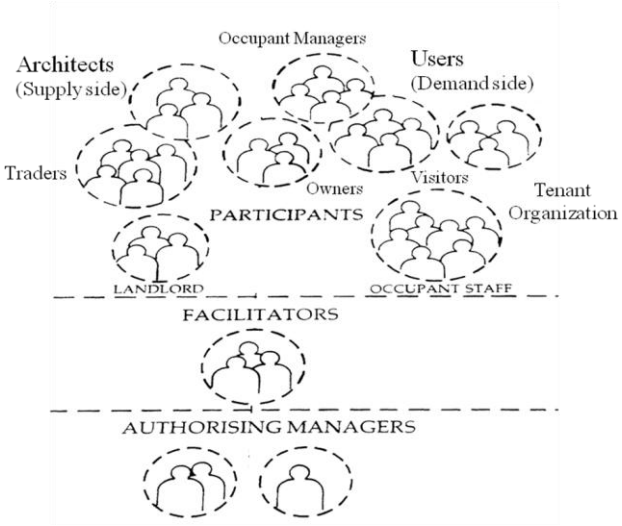


Figure 2: Categorization of different users and providers, (Kernohan et al., 1992)

The users obtain their knowledge of the buildings through experiencing them. Their knowledge is based on living and working in those buildings and they have direct interaction with the built environment. They respond to building's environment in physical, emotional and rational ways.

Table 2: Levels of Cross-Cultural Awareness (Holmes, 1989)

	Process of Awareness on the Presence of other Cultural Group	
Stage 1	**Transition 1**	Someone opens our eyes to what is happening. This is usually sparked by an event of strong import an impact.
Stage 2	**Beginning**	Cultural group or individual is at a state of awareness that its culture dominates (or is subordinate). Among dominant culture, may be accompanied by denial of responsibility for the actions of people from the same culture that has gone before (the parents and grand- parents). People in weaker culture become aware that they are less powerful, but have potential for power.
	Transition 2	Know self: primary identity with own group or self.
Stage 3	**Conscious**	Consciously and constantly aware of cultural differences; decision to learn about others' culture. May result in a sense of excitement, plus denial, rejection, sadness, feeling of powerlessness, anger, or pain.
	Transition 3	Learn to value cultural diversity; recognize that all cultures have some ways of doing things that need to be changed
Stage 4	**Consolidated**	Committed to working towards a better understanding among various groups, and methods for achieving sought. People who reach this stage may find themselves in a quandary they work to strengthen their own culture, or the other(s)
	Transition 4	Primary identification with human kind, rather than own culture.

As Holms (1989) articulated four stages of cross cultural awareness, there are some hidden skills like negotiating, active listening and thinking in this process. It would lead both sides to compromise or persuade and adapt to the other's position. (Table 2)

Wayne At toe (2001) suggested that people's every response to the environment is a form of criticism or evaluation. It is a kind of experimental knowledge which is concerned with the close and direct realities of one's situation. Although for most of the architects, user's knowledge is not systematic, ordered, necessarily rational, and not adopted over time but it provides a rich resource for designers.

People's experiences have the potential to become a source of inspiration for the designer. The more people use a facility, the more become familiar with that environment. Therefore direct interaction with the physical setting of the built environment is gained through user's day-to-day activities with basic functional issues. The questions will be: how the designers able to access this information .There are ways to achieve this implicit knowledge. The architects can watch people's daily tasks and activities; listen to them to able to uncover their knowledge, perception and experience. In fact, they may learn some clues on the users' cognition of the place (Figure 4).

For instance the types of information which are gained through Lindsay's (2003) pyramid of user-led design, proved the idea of treated users as valued colleagues during the design process. The departure point is representation as Lindsay (2003) introduced it as an "I methodology: design for ourselves."

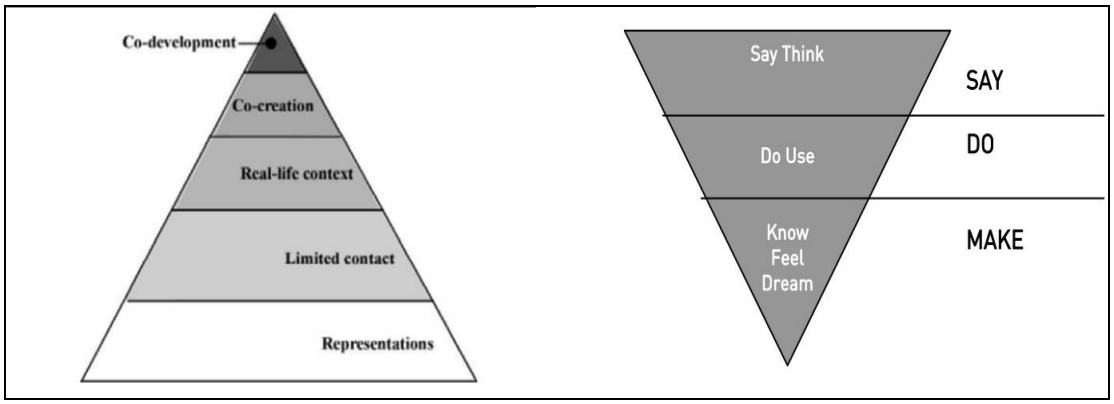


Figure 3: Pyramid of user-led design, (Lindsay, 2003)

Figure 4: Hierarchy of users research's tool, (Sanders, 2002)

This method helps the designers to imagine users from their perspectives and experiences. From the lowest level of the pyramid up to the top, the level of user involvement increased more and more through some ethnographical observations and short informal conversations with the user (Figure 3).

Table 3: Composition of Participant Groups, (Kernohan et al., 1992)

HOMOGENEOUS GROUPS	Each group is composed of people with similar experiences with the facility and similar interests and values. Discussions tend to be harmonious and convergent. People speak freely, 'within these walls…' minimal attitude change with respect to other groups, and no opportunity (during the evaluation) to negotiate. Process requires only basic facilitation skills.
HETROGENEOUS GROUPS	Each group is composed of people with different experiences with the facility and at least some different interests and values. Discussions tend to be constrained. People with power tend to dominate. When differences become explicit, this can lead to conflict, position-taking, or both. Opportunity for negotiation, increased understanding, compromise agreement and changes in attitude. Process requires advanced facilitation skills.

Composition of user groups in participatory design may give conversional results. The large and diverse user groups could be more representational. It could arise more discussion about the user's daily activities. On the contrary it is an easier job to work with the homogeneous group which consists of the people with the same preferences and experiences because they have common requirements. However, working with the heterogeneous groups which have mixed interests is a tough job because it is not easy to focus and be confrontational on their requirements (Table 3).

As Attoe (1978) claimed, any user's response to the built environment counts as a criticism. It includes intellectual, physical emotional senses, and it is subconscious. For instance, the smell or the color of the spaces or warm and cool ventilation of the environment could affect these responses. It is a kind of knowledge which is gained through the direct realities of the user's situation and it is completely different from abstract design theories. Nardi et al (1999) defined the participatory design as an invisible way for the people to express their everyday tasks and activities and as a beneficial way to reach the tacit knowledge whiles they doing their daily activities. (Spinuzzi, 2004)

According to Steels (1973), the user's experience from the physical environment can be categorized in six different groups: 'Security and shelter', which indicate avoiding from unwanted stimulus actions in surroundings. 'Social Contact' which indicates the type of facility and space organization allows the users more social interaction. 'Symbolic Identification' is about each setting, which sends different massages about what type of user groups or organization lives in the specific environment to the outsider. 'Task Instrumentality' includes the equipment and facilities for different issues. Pleasure' indicates the level of user satisfaction which each space gives to the users.

Growth is about the capability of each space for flexibility and change. According to these categories, the architect can provide a summary of required needs which consists of the layout and plans of the building, a description of the facility, important dates, events, decisions and costs from the user experiences.

2.2 Designer Knowledge & Social Responsibility

There is a dichotomy between two perspectives which count the architect's product as a piece of art or perceive it as an ongoing process of change. We usually hear some story about how architects are dissatisfied with the users who apply a great deal of changes to their creations according to their needs. This difference between "the process perspective" and "the piece perspective" in architectural production seems as a concrete difference in this area (Valand, 2010).

The architecture profession includes two basic principles; the first is to embody a specific emphasis on artistic dimensional manner which is obtained through training and education and the second is to be aware of social dimension of the user groups. The first principle could inhibit perspective of professionals who believe that art is a kind of private practice rather than a collective activity. However, the second principle will be relies on the architect's social vision, especially the method of involvement with the user groups becomes more significant, because it is a belief for an architect, who considers the social dimension during the conceptual design stages when he could achieve more effective and appropriate design (Granath, 2001).

In most of the projects, the architects make their decision according to their personal and practical experience or they apply the consultant's information to their design

concept, but they still face some difficulty for solving some of the design problems according to user needs (Garrigou et al, 1995).in this situation the architects find themselves trapped between the client and his\her obligations. Besides, even a successful architectural firm should be able to negotiate with the outside market forces. It is assumed that the best way to deal with this problem is to try to work with various user groups. Then, the architect may we should prototype and visualize the participants' imagination and ideas. Through this process, we both improving the skill of embodying the users' ideas into a project and find beneficial possibilities instead of designing one size fits all, therefore different solutions might be possible. Thus the result has become more highlighted, especially for architects who design for public uses (Sui, 2003).In order to design an inclusive and user friendly environment, the architects need a key to understands the users' needs and preferences (Lee, 2006).

The architect's social responsibility is generally defined as a meaningful balance between a requirement and a supplement which conflicts in "the traditional relationship between training, knowledge and market contributes to form an ideology. Ideologically, professions are bound in a social contract with the public they retain certain rights and privileges in society in return for bearing certain responsibilities" (Cuff, 1991).

In most cases, this certain responsibility does not respond correctly to such an ideological concept. Moreover, he pointed out that there is a great difference between architect's profession and the visual artist's profession. As in arts, there is a clear boundary between a piece of art, artists and artistic institutions. Moreover, there are some ongoing debates all the time which present the artist as an independent individual. However, in architecture, it does not seem that much easy to keep control over this

profession's territory because it is substantially occupational and challenging (Valand, 2010).

Conclusively the values are folded into two major ones, which directly affect participatory design. The first one is the concept of the democratization as a rational and social idea that leads the users' participation into a legal and appropriate process. The other one is to discover the tactics of participants and bring them to play a role in the design process (Ehn, 2002).

2.3. Dialogue & Barriers in User / Designer Interaction

Design participation could be an ideal solution for collecting different problem solving proposals, simultaneously a way of professionalism which appears in architectural process as well. Benham (1972) declared that, "professionalism is a way of organizing competence of getting certain specialist skills with a condition where they can aid the rest of the society. Professionals are trained to be problem-oriented."

He also explained the design participation as a tactical way rather than strategic way, in which the designer's role is like a free agent who carries special skills and knowledge of design. He also introduced design process which is motivated by people. This type of participation is about the user's autonomy in the whole process. There are no fixed rules in order to make this participation game more interesting. He called it a kind of participation with "the alternative culture".

It is obvious that the architects occupy the position in design process as authority, and then the power appears to be equal between the experts and the users. According to the Habermas's collaborative theory, which was explained by Allmendinger (2002), even

the professionals' power should be bracketed; therefore, the facilitator allows the user groups to join the design discussion in a meaningful matter.

Although the architect's existing skills are the source for the design process, but as a complementary factor to motivate the users, he needs some social science knowledge to be able to communicate with the users and figure out some facts about their living conditions (Ehn, 2002).

The requirements for users' preferences are defined as what they like or dislike. Meeting these requirements is related to the characteristics of a building, its close surrounding and various components. The user is expected to clearly describe these at the starting point of a project. The bobble diagram in Figure 5 is the brief description of the user-architect relationship. From the left to right the direct interaction happened through dialogue then according to the design guidelines which extract from the conversations between user and architect the participation process occurs.

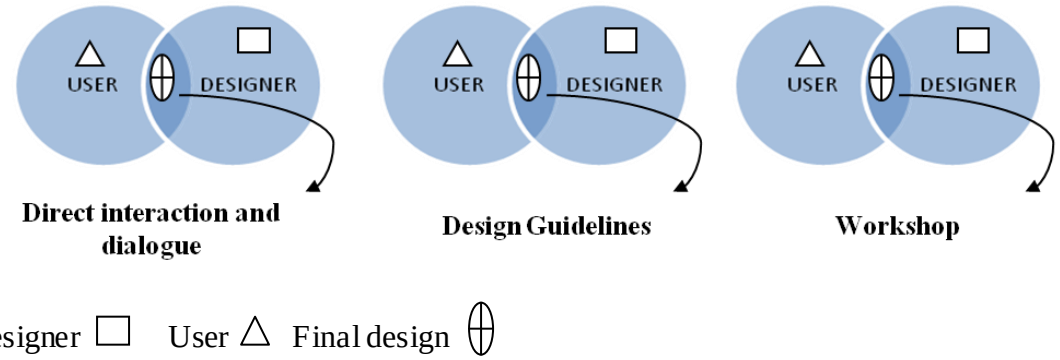


Figure 5: Graphical representation of user participation process, (Kile et al.,2004)

The user-architect relationship discussion brings up one important question about what kind of architectural element is needed to track the experimental data from the

users. There are some basic factors which attract the user's interest like special materials and different colors, but in order to have a strong sensation about these factors, a designer should deal with the real experience of the built environment and do some functional analysis instead of sitting by the computer screen and drawing with different software in the first place (Plank, 2010).

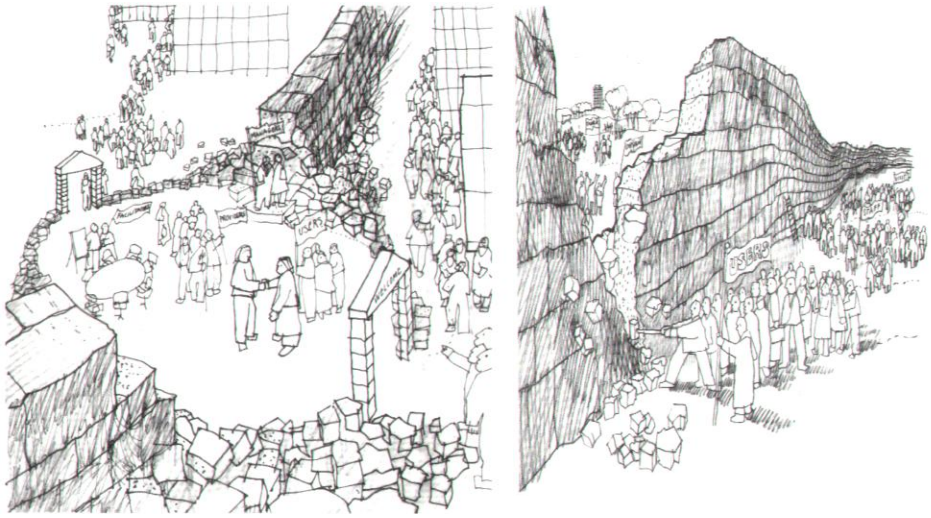


Figure 6: Linking the user's and designer's knowledge, (Kernohan et al, 1992)

According to what Alexander (1979) said, "A building or a town is given its character, essentially, by those events which keep on happening most often." He explained that the specific social pattern or activity in a built environment could determine the structural and geometrical order of that environment. He also claimed that, "the architect design is something that its inhabitants directly interact with and live in."

Also, Barfield et al. (1994) stated that, "like the architect who views a building as an environment that defines certain potential behaviors of those who go there, the interaction designer focuses on behavioral patterns on the way these patterns can shape

people's live" (p.70). It is not necessary for a designer to depend on all existing theories. He could establish totally different theories for himself in specific projects.

As Metzinger explained that every conscious system operates with globally available information with all information that is associated with an internal and a dynamic model of the world (Metzinger 2003, p. 169). The relationship between the designer and user could be similar to the subject/object relationship model. In this system, the architect is portrayed as a subjective outcome of human perception. It would influence the classical definition of the user and turn it into a unified and real fact. As Metzinger (2003) said, "if a world appears to you, you are conscious."

According to Lee (2006) social spatial concept, we could categorize spaces into three groups: abstract space, concrete space and collaboration space. The abstract space belongs to the designers who could open up for the end users during the design process. The concrete space is the environment in which the users live and experience the real world. It is a kind of physical environment which is created by the planners and architects. In other words, design artifact is the product of abstract space (Figure 7).

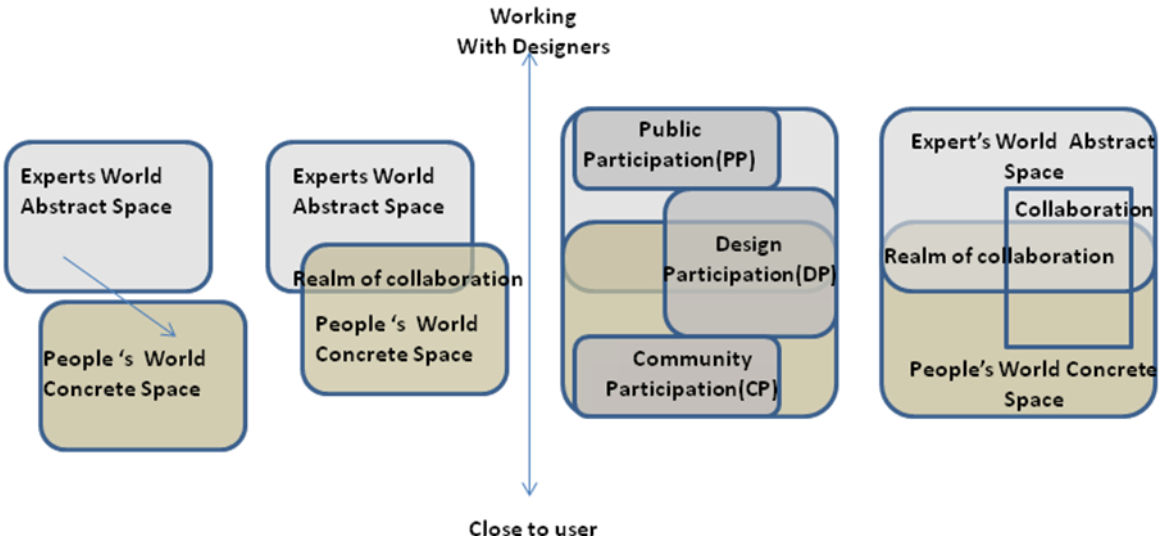


Figure 7: Evolution of the analytical tool for design participation, (Lee, 2006)

For a designer, the most beneficial part of using the general evaluation process of the building is not the information gathered from other resources, but the experience of learning from the views of users. The user's knowledge is obtained from working and living in the built environments. In the other words, it is based on their experiencing and physical interaction in the building's environment in both rational and emotional ways. It is called the experimental knowledge gained through realities of people's situation. Therefore, it is obvious for a designer that in order to gain this knowledge, he should focus on user more than the built environment because the built environment is just an entity of a space without life. In fact, when we mention a space as a living space, we should consider it as a live-in space (Plank, 2010).

It seems a tough job to catch the appropriate level of participation without defining and identifying some boundaries between the client and architect. The boundary objects should structure according to important factors like flexibility and commonality. The users mostly have problems in conceptualizing and articulating their desires even for themselves (Ehn, 2002).

The architects formulate their preconceptions of their design's ideas after a few interviews with the end users. It is one of the important professional skills for an architect to combine his preconceptions and design solutions in the back of his head with good ideas from the user groups and put them into account in a respectful manner (Granath, 2001).

As Figure 8 shows us, there are three groups of people who participate in the design process: participant, facilitators, and managers. The participants represent their different preferences and evaluate the building's facilities. The facilitators help them to evaluate in

an efficient way and the managers are the authority who makes evaluation possible. They are not generally concerned about people's activities.

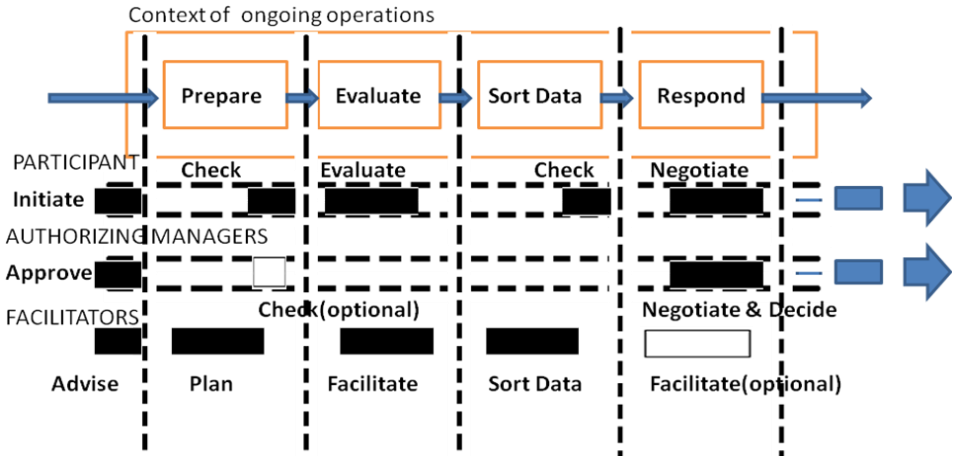


Figure 8: The ongoing process of three groups of participant, (Kernohan et al, 1992)

The linking process of user/designer knowledge could sum up in three main steps. The first part is introductory meeting in order to formulize the users' wishes, then the touring interview occurs which contains of visiting the building site and the last part which is review meeting is the step which architect combine his conceptual design ideas with the good ideas of the user group through the evaluation process (Figure 9).

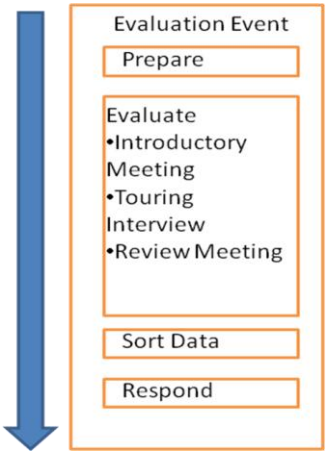


Figure 9: Generic linking process of user/designer knowledge, (Kernohan et al., 1992)

The introductory meeting occurs when the facilitator and participant meet each other and they explain about the evaluation process for the users. The participant tries to raise his priorities and then, starts touring on the site. In the touring interview, the participant groups visit the spaces which they interest more during the introductory meeting.

In the review meeting, the beneficial negotiation between the facilitator and user takes place and they formulate and agree on some points and they form the most essential recommendations for the actual design in Figure 10 we see the graphical explanation of each step (Kernohan et al, 1992).

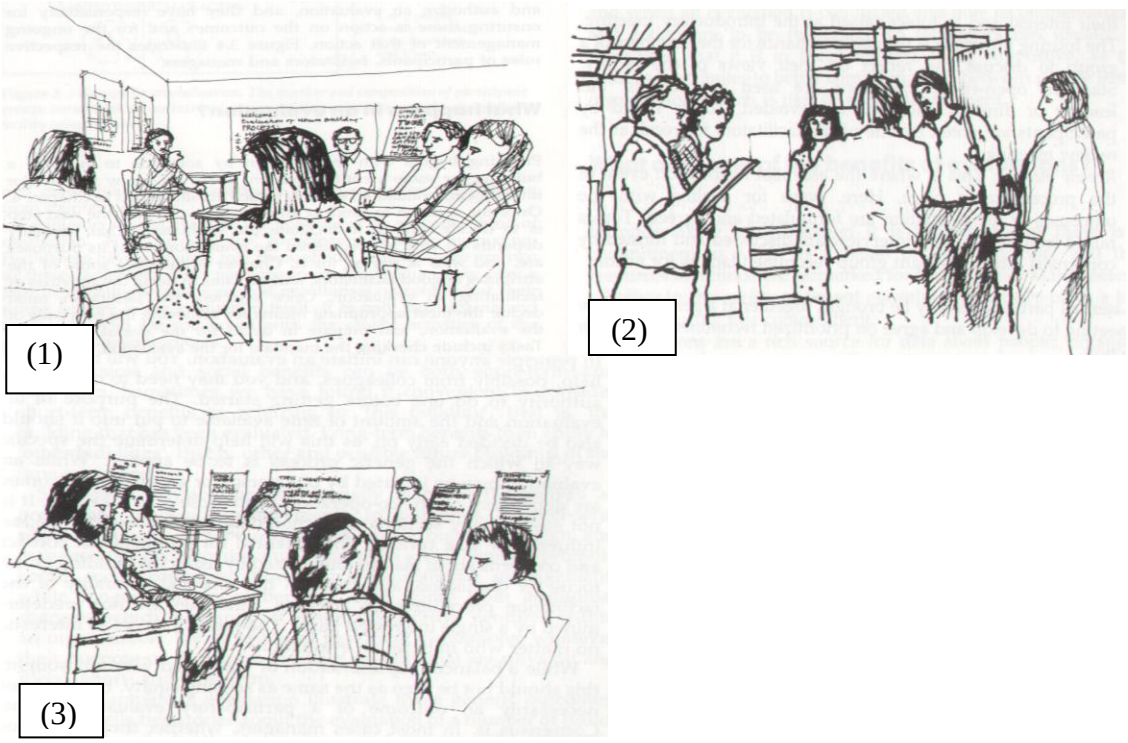


Figure 10: (1) Introductory meeting, (2) Touring Interview, (3) Review Meeting, (Kernohan et al, 1992)

2.4 User Satisfaction

The theories dealing with the built environment usually focus on the "process – how it is created and supplied – and/or product – how it functions once it has come into existence" rather than the building user (Vischer, 2008, p. 232).

According to Vischer (2008), this is because of "the difficulties of measuring human behavior and the limitations of conventional social science research in the practical context of planning, designing, building, managing and occupying buildings" (p. 232). Therefore, "design participation theories have tended to be located somewhere along a continuum ranging between a deterministic definition of the environment–behavior relationship, and one that minimizes the impact of the built environment on users" (Vischer, 2008, p. 232). This "theoretical polarity" is illustrated in Figure 11.

Figure 11: User-centered theories of the built environment, (Vischer, 2008)

Determinism is based on the idea that the built environment determines the users' behavior. This paradigm deals with how different aspects of the built environment from its location to the smallest architectural element affect human behavior. Although it

seems to involving the user, ignores the fact that the users can have an active role in their interaction with the built environment.

Vischer (2008) believes that "the environmental determinism argument continues today in the ubiquitous form of user satisfaction as an outcome measure" (p. 232). Whereas it draws on the stimulus–response logic of experimental psychology, it considers user satisfaction as a "meaningful and measurable behavioral response to features of the physical environment" (ibid). However, it does not care about the nature of satisfaction or dissatisfaction with the building environment.

The opposite pole which is social constructivism is based on the idea that "the human experience and therefore reality is entirely socially constructed and exists as a function of social and biological influences" (Mead, 1962 in Vischer, 2008). Here, human behavior is the result of "learned social norms and patterns" rather than "the physical environmental context in which it occurs" (Vischer, 2008).

The problem with social constructivism is that considering the results of the numerous existing research studies dealing with the built environment, we cannot ignore the influence of the built environment. As Hillier (2008) puts it,

> Concepts such as defensible space, territoriality, space syntax, neighborhood, and personal space are part of architectural language today, and the vast accumulation of studies of use of the built environment over the past 50 or so years bear witness to the widespread belief in the importance of our relationship to built space.

Although the two above-mentioned extremes are unrealistic, any design participation theory can be put somewhere in the illustrated continuum. On the one hand, the built environment influences rather than determines its user's' behavior. On the other hand, the building users' behavior is affected "by their feelings, intentions, attitudes and

expectations as well as by the social context in which they are participating" (Vischer, 2008).

Marans and Sprecklemeyer (1981) indicated that, "objective attributes of the particular environment have an influence upon a person's satisfaction through the person's perception and assessments of those environmental attributes" (in Altaş & Özsoy, 1998, p. 316). Furthermore, their model suggested that, "a person's behavior is influenced by satisfaction, the perception and assessments of the objective environmental attributes, and the objective attributes of the environment itself" (ibid).

Some researchers have studied how the user's behavior is affected in certain spaces. The users "spatial behavior" has to "meet requirements, and changing/adapting behavior occurs when there is need to change the existing unsatisfactory situation" (Altaş & Özsoy, 1998). Perin (1970) stated that, "the more changes in the environment, the more suitable the environment will be" while Brolin (1968) believed that, "too many adaptations made in the environment indicate that the environment is far from being satisfactory for the requirements" (Altaş & Özsoy, 1998, p. 316).

In the design participation approach as Roger et al (2007) explained, the main force should be users' preferences and activities instead of limiting them. In the starting point of the design process, it is necessary for the designer to figure out about the users' daily performances and tasks; he should also explore the users' experiences besides their characteristics and pay attention to these factors.

The users' experiences should be documented in order to help the usability of the built environment and the design concepts should be experienced by the users to meet their needs and get some feedbacks (Johnsson, Fröst, Brandt, Binder& Messeter, 2002).The usability issue is a critical element in user participation criteria. Although it

becomes more complicated from case to case, it becomes a secondary concern after user interaction in this area (Salvo, 2001). Usability is a valuable process of adopting a design scenario through the user's eyes and delivers it to the user with appropriate technologies (ibid).moreover it is a fundamental object even in the expert-centered approach because even in this kind of system, the awareness and social interaction of users have a significant influence on the design process.

The architect's role is to have a better understanding of the usability of each design idea and translate it to various principles and prototypes. A good design is often improved through repetition which means using the results of a pattern or prototype evaluation. Although during this evaluation, some new problems will appear, this iteration will improve the design quality and it approaches more towards a design which meets the user's needs (Johnsson, Fröst, Brandt, Binder& Messeter, 2002).

After evaluation the next step is about scenarios and concept sketches for the design development. Even during this stage, the designer may or may not repeat the usability test through the users again. All these efforts try to overcome the challenge of visualizing and anticipating the use before the actual usability that has been taken place. Most of the users' preferences are defined as a layout for the projects; moreover, most of the stakeholders are involved in the design process instead of the actual users. Therefore, no matter how much they participate to visualize, the use of the building would be hardly a substitute of the actual use. However, it doesn't mean that the architects should give up on the participator's ideas and stop envisioning the use of the built environment before the actual use (Ehn, 2002).

The users should have the right to alter design decisions and change them according to their preferences and needs and the designers could make this happen firstly, by

encouraging them to participate and express their priorities in design process and secondly, by creating some specific gaps for end users and helping them to fill these gaps up. The gaps which the designer leaves behind can be defined as flexibility (Sui, 2003).

It should be considered as a challenge to bring more flexibility to their design concepts. Even the architects should use appropriate design devices which have the tailor ability according to the users' needs in addition to putting a specific consideration to extending or fitting them according to the variety of individual needs and desires. In other words, we call it an unfinished design (ibid).

The design participation's agenda is more about shifting the designers' perceptions to 'process-oriented' instead of 'object-oriented'. In other words, it is a movement towards more 'costumer orientation' rather than 'producer orientation' which highlights participatory agenda nowadays (Granath, 2001).

Paul Alder and Terry Winogral (2008) defined it as a process of shifting from the expert-centered to user-centered.it is the way which lets the users to feel that they have the control of the whole design process and is regarded as an important source for receiving information by the designer. By setting up the users' experiences as the main source, the architect is able to design the building environment for experiencing.

To sum up, the user-centered design process is about collecting data from the users and making them deliverable to designers. It puts the user to a closer contact with project's architects and pushes the boundaries of design and usability and has a direct influence on the level of user satisfaction (Salvo, 2001).

Figure 12: User Participation Effects on User Satisfaction (Author, 2013)

As a result, it can be concluded that user satisfaction with the building environment has direct relationship with fulfilling the desire and necessities of the user. Also the level of satisfaction effected directly by user participation therefore it has significant influence on the satisfactory range and the prosperity in the society (Figure 12).

Chapter 3

THEORETICAL FRAMEWORK OF USER PARTICIPATION

3.1. Concept & its Background

The idea of user participation in design has grown out of liberation concepts of participatory democracy in the 1960s (Woolley and Tweed, 1992). The participatory design has started from Scandinavian countries during the democratization movements in 1970 and it was first about the decision making process in workplaces designs. Several researchers have studied this concept from different perspectives. Foucault (1980) believes that the inseparable essence of knowledge and power excluded the possibilities of having a natural relationship between architect and clients. In 1991, Fabstein and Kantrowits brought up a new term as a design decision research, which introduced a different way of thinking and designing which was based on performing research and design simultaneously. This "dialog practice" will help users to understand their objectives. According to proposal of Schneekloth and Shibley (1990), "knowledge is socially constructed through dialogue within relationship. That knowledge is not an abstraction out there but it should be generated and confirmed within networks of relationships from dialectic between concrete knowing and abstract knowing."

Belenky et al. (1986) claimed that, "there are other ways of knowing than the rational and technical. They include silence, received knowledge, subjective knowledge, procedural knowledge, and constructed knowledge. Also Lyndon et al. suggested that, "we must let in the user not as helpless occupant filling a chair in the living room or giving scale to the elevation but as an active participant who is the one who establish a world for himself".

The concept of participation was proposed by Wulz in 1985 and continued by John Malpass. He defined this concept as giving people a choice by discovering differences of opinion and conflict of interests in this context, the architectural design process is defined as a process of making decisions and design alternatives for various aspects of the building and its components (Kajri, 2002). However, user involvement in the design process is increasing if users become more aware of this professional dialog. And show stronger tendency to influence the design of their environments (Olievaar et al, 2008).

The idea of participation can also be explained through the democracy concept where clients, as service takers and payers, should participate in everything that influences them. They are the first people who are influenced by the designer's decisions (Saleh, 2006).

The concept of user participation helps the architects to incorporate both the artistic and social dimensions. Most of the architects believe that art is private and it is not a collective activity to be shared with any other group. On the other hand, the social dimensions of architecture and the architects' social visions encourage them to continuously try new methods to involve users in the design activity (Granath, 2001).

Nabeel Hamdi, (2012) states that, "how much we provide and what depend on how much we can enable others to provide for themselves, reducing dependency and promoting ownership" (Hamdi, 2012).

Arnstein (1969) was one of the pioneers who opened the participation discussion in order to deal with more consultants in the situations where users have limited responsibility in the decision making process. The designers' societies welcomed this hypothesis, but also criticized the user's ability to engage in the perspective of the process.

Participatory design is based on the significant and simple viewpoint which states that the people who are affected by an architectural design should have the right to comment during the design process. Although it was a political persuasion and required some agreements, but it had influence on generating some legal participation strategies for the developed or under construction projects (Ehn, 2002).

If we go through some pioneers' stand points like Le Corbusier, we find out that his modernist hypothesis was restricted by the special perspective of his own century. He claimed that, "we all have the same limbs, in number, form, and size; if on this last point there are differences, an average dimension is easy to find. Standard functions, standard needs, standard objects, standard dimensions" (Sui, 2003).

Its outcome was that some people criticized his perception; because according to what he said, he considered users as average people and it's against the humanity of his theories about design and planning. Besides, he completely ignored the subjectivity of users. In other words, although most of the designers accept the diversity of users' preferences, a large number of them still believe that they could predict users'

requirements and their responses to the built environment; so, in the current situation, the focus is still on the architects.

In fact, there are some realities about the designers' lack of abilities about users' desire; they are not able to develop a design project without a range of users' design ideas and this issue becomes more obvious in publicly used projects.

Most of the designers suffer from the fact that the users' needs are changing continuously from time to time. Kevin Lynch defines user as a person or group who is experiencing a work of city planning or designer in his own way. Also, David Harvey defines users as "escapee" people who repeat an activity several times during their everyday life, which is not settled by the designers in the built environments. These are the ways which individuals invented them and designers are not interpreting with them in their designs.

To be more specific, the design concepts do not have any sense of reality or existence until they are used. Through the participation of the users, the design ideas can reach their meanings a user could be considered as a major producer of the design who makes the design concept real and fills its gaps and ambiguity of meaning. This actualization by the user can be seen in the production process. The Fact Bridge in Hong Kong could count as an example of this act of production. Although this bridge was designed just for pedestrians, it was later defined as a kind of social gathering place for some local merchants. All these different groups of people redefined the function of this bridge according to their needs and preferences and despite the fact that the bridge was built in order to reduce the pedestrian's traffic, however it has completely responded contrariwise (Sui, 2003).

As another simple example in 1980s, the Hong Kong government tried to put some chess tables in public parks to prevent the elderly from gambling and playing cards around the children's playground in addition to promote healthy habits; but these tables never functioned the way policy makers and designers intended to. They just provided them a better place for their gambles and other games In all the mentioned examples, we could perceive that the users' active participation could be different from what policy makers or designers expected To make a decision about what to design is importable from what client expects from designers. Moreover, designers should not impose their decisions on the users. (Sui, 2003).

Nowadays, there are many manufacturers who heavily invest on the researches dealing with what are the consumer needs. It becomes more important when it comes to public environmental design, like street furniture; in these cases, cultural and individual needs should receive a considerable and serious attention (Sui, 2003).

As pioneers of participatory design believed, it should be a bridge which joins and values the two types of knowledge in the developing process of the project.

Although tacit knowledge is hardly described and formalized, it could be assumed as invisible edges of human activities and it could productively be tested by a deep partnership and cooperation between the participants and designers. It could control the level of work flow in the building environments. It is better to steer this partnership interactively in order to encourage participants to purify their sense of consciousness of their activities (Spinuzzi, 2004).

As Mirel (1998) says, "Learning take place in a dynamic system of people, practices, artifacts, communities and institutional practices". Besides, she explained that when we talk about the knowledge, it also brings us a clear image of things which are categorized,

quantified, written down or defined. In other words, they are all the clearly expressed form of knowledge, but in participatory design issue, the knowledge is characterized as a tacit one. Tacit knowledge has the essence of more implied rather than systemized and bounded which include the subconscious knowledge of people without the ability to articulate them (Spinuzzi, 2004).

The starting point for designers to discover and formalize the users' tacit knowledge is to make conversation with the actual users. In this stage, users and designers make use of different techniques to organize the work flow and set some priorities for the future built environment. This process would let users and designers achieve more clarifications of users' preferences. It assures the outcome of the project to be according to the agreement and mutual understanding between Architects and end users. Although in some cases ethnographic methods are not accepted by the local people and they are considered as an intrusive action but they include some interviews, observations and exploration of artifacts. This step is mostly conducted in the project site, during a normal working day (Spinuzzi, 2004).

Participation could happen through a combination of different tools according to variety of user needs and preferences. In some cases it is followed by flexibility concept. This allows users to fill more gaps according to their preferences. Participatory design could be one of the best design approaches to bring more user-independency to the design process in addition to speed up the prototyping process. Moreover, it leads to/creates better solutions which fit users' needs beside the ability to give them the sense of playing an important role in the decision making process and increase the users' awareness about the consequences of their decisions (Sui, 2003).

In the cases where the project involves diverse and considerable number of users like designing the street furniture or playground for children or even social housing complexes, design participation becomes more significant to raise the sense of community and encourage people to socialize more and do more outdoor activities.

The participation process enables users to articulate and rationalize their needs and wants, and brings architects more up-to-date information about the cultural, social, physical and even religious background of the building end users (Sui, 2003). As Maver (2001) characterized the design as a conditional and comprehensive process and stated,

> Architectural design is a multi-faceted occupation which requires, for its successful performance, a mixture of intuition, craft skills and detailed knowledge of a wide range of practical and theoretical matters; it is a cyclical process in which groups of people work towards somewhat ill-defined goal in a series of successive approximations.

We conclude that although the design could be generalized and applied to different communities, architects need a powerful and realistic modeling tool for visualizing besides having a diverse team of participants as a key to their success. Moreover, it causes more problem solving and creativity raise during the process. To make it short, participation is an essential key for shaping and sharing ideas (Jemtrud et al., 2006).

3.2 Participatory Design Concept

The architectural design practice, as Cooper (1995) defines, is a combination of internal and external process which shows a duality nature of it. The external part is about the actual outcome of this design to the market while the internal part refers to the creativity process by the designer. Beim and Mossin (2004) stated that, "an iterative process that can not necessarily be organize, as a logical linear sequence." Also, they

believe that the difficulty of the design process is because "there is not one particular answer to the design problem" (Beim and Mossin, 2004).Therefore, the answer is not visible among many factors in specific cases and situations. The above quotation contains two main approaches in the design practice. The first one is the necessity of analyzing which is more systematic and the second one is more about feeling which counts as an intuitive aspect (Valand, 2010).

As Johnson (1998) said, although participatory design is perceived as a design approach and it is categorized by the level of the users' involvement, it could be defined as a research methodology which has its own techniques and methodological orientations. It includes some ethnographic knowledge, protocol and artifact analysis and interviews. The results help the designers, participants and researchers to co-interpret in the design process the goal is not based on the experience or observation, but is about transcending, shaping and envisioning the positive ways for the participants and designers to co-interpret with each other. In other words, the research is not a rigorous part of the process, but is an essential and confirmatory part (Spinuzzi, 2004).

The architect's profession has a high level of individual approach and it is based on the intersection between specific systematic tools and abstract, intuitive knowledge. Although the strategies of doing things could be completely different from one architect to another one, it has general guidelines. As Valand (2010) says, "what we've said is that we don't start by trying to identify the goal, but rather by trying to identify the needs. It is the needs that guide the goal, not the attempt to find the goal and then to head towards it." This statement highlighted a strong and endless attachment between the designer and end user. Despite the traditional design process which was based on a conceptual idea and combined it with some defined user needs and was a linear process from the

known point with certain conditions, it is a circular and mutual process with the end user (Valand, 2010).

Other group of authors suggested combining these two processes. They say that, "the combination between these two processes develops a ‘design gestalt’ that potentially forms a generative force through which organizations can simultaneously pursue variety and unity in their organization designing practices” (Yoo et al, 2006, p. 216).

One of the fundamental factors in the whole process is a power orientation issue from a democratic perspective also from the user’s point of view, it is the best way to directly influence the routine design process From the Architect’s point of view, there are some difficulties as the proper time that the user should be involved in the process because they are not sometimes joining the project design process early enough, so they miss the first phase of the conceptual design process. If we intend to use participation as a way of increasing the design quality, we should consider the artistic ambitions of the architects. These artistic values could be rather a blockage in the participatory design that has been made and create a serious conflict between users’ ordinary values and architects’ artistic values or it might influence positively as a kind of interpretative information in communicating with the users (Granath, 2001).

As Sharp, Rougers and Preece (2007) claimed, the users’ involvement could have different levels; in some projects, there is a full-time user representative and in some other ones the participation occurs through some workshops in order to have a continuous information exchange. (Figure13)

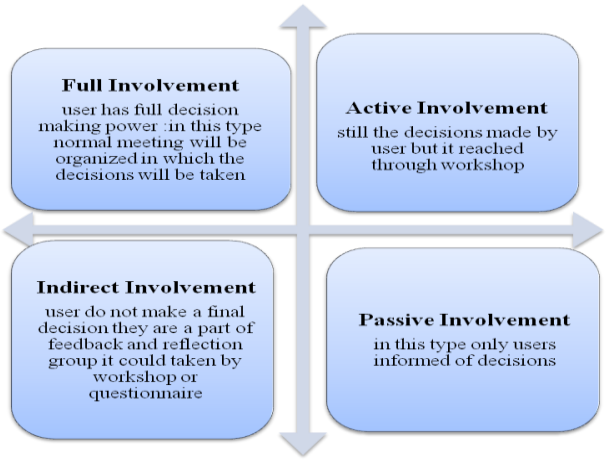


Figure 13: Graphical representations of different levels of user involvement in design process, (Oljevaar, 2008)

Through all these levels of involvements and the process, which occur in between users and experts via varied methods of participation, the legislation shall be a key tool to fill the knowledge gap between the architects' and users' delegates (Adriaanse, 2007).

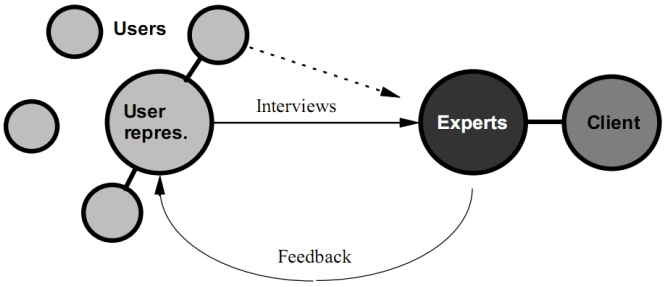


Figure 14: User-Expert relationship in participatory design, (Granath, 2001)

Most of the time, the architect starts to prepare plans and sketches according to his professional values and if he doesn't get the feedback from the end users to consider their respond, it can be considered as a one-way street where the users' participation possibilities become narrower; therefore, the clients become just passive investors who trusted the professionals to produce the product for them.

Participatory design is about the end user participation. It does not mean to take the power and authority from the architect. Today, it has become more highlighted and more prioritized. In one hand Ehn (2006) claimed that "participatory design is more about designing for use before use". It is a matter of power distribution between the user and architect and for developing this fact; we need a tool to collect user's knowledge in order to increase the design quality. On the other hand, John Dewey (2002) stated that, "how communication is to take part in a community; how 'design by doing' and 'design by playing' are related to learn the design by doing method as a fundamental form of inquiry."

As Lee (2008) stated about participatory strategy concept,

> The concept of 'involving people' in design processes exists in most design research activities but there are different levels and intentions. Its vertical dimension describes the impetus of the design research approach where design research methods and tools have been introduced into practice. Its horizontal dimension is between the mindsets of experts and people, i.e. between the design-led to the research-led.

In the process of conceptualizing the participatory design as a realistic design theory, there are some ways where prototyping takes place through design games. These design games are good replacements for system organization description; these kinds of games started with engaging a group of users with their daily lives which had a resemblance with the actual users' everyday tasks (Ehn, 2002). This method tries to bring a purposeful shift toward the user participation methods which is based on a design by playing, instead of design by doing (Figure 15).

With the participation, defrosting some of user's solidifying experiences and making concept reification become true. During design games, using some specific devices –like video tapes of users' everyday practices or even using the LEGO blocks in order to

simplify their prototype of their dream built environment– would help both sides to perform their thoughts in a better way .As a conclusion the whole process follows two main goals; the first one is to adapt the specific space organization according to diversity of users and the second one is to find appropriate devices and services for the physical space .Therefore these games entangle users to clarify and articulate their desirable and usable patterns and help them plan their own environment in addition to increasing the value of user-designer relationship (Ehn, 2002).

Figure 15: Participant's comments proposals (Ehn, 2002)

The architectural design's classical definition consists of two domains: the first one is the traditional art as an aesthetic element which is about art and craft and the second one is about engineering which is a function-oriented process.

Many educational programs try to train students to design in a way to consider themselves as the main decision makers and most of the time; they ignore the diversity of users in their projects (Sui, 2003). Szenasy (2007) describes her course outline as a context which leads the students to be aware of their social responsibility as future architects. She shows them how they could be an active participant in the web of relationships and put a bridge to the life.

In fact, there are many studies about architectural education which focus on the design studies as the main media for learning and teaching design principles (Paynell, 2001; Webster, 2001). This design skill is mostly characterized by a design project which students have to get over in a specific period of time and their design development is based on problem solving through discussion with their studio's tutors; in other words, they receive critique and are evaluated according to their concept.

As Schon (1983) explained for development of the students' design process, the important thing is the way they interact with their own tutors; this process has a vital role for improving the students' communicational skills. There are some skills like terminology or conventional practice of design which are shown through the critique interaction; in other words, during the arguments between tutors and students, they learn how to talk and socialize as future designers. However, the ability of tutors to guide the discussions logical and orderly should not be neglected (Luck R, 2007).

There is an important question dealing with what is exactly being produced during critiques and conversations. Hence, the interaction between a less experienced graduate and an expert could be a sample of interaction between the architect and ordinary user in design situations. In fact, different conversational and communicational behaviors could directly affect the user's intention to be involved in the design process (Luck R, 2007).

According to the Till's (2005) results of pseudo-participation observation, the atmosphere of power and authority during the participatory design situation is a fundamental factor to increase a good social interaction in planning activities. Learning from users' experiences which occur in real situations is a big portion of the socialization process for architects; therefore, the critiques and comments of an

experienced architect to his students have a great influence on their future professional behaviors.

Most of the participatory design experts agreed that participatory skills develop during the architect's academic years and they are achieved by developing the architect's pedagogical system. This system addresses the design as an ongoing process rather than a close one which gives this opportunity to both users and architects to contribute (Granath, 2001).

In other words, the collaboration between architectural firms and schools and design studios is a turning point in participatory design. According to Luck (2007), “the journey between novice and expert is a fertile ground for enquiry.”

3.2.1 Types of Design Participation

In general discussion, all design participation activities, which require interaction between users and designers, breakdown in different levels. At the first sight, individual level of user participation cover a person and small specific groups of users like families, elderly or handicapped; whereas a number of citizens’ involvements may occur as public participants in a community level. Another scale of design participation could occur in micro and macro levels depending upon the project size and numbers of the design and construction in a range of buildings from the prime territories as home environments, offices, and schools, to the common territories as town halls, public buildings to the urban plazas.

Besides, as Lee (2006) defines four types design participation may detect according to their characteristics with a mixture of the method that have been used (Figure 16). These

typology interestingly explores the relationship between user and designer may create different platform of psychological connections through these four approach as shown.

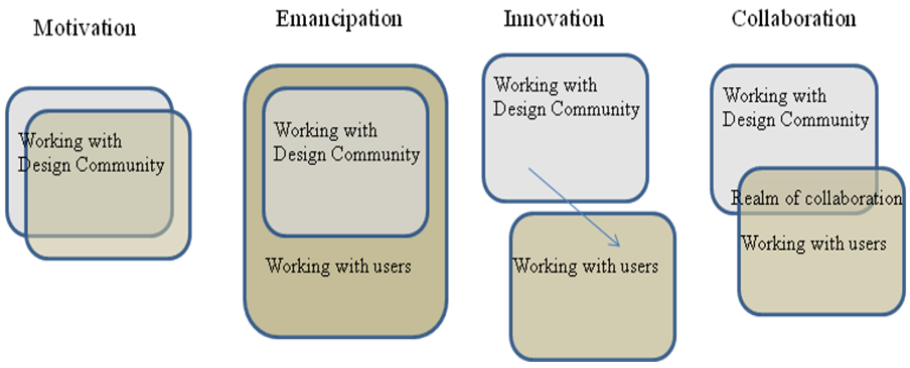


Figure 16: Types of participation, (Lee, 2006)

Among these approaches, the first one is motivation, in which there is no distinction between the user and designer roles, and it is about "do-it-yourself". A good example of this way refers to vernacular buildings, which are based on users' experiences in the course of the time or the collective design knowledge which is transferred from a generation to the next according to the climate and their living experiences. In this case the designer and the owner are the same. This idea presented as the collective design concept by Granath in 90s. It brings a new perspective for participatory design issue. it is defined as ways in which the designers' and people's interests, values and knowledge affect one another's and produce a common knowledge which would be more developed during the process (Figure17).

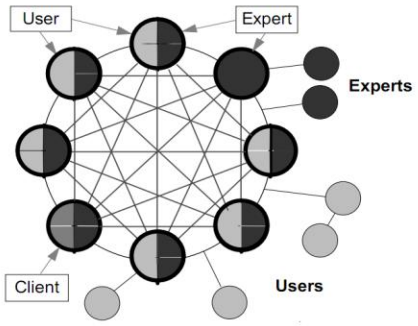


Figure 17: Graphical illustration of collective design, (Oljevaar, 2008)

The collective design is more about modifying and completing each other's knowledge to produce a new one during the time. It is not a process to figure out some inconspicuous common area or just a participation or helpful influence. During the collective design process, both sides are perceived as experts and the degree of their participation is directly based on their applicable knowledge, no matter what role they have as a person who represents different preferences and this fact shapes a dual situation. This duality leads the designers to become more creative and propose new solutions and new perceptions in the problem solving stage. The users simultaneously play as co-learners who apply and combine their knowledge for the benefit of the whole participation process (A.Granath, 2001).

As Clipson and Korubluh (1993) stated that collective design is a bridge between the professional knowledge and language with human and the physical aspect during the design process. The main goal in the collective design is to improve the performance of the system in order to integrate the technical system with the built space in a beneficial way; in such a setting, controlling the work flow becomes much easier for the producers.

The method of communication in the collective design process is the dialogue and it becomes more specific when both experts and users have dual roles it means that they could be both user and designer at the same time. In the project in which there is an essential need to invent something new or the designers are in need of cooperating with different technical or spatial complex systems, the collective design becomes a powerful tool to deal with these complicated and unknown situations (A.Granath, 2001).

The other type of design particpation is emancipation.In this type both user and designer have different roles during the process but they have the same social situation. It could define as self build design participation. Despite the "Emancipation" in design which is based on the cooperating between community and design team, motivation totally ignore the designer's role (Lee, 2006).

As Jonathan Huges (2000) stated about emancipation in participation,

> It seemed that the involvement of the users of architecture in the design process was now a serious (and realizable) consideration. The need for such involvement was at its greatest in mass-housing projects where the official patron was the local housing authority, not the resident. Moreover, in these situations, the social difference between an overwhelmingly middle class architectural profession and the typically working class residents could be cited as an explanation for the failure of public housing.

Walter Segal was one of the first architects who introduced a special construction system which has the flexible timber frames. It allows the users to apply their changes to the system and improve it over years. As years passed, it developed into the WSSBT, which stands for Walter Segal Self Built Trust. In other words, it is the flexible self-built building environment. This process involves some educational programs for the users and professional advisors and it focuses on giving the power of changing to passive users in addition to transforming the architectural design according to users'

conventional environment (Figure 18). It also transfers brief design knowledge to ordinary people. This system is a good example of participation for emancipation through the public participation (Lee, 2006).

Figure 18: Self-builder design kit, working with electronic system, (Lee, 2006)

In the public participation, people influence the organizers' decisions which have direct effect on their quality of life. They are encouraged to express their opinions which are collected through different methods by public service agents. It includes social responsibilities like volunteer work or voting which are then analyzed and announced to the policy reformers. The aim of this process is to encourage people to have an active citizenship and take part in the decision making process (Lee, 2006).

Third type of participation is called participation for innovation. It is more about dividing the user space from designer space. It is based on the professionalism ideology. As Carlo (1992) said, "the architect's power forced the abstract space (where designers work) to separate from the concrete space (where people live)." In this mode, the architects become the professionals of the power class with limited contact with the people (Lee, 2006).

There is forth type of participation which is called collaborative design and it is about the community participation. In community participation issue which is more about solving people's problems than finding some strategies for the design progress (Figure19).in this mode some workers are sent into special community groups to find out about their needs and deal with the bottom-up of their problems. Then, they transfer their experiences to the architects to produce some design concepts and strategies to make that built environment suitable for the users (Lee, 2006).

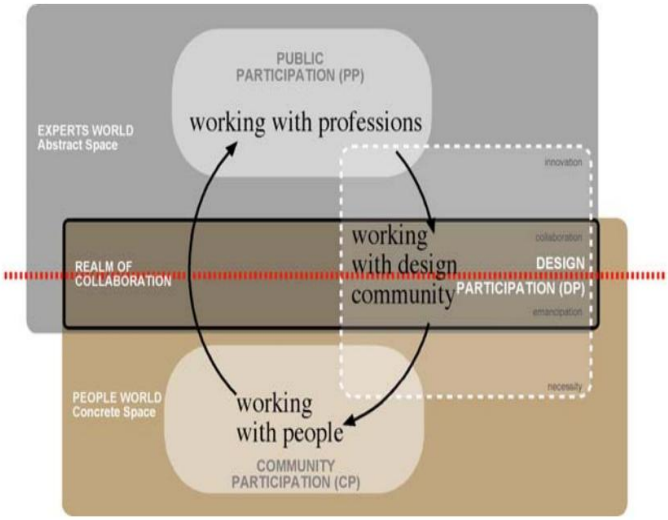


Figure 19: Action plan of community participation tactics, (Lee, 2006)

Many participation projects started with a confliction between the parties who work for the people. Public participation merged the design participation's domain.

Table 4 classifies the modes of participation and the ways in which people articulate and practice participation.

Table 4: Compare Public Participation with Community Participation, (Lee, 2006)

Types of Participation	Operating Space	Initiator	Expected Outcome	Approach	The roles of architects and designers
Design Participation	From Realm of Collaboration extends to the other spaces	Designer or users	Design-oriented(design innovation)	Can be top-down or/and bottom-up	Strategists aiming to develop better design to improve people's lives.
Public Participation	Expert World Abstract Space	Decision makers	Policy-oriented(civic education)	Top down approach	Producers under the instruction of public policy makers
Community Participation	User World, Concrete Space	Social workers from NGOs or users	Social service-oriented(social justice)	Bottom up approach	Advisers to give professional advise

To summarize all these different kinds of participation, we could say that design participation for innovation is more about functionalism and designer's autonomy. However, the other two, which are collaborative design and emancipation through community participation, are more based on the mixed cooperation of the users and designer in addition to self help aid alternative culture. Despite the 'innovation', 'collaboration' and 'emancipation' which are all set by the architects with the different user-designer relationship, the motivation is totally steered by the users (Table 5).

Table 5: Role Distribution in the Types of Design Participation, (Lee, 2006)

Space of operation	What's design participation for?	The relationship between the designers' space and the users' space	The role of designers	The role of users
1.designers' space	2.innovation(designer only)	Two spaces are separated	Master's authorities	Imagined user/representatives
2.realm of collaboration(between designers and people)	2a.Collaboration(designer-driven)	Overlapping at the corner and formed the realm of collaboration	Co designers/facilitators	Co-workers
	2b.Emancipation(User-driven)	People's space taking over experts' space	Stimulators	Creative people/advisers
3.Users/people's space	3.Motivation(user only)	Overlapping as one entity	Craftsmen/builders	Active clients

3.2.2 Design Participation Process

The requirements or user preferences define what they like or dislike. Meeting these requirements is related to characteristics of the building, close surroundings and its various components. The user is expected different factors like site characteristics and technical aspects are developed by architects through their modification and filtration.

In the next step, the conceptual design with feedback from the client is expressed. Once the agreement is reached on the final design, the detailing will be done for the construction. The user will choose certain alternatives by asking for revision in the architect's proposal and finally decides if the design is satisfactory or not. After finalizing the proposal, the detailing in construction begins which requires a number of

decisions such as flooring tiles, sizes of window panes, colors and textures. These things are perceived as not significant issues but they could effectively change the look, feel and use of the building. Users decide about formal composition, kinds of materials and overall planning. Mostly, they are not concerned about the architectural style that much (Figure 20).

Users are sensitive about the shape and proportion of spaces; however, the hierarchy of the degree of enclosure or openness and organization of spaces were usually left to the architect (Kajri, 2002). Whenever the clients specify their expectations, this becomes the architect's responsibility to control the conversational design process.

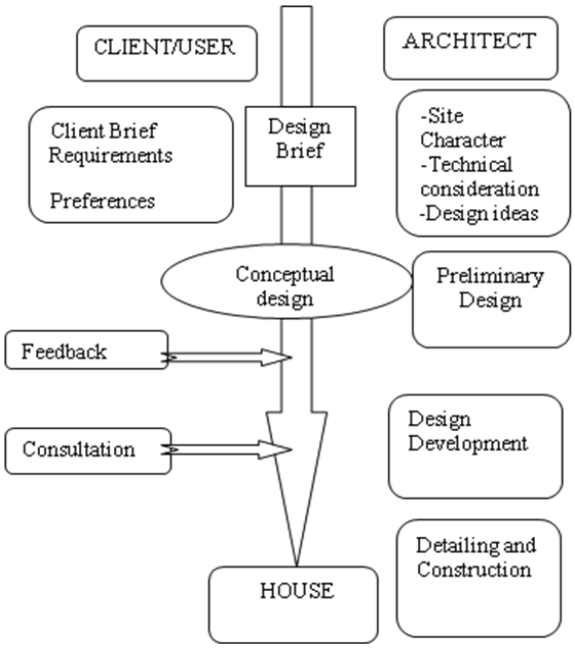


Figure 20: Generalized model of the design process, (Kile et al., 2004)

3.3 User Participation Methods, Tools and Techniques

The nature of active participatory design is not a linear kind of process; it is an ongoing and continuous progress which the people and researchers become a critical

component of and it would be simultaneously more interesting with some perspective changing. To find new rules for this participatory experience, there is a need to call for some new tools and methods in order to create a deliverable and meaningful type of design (Arnstein, 1969).

When people use a building, they constantly evaluate its suitability. In order to capture the client's requirements, architects need some methods to elicit and evaluate them. These methods form a kind of strategy to deal with weakness of the design qualities. The interface of all these methods is to fulfill the user's needs to gain their satisfaction. Although there is not any sufficient investigation which determines how these methods could work with more expected and conventional techniques, some of them still find their stability in the design process (O'Coill & Doughty, 2004).

It is apparent that a meeting with the end users which is about the architectural design process is needed in any method and it is an irresolvable element of doing architecture but there are some methods like briefing and probe study which they user act as passive subject and participation does not occur through face to face interaction. Despite breifing and probe study the dialouge ,workshop and computer aid technologies are the methods which based on direct and face to face interaction between users and architects. In this section there is a travel through the passive methods to active ones.

3.3.1 Briefing

Briefing is a productive method in the participatory design agenda. It is also called a program of user requirement in professional language too. In order to create high performance briefs in the construction level of different projects, a good communication between architect and user is needed (Bogers et al, 2008).

In the literature, two basic approaches are introduced. The first one is based on the concepts of Pen (2001) et al. which emphasizes on finishing the brief information before the design process begins. The second approach is based on the continuing essence of briefing, either in the starting point of the design process or during the process (Bogers, Juriaan & Theo, 2008).

Traditionally any brief whether it is for a new building or alteration and renovation of an existing one, is first prepared by the users and then developed by the architects. There are some problems like excessive specification or making the brief too detailed and long which turns the brief into unclear content, but is still considered as a productive strategy in design participation. The first step in this method is to find relevant information of the client requirements. This information is generally about indoor climate, spatial dimension and security and is recorded in the briefing form. These documents are like a "touchstone", the alternatives of which are tested against them. Also, they are more based on interviews with the clients and consultation with the experts and facility managers .Sometimes, the clients have this mental background that the brief is not read carefully by the architects or it is totally ignored in some cases. They think that the designers would rather not to work with the limitation of a brief. This perspective creates a big gap between the users and architects (Bogers et al, 2008).

On the other hand, as Cherry (1999) stated, "Briefing documents are often inadequate or limiting architects creativity." Although some designers find this method as a vital tool for extracting the user's requirements, some of them find it a useless and annoying method. Therefore, they copy these documents and many user requirements from the building codes or existing norms of the earlier projects and apply them to the new one.

The briefing documents should be clear and readable and help to categorize the user desires into fixed or flexible and primary or secondary groups. Also, they should include the economic situation of the project like considering the budget for each phase of the construction process because if this financial information is ignored, it will cause more problems for architects. The brief should not just include quantitative factors like the square meter or temperature levels. It should also contain some qualitative requirements like cultural background, attitudes, ambitions and different scenarios of clients (Bogers et al, 2008).

In fact, briefing doesn't have this potential to be replaced with face-to-face communication because direct interaction with the client will help the architect to get the feeling in addition to test whether they understand the user's priorities properly in the briefing step. In other words, it makes the brief documents more realistic and according to the certain budget.

In a large and specific project where having a direct interaction with the user seems impossible, the briefing method becomes more highlighted than usual and more important than the standardized projects (Blyth and Worthington, 200; Ryd and Fristedt, 2007). Because of the variety of users in complex and big projects, it is a hard and time consuming job for the architects to pile up the user's long scenarios and reports.

In these cases, using the questionnaire will prevent the confusing part and help the architects to focus on the most important and common needs and desires. Besides, it would give the chance to those users who have a low level of education and play a passive role when it comes to declaring their opinions in the face-to-face interaction. This statistical analysis becomes more useful when the participants are an anonymous

group of users which we discussed in chapter 2, table 3. The significant point in this user groups is the distinction in cultural heritage and regionalism.

These questionnaires include several alternatives in the fixed boundaries. The results are gathered and coordinated with different requirements and make it easier for the facilitators and designers to modify and actualize them in the design proposals (Sui, 2003).

The construction companies have recently designed a web-based modeling tool for briefing. It helps to communicate, test the project requirements and define in a highly systematic way. In this method, the requirements are no longer manually written down on paper as reports, but they are instead captured as a database which is accessible for all involved parties. In these databases, the questions, remarks, changes and clients concerning the brief can easily be traced. The Brief Builders significantly reduce the risk of design quality problems and budget shortage by ensuring that the user's requirements are clear, consistent, and complete. Using a Brief Builder in complex and large scale projects is a minor investment with considerable benefits. This method has three main advantages likewise Improving Communication which helps the stakeholders to keep their information about the project up-to-date by just clicking and browsing instead of searching in the pile of hard copy databases. Also it enables the designers to trace and track the highlighted needs of the client or remark and change them easily. It also prevents wasting of time in order to find unimportant information. Moreover, it can import or export information from excel. Second advantage is Powerful Quality Control. In the stage of testing design proposal against the brief of the user's requirements, this web based tool creates a link to the documents and items. It gives a guaranty to the clients that their requirements are not ignored. And the third one is Knowledge

Management it occurs when all the requirements are captured in this brief builder model, it has the potential to create a useful and knowledge based document which could be reused in other similar projects. This tool contains a standard template as we see in Table 6.

Table 6: Standard Templates of Breifing, (Rank, O'Coill, Boldyreff &Doughty, 2004)

Standard Template Modules		
	Ambitions	the client ambitions on specific topics like sustainability
	Spaces	the space organization according to user's needs
	Activities	the facilities and services according to the users' daily activities
	Indoor Climate	it concerns thermal comfort, temperature
	Users	**t**he population of users and which group they belong to (visitor, owner, occupant)
	Technology	th**e** building's technical concern

3.3.2 The Probe Study

The probe study is another design strategy which improves the empathic interaction between the architects and users. The most famous example of the probe study is "Cultural Probe" which is about the elderly people's private lives in various cultures. This method includes some study material like maps, cameras, postcards and stickers which are sent to different parts of the world according to the focus group and they fill

them up according to their daily tasks and return them to the designers. Later, they will be used as an inspirational source for developing the new design ideas. Although Gaver and Dunne (1999) criticized this method as an informal analysis of the users' situations, it is still a good way to attract the user's attention for involving in the design process.

This innovative method has become very popular in the design participation area. It has been applied to business projects and experimental studies too. However, we should not forget that the user's role in the probe studies is still passive. But as it includes the high ranking priorities of the people, we could say that the probe study method is a good starting point.

3.3.3 Constructing Dialogue: Learning to Talk to the User

Dialogue consider as a productive method through which the professionals and non-professionals can negotiate their decisions. The conversational method could work beneficially before briefing or any type of participatory method in the early stages of the design process .As several experimental studies claimed, the design is a kind of social constructivism which is shaped in the conversation. Any kind of conversational behavior could influence the responses of the user groups in the design process. The conversational analysis is not defined as a specific category. In other words, because of the sequential construction of the talk, it depends more on the person who makes the utterance (Luck, 2007).

According to Paulo Freire (1973), a successful dialogue has two dimensions. The first one is the collaboration concept and the second one is negotiation. The collaboration means people work together in a temporary manner and negotiation is about the people's responses to the facilities and their practical recommendations.

The progression of the conversation is more about what is called the sequence of the talk which is defined as "one thing leads to another." For example, when a person like the architect leads the conversation, he simultaneously creates the context of the next conversation which is going to be discussed. It is a good opportunity for the participant to ask for clarification and question about different design ideas (Luck, 2007).

Through interviewing techniques, creating some checklists for project briefing, sketches or introducing prototypes, it becomes more possible for architects to have control over the flow of information and achieve some possible solutions before the actual use challenges take place in people's everyday life.

Before the first meeting, the users provide a wish list for themselves and define their expectations from each space. The architect speaks cohesively and leads the conversation in a more dynamic way in this situation. It is better for an architect to keep the workshop focused on extracting meaningful information from the end user. There are some techniques which the architect could apply to conversational behaviors like using a familiar tone or showing sense of humors in leading the users' questions and ideas (Luck, 2007).

The main contexts of these conversations are about the structural and functional design quality. These discussions mainly try to touch on the users and make them reach the idea that the space was rare before their participation. In other words, the building space organization was just an abstraction in the architect's mind and it comes to existence by using the user's ideas. As Medway (1996) stated, "the virtual building is a phenomenological reality and psychological fact; the participants habitually talk about a known entity and not about intentions or aspirations" (p. 501). Arendt (1958) claimed

that, "a conversation is not only the medium for exchange of knowledge and information, but it is also a creative activity and act of nativity" (p. 8).

According to Medway (1996), the conversations between the architect and user are categorized in three steps. The first one is to follow different questions to gain more detailed information like space organization and function which is about the daily activities in each space. The next step is to clarify and extract the user requirements. The third step is to support the user's proposals and develop them until reaching a common understanding. In this step, it is necessary for the architect not to give equal emphasis to all of the users' voices. Also, the designers should consider these conversations not just as a problem solving process, but as a problem seeking action as well (Luck & McDonnell, 2006).

As sum, the dialogic technique could count as a humane and effective sort of design participation method (ibid). The integration between the user's knowledge and architect occurs through a conversation. The commitment to having dialogue and direct conversation would bring up the possibility of improving consciousness and new form of empirical knowledge.

3.3.4 Workshop

Workshop is one of the high working range methods in participatory design criteria. It is an active kind of participation and what is important in this method is continuity of participation during the design process. The participant would feel that the design is moving forward through continuity of the process. However, opening up the process for the user to involve creating continuity seems too hard for the designers. Therefore, it is important for the design group to be aware of the mechanism of continuity. Workshop is

a possible solution for dealing with specific group of users or in the projects with variety of stakeholders. This strategy could be convincing and give them agreeable results in the design approach in addition to making use of the capability of the user engagement in a greater extent (Johnsson et al, 2002).

During the meeting, the speaker could be asking and answering the users to create a significant interaction besides seeking specific types of answers about the general qualities of buildings like spatial organization or each room's dimension in order to receive the primary users' responses in addition to clear some ambiguous ideas which are recognized as one of the architect's important roles during the whole process (Oak, 2009).

In most cases, there is a huge board which depends on the population of participant group and some piece of papers or magnets which consists of the prior needs and requirements of the user group. During the session, people place their most important pieces in the middle of the board and the architect tries to organize the important ones in the corners of the board. Meanwhile, they try to summarize and categorize them by flow charts and diagramming or sketching tools. Also, each participant can give and receive information at the same time by reading others' notes. Gaver and his colleagues (2000) define these workshop materials as a purely source of inspiration. It guides the architect to create some adoptable and flexible changing. This simple boarding game is rich in content, fills up the gap between different interests and background of divers' group members and forces them to make their priorities.

The equipment for workshop must be set accordingly (Figure 21). There should be a flipchart or a whiteboard in an appropriate place which lets the participant view easily. A

large wall is needed for placing the large sheets of plans. The chairs are better to be comfortable and placed in a circular shape (Kernohan et al, 1992).

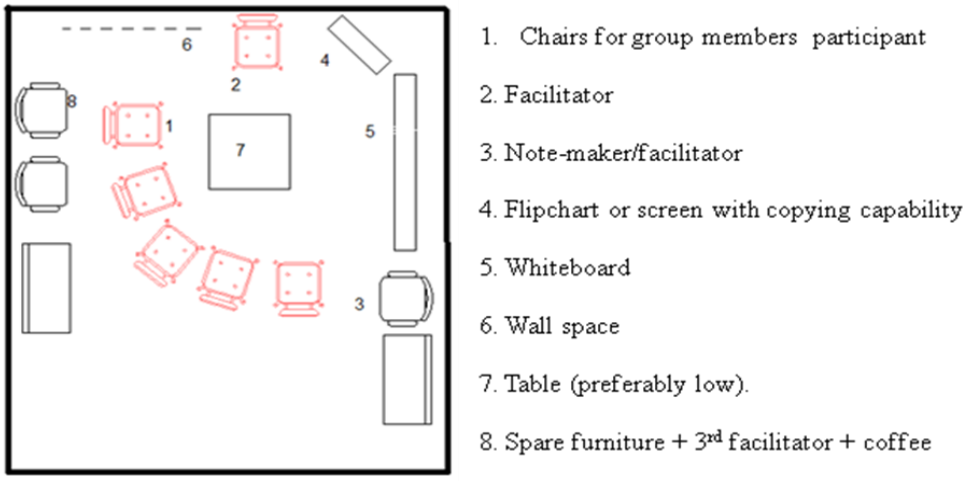


Figure 21: Prepare a Place for the Workshop, (Kernohan et al, 1992)

During the workshop, the conversation power should not be ignored. What the users say in conversations with the architects and facilitator and their design suggestion should count as influential actions (Luck , 2007).

As Westerland (2007) describes, in these collaborative sessions the user and designer engage in different activities with a limited time frame. In practice, four half-day or full-day sessions are organized in order to bring the users to the collaboration mode (ibid).

During these meetings, the probing studies, video card games, and video sketches are used in order to produce design scenarios and observe exploration. To increase the user interaction, the architect could use some computer software to visualize 'Home Zone' and their daily conflicts of needs and interests for the end users. It moves the participant from the "negotiating mode" to "design mode" (Broberg, 2010). For example, a 2D

drawing by Auto Cad is not a good option for visualizing the purpose because it does not motivate the participant for design moves and it is not flexible enough (Figure 22).

Figure 22: From the Right to Left Interactivity, Practical, Team Leading, (Lee, 2006)

By the end of the first session, the participants create some diagrammatic scenarios with this boarding game and various new layouts are produced .To summarize all the essential workshop materials, we could mention relations and tree diagrams, fishbone chart, dialogue model, questioning situation, drawings, meeting reports, video recordings, 3D model, Focus group interviews and usability tests (Broberg, 2010).

As we see in Figure 24 during the workshop, different symbols could be used .the red dots which indicate the strange relationship and the spaces. And a circle must be made to show the change. The heart symbols show the tendency for keeping the items which the users prefer or in which they interest with slight changes. For instance, for the outdoor environment, they like the green area but with the addition of some landscaping and shelters. The star indicates the priority of items and actions deadline. For example, one star is for long-term design proposal's change, two for soon and three for immediately changing (O'Coill, 2004).

Figure 23: The layout design game in the factory design (O'Coill, 2004)

During these meetings, gender issues observed differently, women try to define themselves according to others ideas, but men try to define themselves more freely. This fact goes back to the masculine form of knowing which is based on the idea that they have the right to be heard. On the contrary, in the feminine form, it is based on the idea that "it is only my opinion." In other words, this participation is justification for men while it is connection and comprehension for women (Kernohan et al, 1992).

Figure 24: Office design participation act. Participant tries to make the important zone more recognizable, (Arnstein, 1969)

3.3.5 Computer Games and Digital Technologies

There are some programming techniques which speed up the participation process and prevent losing control over the information flow. If the focus shifts from after-use to

before-use in the projects, the main users' concern would become a specific issue to deal with during the design process (Ehn, 2002).

Although using practical tools like drawing and physical modeling in face-to-face sessions of the workshop is an effective method, combining these tools with new computer technologies could be more beneficial in the participatory design process. Nowadays, it is necessary for an architect to have an extensive capability over computer aided software and 3D modeling and visualizing. It helps him to adopt and change the design proposals and gradually walking into final design .A laptop is considered an effective hardware because of its mobility. Therefore, each participant could go through a virtual environment with the mouse easily. This benefit could not be replaced with the manual tools like paper and pen or clay modeling. Nevertheless, the time and expenses of using this method should be put into account (O'Coill, 2004).

The written comments and flipcharts could be useful for the briefing part of the project. It is called the design brief. A design brief usually consists of the equipment needs and special requirements from the space organization step. It would affect the behavioral and atmospheric issues and the use of the building. The need for the flexibility and change makes the design brief an open ended process. It is obvious that the major source of information for operating an organization in a new situation is the people who are affected by the changing process (Kernohan et al, 1992).

Chapter 4

PRECEDENTS AND CASE STUDIES

4.1 Precedents

Considering user satisfaction in design of the office buildings is one of the most complicated tasks for an architect. There are usually certain criteria which have the dominant priority in the design, depending on the major characteristics of the building. These criteria can range from economic issues to managerial policies. Therefore, the architect must be careful not to meet such criteria at the cost of user satisfaction.

A good example could be the open-plan offices where the space allocation to individuals is reduced in order to cut the costs. Veitch et al. (2002) believe that, "the reduced space allocation, however, risks creating an unpleasant working environment, either directly through the creation of adverse physical conditions (e.g., more noise, added obstructions to air circulation), or indirectly through psychological processes such as privacy or stress". Meanwhile understanding the user's perspectives are not easy and always cause many conflicts in user architect relationships. Especially in large and multi users projects in these cases it is a tough job to fulfilling all the user's priorities and interests.

Selection of these precedents has made according to their recent design participation methods, which are more improved the ones which used before 1960s,such as Hebraken's support idea on Snoff's community participation.

In the first two case studies which are Town Hall and Mikado House project the complicated process of obtaining user's requirements and their relationship with architects are controlled by effective participation methods. Therefore the user satisfaction within the office buildings increased considerably.

4.1.1 Town Hall Project in Hillerod City

The New Town Hall of Hillerod city was an architectural competition from the municipality administration The Arkitekter Firm wins the competition in 2007.the main reason of winning the competition was the specific focus of the company on the knowledge sharing and collaboration. Therefore it makes the design process different and oppose to traditional methods of architectural design process.

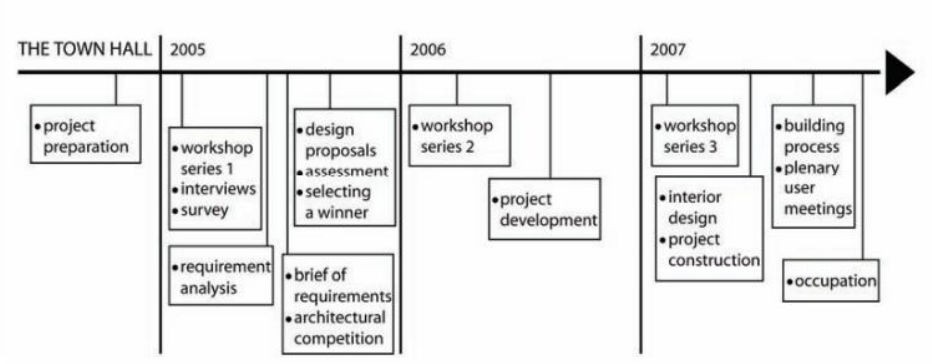


Figure 25:Project's General Timeframe and Primary Activities,(Valand,2010)

According to the Figure 25, a workshop series have taken place in order to translate the end users' requirements and discuss the results of this translation with the municipality management team. After the first and second series of workshops, the designers prepare a requirement analysis and form of the actual brief. The focus of the workshops is on the spatial layout and departmental location. According to these

outlines, the interior layout of the building emerged. In the third workshop, the construction details were settled and the general spatial organization came out and it is a time for confirming the interior layout. The architects try to build a one-to-one scale model. The municipality administration marked the exact area of each department in square meters with a simple tape on the floor in the empty large space. Besides, it made specific furniture like desks, lamps and archives with foam bricks. Then, the participants experiment different spatial organizations (Valand, 2010).

These workshops are mapping out the main concerns which architect should consider them in first place. These concerns are based on the dreams and visions of the clients and spatial organization of each unit. Moreover this modeling is more about giving the realistic size and situation to the users during the workshops. What is significant in this method is that the users are aware of some professional obligations about each unit. The main contexts of the questions, which are asked from the participant, are mostly about the perspective of their present and future during using these spaces. During the first workshop, an introduction about the advantages of open layout offices is provided and the participants present their ideas. In the second workshop, the designers answer the participants' questions like how the remote parts of the offices could prevent interruption for other specific groups, or putting on open door really helps knowledge transferring between the employees. In the third workshop, the participants face the one-to-one scale open layout of the offices (Figure 26).

Figure 26:Town Hall's open offices layouts,(URL2)

If we perceive workshop 1 as an introduction to the users' activities, we could say that workshop 2 is mostly about how these activities took place. In order words, the relationship between routines and work processes with agronomy of spatial framework is the main concern of this series of workshop. The architects of this project believe that the open layout is the key to give the participant an opportunity to contribute. In other words, engagement of users is through flexibility. It also raises the participants' interest in addition to general acceptance. In the office layout, the absence of heavy walls as a physical boundary between the public and private spaces which is seen in the traditional office layout design is one of the best approaches of the open layout method. It causes new ways of working and creates new professional relationships, but the participants prefer their individual offices to open layout ones (Valand,2010).

Another part of town hall designing was the entrance counter. Similar to the open office layout, the concept of openness is the basic step of the architect's design proposal. In the traditional design ideas, the designer should separate the outside from inside but he wants a softer transition (Figure27).

One of the architects of the project states that "the staff is invited to participate as co-contributors in order to secure the connection between the forthcoming interior design

and the practices that the new house is expected to accommodate." He summarizes that it evolves "from an open and dialogue oriented participation to an invitation as co-contributors."He also explain the concept of openness as:"to many people in western cultures ,the interpretation of a service assistant or reception list as that of a pretty official is negatively charged. Here, a pretty official would be ,the one that sustains a distinct distance between the clerks and the client."

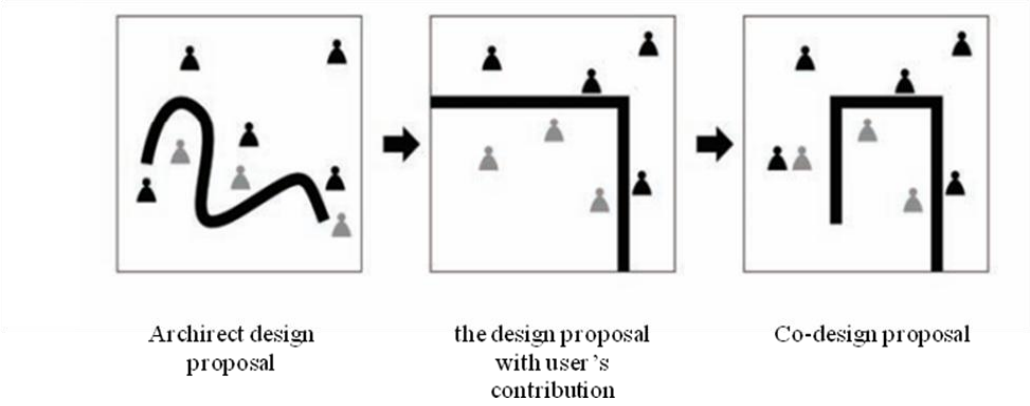


Figure 27: The sketch of three design stages for entrance counter. The grey characters are the staff and the black ones are the clients, (Valand, 2010)

Through a long process of decision making and negotiating, the counter was designed. And the balance between openness and closure gave the sense of stability and continuity to the users (Figure 28).

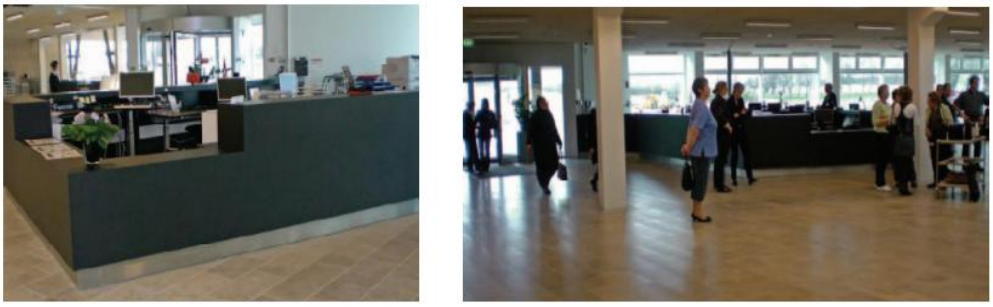


Figure 28: The Entrance Counter in the Reception Area, (Valand, 2010)

The open office layout and open entrance counter designing was a kind of vehicle which drove many design opportunities through participatory design.

By looking back to these stages, we could conclude that these workshops make the users move from strong resistance to very limited hesitation. Furthermore, they continuously involved in different stages of the design process. As Garrigou, Daniellou, Carballeda & Ruaud (1995) stated, "trying to figure out the meaning of the propped strategic change effort, what its effect on them would be and what their role is, would entail resistance to the proposed changes in some cases." Also it could have been concluded that, participation has a duality nature. It could whether increase the complexity of the participants' experiences or reduce it.

4.1.2 The Mikado House Project

The Mikado House Project is built in Orestad, Copenhagen in 2010. This project is under supervision of Arkitema Company. Arkitema is one of the Danish firms which have based their activities on the contemporary architectural design. In the Figure 29, we can see the illustration of the design process.

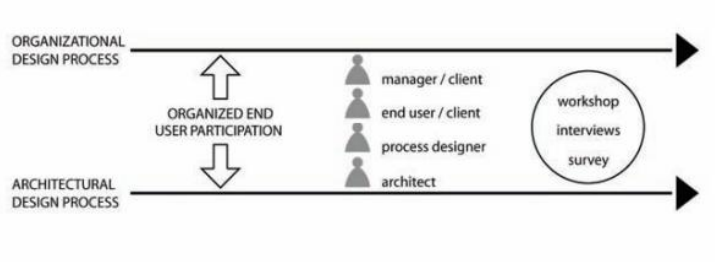


Figure 29: The parallel design process to explore the potential link between the user and Designer, (Valand, 2010)

The head designer of the project claimed that, “architecture is a practice that is difficult to capture and it consist of complicated processes". As we see in Figure 29, the surveys, interviews and workshops are the methods used to capture end users’ requirements and help them to comprehend and understand. However, these processes have several challenges like using professional language or the architect's ability to articulate the perspective exchange which is a central challenge. The problematic part of these conversations is that there are different elicitations of different people. As Weick (1995) stated, "Words approximate the territory; they never map it perfectly. That is why sense making never stops."

In this project, the user's concrete ideas in the workshop are combined with the abstract spatial form and produced in the conversation between the participants. What is important is the balance between the abstract and concrete image. As Weick (1995) said, "if change is too continuous, it becomes difficult for any one person to make sense of what is happening and to anticipate what will happen unless that person is able to freeze, break up, or recycle portions of this flow." After workshops and interviews are finished, the designers focus on some ethnographical analysis. According to Dourish (2006), the ethnographical analysis is divided into two groups: the analytical and empirical. The empirical method is about scenic fieldwork, in which the designer goes to the site and prepares a report. But the analytical method is more about the interactions which occur between the parties who are involved in the process. In the Mikado House Project, the ethnographical approach occurs in an analytic way. In spite of the traditional design process methods which start with identifying the user preferences and requirements, in this project, this step is merged into the design process (Figure 30).

Figure 30: Overlapping brief of requirements with design process, (Valand, 2010)

The designer group summarized the design proposals to the symbolic shapes. First, they were in the spiral format as a source of inspiration (Figure 31). Then, during the participation, they consisted of many curvy loops which became curvier because of the information exchange between the designer and user in order to have the mobility pattern meaning. Then after forming the main design proposal, it was converted to the vertical format. At the end, it was converted to the circular shape which was perceive as collaboration and sharing intersections. This model could be introduced as "cross-disciplinary collaboration" and "knowledge sharing" model.

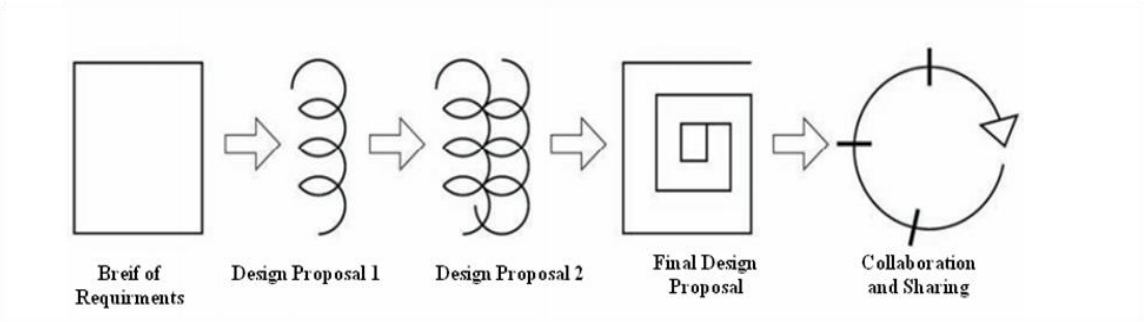


Figure 31: The design process phase illustration as a symbolic shape, (Valand, 2010)

Second method which is used in this case is using the third mutual between user and architect, which is a new defined role as a 'process designer' who providing actual ways of participation and put them into play. The process designers are the people who translate and articulate the complex facility and materials for both the architects and

users. Their role becomes significant in the exterior design phase. In the Figure below, we could see the graphical illustration of mutual third (Figure 32).

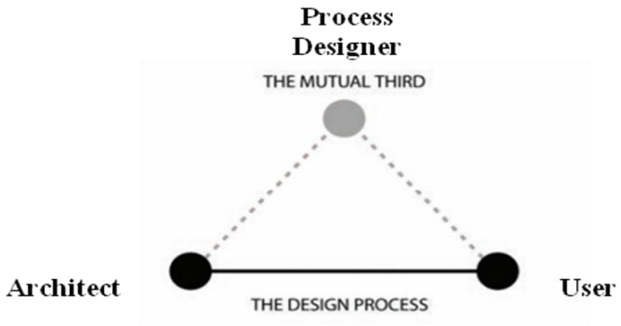


Figure32: The graphical illustration of the mutual third, (Feldthaus, 2004)

Figure33: Mikado House Interior Spaces, (URL3)

The particular focus on designing process especially from the spatial organization perspective helps the participants to understand the complex condition of design process and show them the critical challenges which architects should face during the design process. This participation gives the opportunity to users to participate in their own complexity.

4.1.3 Le Fauvelles Social Houses

The Le Fauvelles Social Houses were built in 2007 in Courbevoie, in France following a competition from Courbevoie Town Council. It is located in the urban zone of the Le Fauvelles district. In this project, the collective design participation is highlighted. The design proposed was in the way which leads the occupants to collective living. In other words, the plan has a freely usable layout. The main design concept was the quality of use, which was followed by the flexibility level of individual houses. When the quality of use is in the appropriate level, the user satisfaction increases and users feel fully at home.

Figure 34: Le Fauvelles Social Houses, North Elevation, (URL4)

As we see in Figure 34, this complex consists of two different units. Its façade is designed in the way which has different views from each terrace following a different orientation. Each flat has at least four bedrooms and the layout has a cubic shape

The bedrooms and living areas have the potential to change their functions according to family growing for example. The spare room could be used as an office, nursery room when a child is born or a small room for a teenager who prefers to have a private room from the rest of the family's sleeping area (Figure 35).

There is a courtyard behind the residential units to improve the sociability sense of occupants. Each small courtyard between two units as we see in the Figure 36 designed according to leading people toward more social life. Moreover the special consideration of architect to applying the diversity to his design proposal, caused people to participate in multi layer neighborhood.

Figure 35: Le Fauvelles Social Houses, Ground and First Floor Plan, (URL4)

The terraces are designed in a way which the occupants could increase their social life and have more interaction with other neighbors. Their children could play together and their parents could build a relationship together (Figure 36).

Figure36: Le Fauvelles Social Houses' Walkways, (URL4)

In addition, there are some private walkways which go around the apartments and they have accessibility to all rooms. The concept of this kind of design is to play hide and seek with the people and bring out some shortcuts in order to raise the variety of design. Also, it means that the complex has different exterior spaces (Figure37).

Figure 37: 3D Model of Le Fauvelles Social Houses' Walkways, (URL4)

Because of the flexibility potential in the building design concept, the family could adopt the plans according to their needs and as the family grows, they could have the several years of living in the apartments. Therefore, they could have neighbors in a long run.

This case study is one of the good examples of participation after building design according to user needs and requirements by themselves. Moreover, the occupants could be categorized as the owner group of users.

The social characteristics included "family characteristics, management and maintenance of the buildings and the surroundings, attitudes of neighbors, etc." (Altaş & Özsoy, 1998, p.316). In addition, physical characteristics of the blocks, and plan characteristics of several dwelling types were considered during preparing the design proposal through adoptability and flexibility terms.

According to all these explanations a good design should fulfill the user satisfaction. Therefore by specifying and determining user expectations this satisfaction level would increase. The purpose of all these techniques is to engage user as a person whom use building in his everyday activities.

As a summary of the methods have used in the selected precedents such as briefing, workshoping or games enriched by information communication technology basically showed that it is effective to confirm the interior layout altogether in judging the ergonomy of spatial framework through learning user's routines in a collective decision-making and having a role in the design participation process explicitly make users being aware of practical conditions and limitations in the architectural profession. In some methods like symbolization of design proposals and attaining a process designer role in the actors of participation has occurred, while in the other, there is approach to create more adoptable and flexible spaces.

4.2 Study Cases and Methodology

In this section, the survey focuses on the three user groups with various preferences. As pointed out in the methodology part in chapter 1, these groups include visitors, occupants and owners.

The research site is residential and has a socially mixed population. All three case studies are in the same geographical location. The contexts of the questionnaires are based on Steels' (1973) categories of user's experiences from the physical environment. He explained them as,

> "Security and shelter indicate the avoidness from unwanted stimulus actions in the surroundings. Social contact includes the facilities and space organization which allow users more social interaction. Symbolic Identification is related to the fact that each setting sends different massages about what type of user groups or organization live in specific environment to the outsider. Task instrumentality includes the equipment and facilities for different tasks. Pleasure is about the level of user satisfaction which each space gives to users. Growth is related to the flexibility and change capability of each space."

This research uses a mixture of methods of both qualitative and quantitative types of research. It is divided into three main methods of data collection. The first is observation of two examples of residential housing blocks, social houses with complex and apartment types. The second method is questionnaires to collect information by asking a set of formulated structural and non-disguised questions as a sample of individual users' requirements and their satisfaction with the built environment. These questionnaires are prepared as multiple choice types in English and Turkish to find out if the design met their expectations. They are distributed between 90 people randomly to avoid any bias in the participant's responses in each complex 30 people respond to the questionnaires. By these questionnaires, the researcher tries to capture user perception of their built

environment. These methods were selected according to their suitability for the research requirements. Also, each method addresses a different research question.

According to this illustration, the structural and functional elements in addition to design quality are discussed with the participants. Furthermore, user requirements and preferences regarding the characteristic of the building and its close surroundings and various components of the built environment are obtained through the questionnaires.

4.2.1 Hasan Hoca Apartment Blocks

Gazimagusa is one of the biggest cities in North Cyprus and the major population of the city consists of students of the Eastern Mediterranean University. In order to provide an accommodation for the students, some private designers tried to build small houses based on the students' requirements. Here, the basic concern might be money making business which does not fit the students' needs. Such houses are mostly affordable by wealthy students. However, the main problem of these houses is that they do not satisfy the students' needs.

Hassan Hoca 2 and 3 buildings are located in Aladag Street Gazimagusa region in North Cyprus. These houses have 44 flats which are all occupied by the students of Eastern Mediterranean University. They have three different types of dwellings and consist of 2 and 1 bedroom flats. The research focuses on the single bedroom apartments. The first building was constructed six years before the other one. Both buildings are occupied by students (Figures 38, 39, 40).

Figure 38: SAKARYA District, (URL1)

Figure 39: Hasan Hoca 2 (Author, 2013)

Figure 40:Hasan Hoca 3 (Author, 2013)

Researcher had interview with the builder of the block of flats in a face-to-face situation with open ended questions. Also, the researcher uses some ethnographical method due to living in one of these blocks for two years so that she has had numerous informal

conversations with the students who occupied the apartments in order to obtain their requirements and expectations.

The interview was an important part of our survey where a few questions were linked back to the questionnaire findings. The interview was taped and transformed into a text document. The type of the interview was face-to-face open conversation. The method used to analyze the interview is qualitative which depends on the architect's explanations. The themes which were discussed during the interview were the factors like accessibility to the university which may be encouraging the occupants for renting these apartments. Another theme which we discussed was the old construction materials of the buildings which are not environmentally friendly. Also, because of these poor uses of materials, the vibration of the building caused the inhabitants to hear when someone is approaching by knowing their troubles. In the new building, the designer used solid floors with high density in order to reduce vibrations within the new building. So, the disturbance caused by people walking within a building was kept to a minimum by using this method.

The architect told me that each person had a different preference for setting spaces of their own. So, it is not an easy job to keep all the users pleased about space organization. In order to satisfy the habitants, in the construction period of the new building, the architect tried to collect information through personal interviews and have open conversation with the students who lived in the old one. He figured out the prior needs of this specific group of people and used this information for the design solutions of the new building.

The results of the study are based on the answers to the questions that were arranged in the questionnaires. The questionnaires were about the users' requirements and

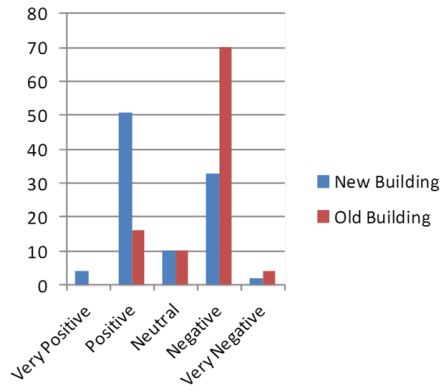
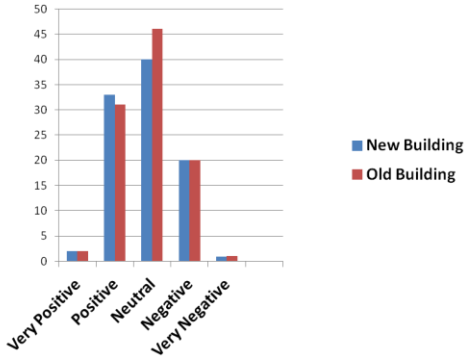
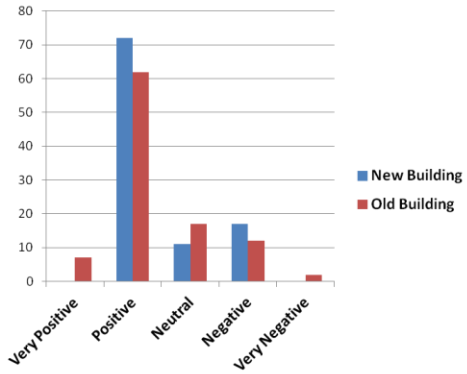
expectations from the architect of the building. The objective of the questionnaires is to found out the degree of user satisfaction first, with the dwelling and its aspects, second, with the technical point of view and third, with the interior design aspects. Additionally another question to be asked about participatory actions could have happened if they have the chance to participate.

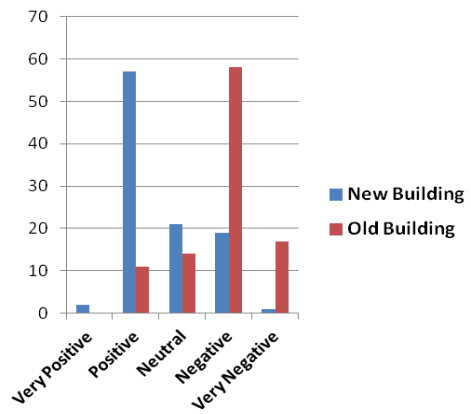
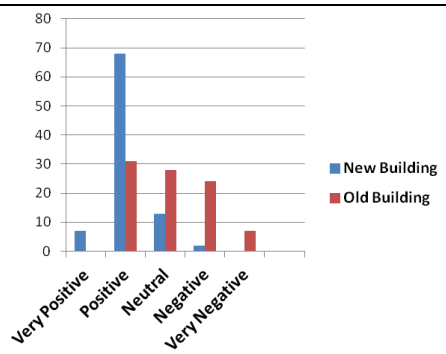
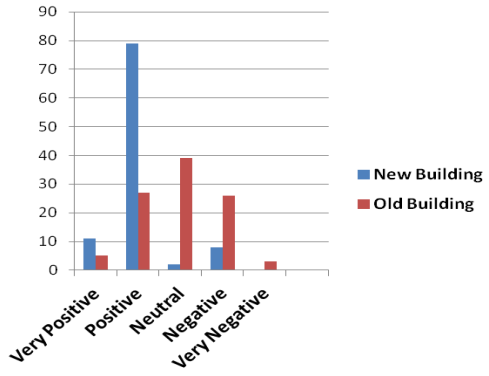
The questions type is a range or percentage by giving 5 options to them in each question where they have to confirm their level of agreement by numbers from 1 to 5. These questionnaires were distributed between the inhabitants randomly. The total number of the questionnaires is thirty. They are divided equally for both the old and new buildings. Also, they gave some information about the research to people who answered to the questionnaires.

In this case study, population is represented for visitor types of users which define temporary residents like students. Instead of making generalization, the purpose of the researcher basically depends on obtaining more knowledge about different requirements of inhabitants. The participant was questioned about size and proportion of the apartment, lighting, accessibility, renting price, color and texture of the building, necessity of the elevator, material, sizes and types of the windows, proportion of the living room, size of the balcony and set of the furniture. The results are presented in bar charts on percentage basis through evaluation of questionnaires.

Table 7: Result analysis, Questions 9-10, (Author, 2013)

Result Analysis

	**Q.1. How would you describe the situation of your apartment in order to get the natural light in the day time?**
	**Q.2 .What is your opinion about the façade of the building?**
	**Q.3 .What is your satisfaction degree of the spatial organization of your apartment?**

	**Q.4. Are you satisfy with the proportion of the living room in compare to the bedrooms?**
	**Q.5.Do you think the dwelling size is enough for you?**
	**Q.7. Do you think the size of the balcony is appropriate for student's usage?**

As technical aspect showed in Table 7, that users mostly cared about humidity and getting natural light in their apartments, but the physical aspects of the building were not the prior needs for them. The old building was designed and located in the site without much consideration of the climate and the topography. This excessive consumption of a lot of electrical energy. The users have to pay a lot both for heating and cooling through

long Mediterranean summers and winters. This problem can be solved through simple considerations about orientation of the building.

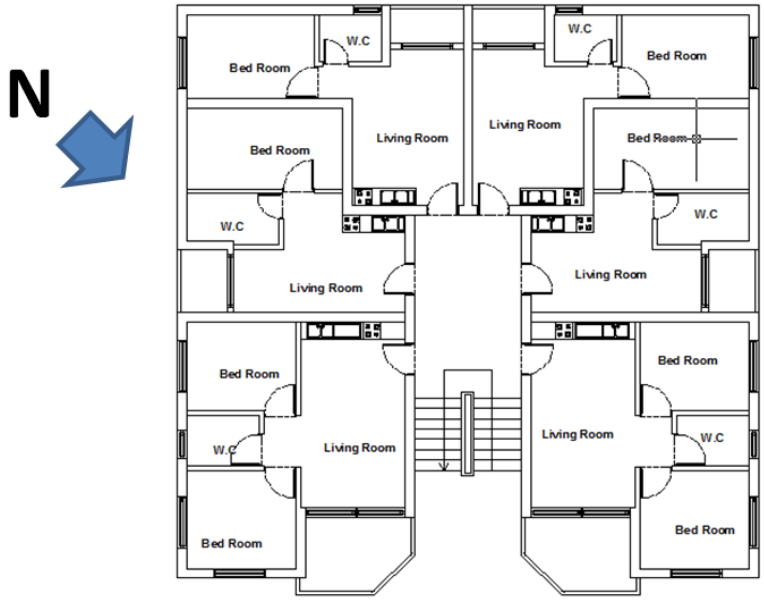


Figure 41: Typical Floor Plan of Old Building, Hasan Hoca 2, (Author, 2013)

In terms of exterior spaces and general characteristics of the houses, there is no significant difference between the residents, but for psychological needs and quality of the interior spaces, the degree of satisfaction of the users is different.

The structure of the building could not be modified according to the students' needs and preferences. The interior layout of the rooms along with the doors and openings is more appropriate in the new building. In addition, the location and number of the electrical plugs, switches and air conditioning units were changed according to the users' wish in the new one.

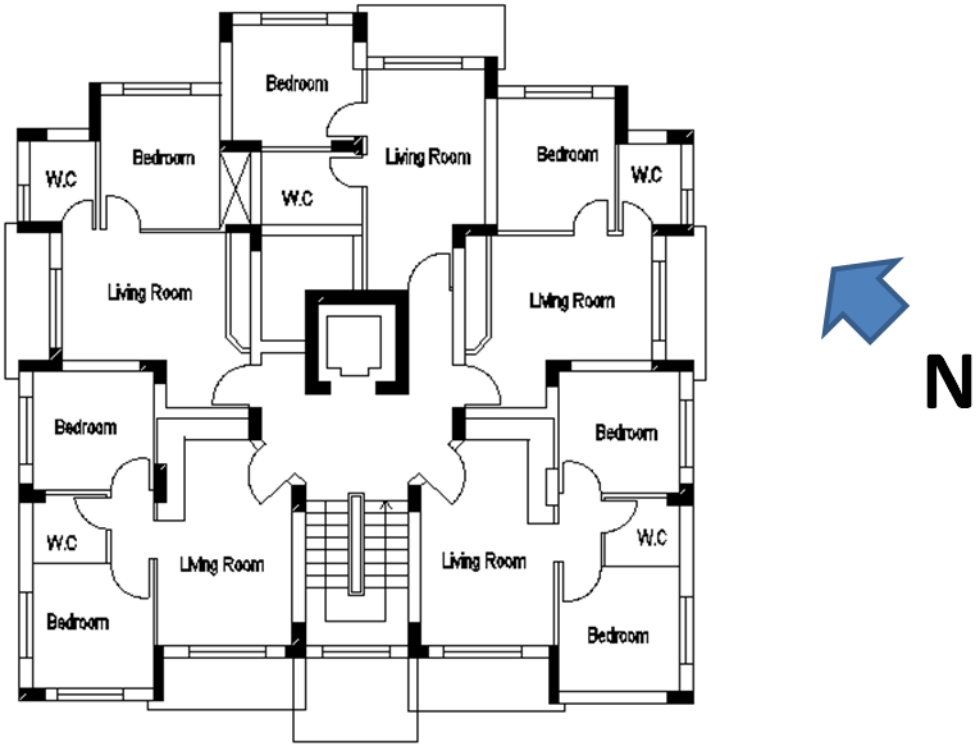


Figure 42: Typical Floor Plan of New Building, Hasan Hoca 3, (Author, 2013)

According to Table 7, the researcher found that the positive response to the dwelling size, living room proportion and size of the balcony increased in the new building.

Despite the larger size of the dwelling, bedroom and terraces in the old building, the students prefer to live in the new one because of set of furniture, building orientation which causes low humidity and better thermal system. We concluded that the new building was built according to the students' prior needs. The satisfaction percentage is calculated from the positive and very positive responses. It is summarized in Table 8 and Figure 43.

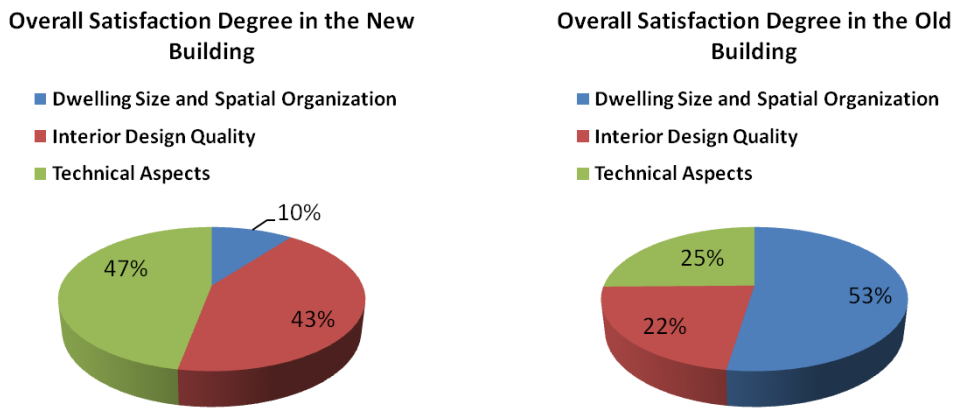


Figure 43: The Degree of Satisfaction, (Author, 2013)

The occupants' responses were analyzed in the given charts to clarify their needs and requirements. These analyses make us understand that when the experiences and expectations of the users from their houses are questioned, the benefit of incorporating the users into the planning and design process cannot be denied. This result gives a good Perspective of the user oriented scheme to obtain an appropriate level of user satisfaction (Figure 43)

Table 8: User Satisfaction Percentage of Hasan Hoca2 & 3, (Author, 2013)

Factors of User Satisfaction	**New Building**		**Old Building**	
Spatial organization	Dwelling size	79%	Dwelling size	28%
	Living room Proportion	57%	Sitting room Proportion	11%
	Size of the Balcony	68%	Size of the Balcony	31%
Technical Aspects	Electrical System	48%	Electrical System	12%
	Thermal condition and Sound Isolation	23%	Thermal condition and Sound Isolation	11%
Interior Design Quality	Colour and furniture	72%	Colour and furniture	21%

What the architect figures out from prior consideration of the users by direct interaction with them helps him to increase the user satisfaction with the built environment. Simultaneously, the students had the opportunity to make a contribution to their environment unconsciously. When we asked if there is opportunity to participate any of the design decisions they do not have much specific ideas on the participation in design and construction phases. Only one architect student talked about positive issues like the proportion of terraces and their view.

It allowed users to influence their environment with their special priorities. This case study shows how the architect could use his ability in order to manage his relationship with the user in an effective way before had. As a result, this is a positive approach.

4.2.2 Social Single Family Houses

These houses are two-story and single type single family houses, in the typology of row semi detached villas in Sakarya Street. The total number of the houses is seventy and most of the population of these houses is elderly and retired people. Therefore, they spend most of their time in their houses. These single family social houses have a private and semi-private outdoor area and they are placed side by side to each other along the street (Figure 44, 45).

Figure 44: The site plan of the social houses complex, (Oktay, 2001)

Figure 45: Sakarya District, (URL1)

The questionnaires were distributed between twenty of these houses randomly. Considering the inhabitants' age, the researcher created a check list of twenty required items to make exploring user expectation process easier. The participants' answers to the

questionnaires are summarized in Table 9 below. The satisfaction percentage is calculated from the positive and very positive responses.

Table 9: User Satisfaction Percentage of Social Housing Complex, (Author, 2013)

Factors of User Satisfaction	**Social Housing Complex**	
Spatial organization	Dwelling size	62%
	Bed rooms Proportion	38%
	Size of the Balcony	10%
Technical Aspect	Electrical System	8%
	Thermal condition and Sound Isolation	27%
	Types of windows	32%
	Lighting	44%
Interior Design Quality	Colour and furniture	63%
Other Factors	Security	83%
	Accessibility	51%
	Landscaping and amount of green space	87%
	Parking facility	19%
	Public-Private interface	36%
	Children facility and sport	1%

These houses are not open to social involvement and their architectural design is not toward flexibility and follows the unexpected changing according to the user's needs.

Moreover, these buildings are not adopted with the natural ecology. It is obvious that certain design qualities according to satisfy the users. Some of the inhabitants are not satisfied with their level of privacy, considering their outdoor spaces (Figure 46).

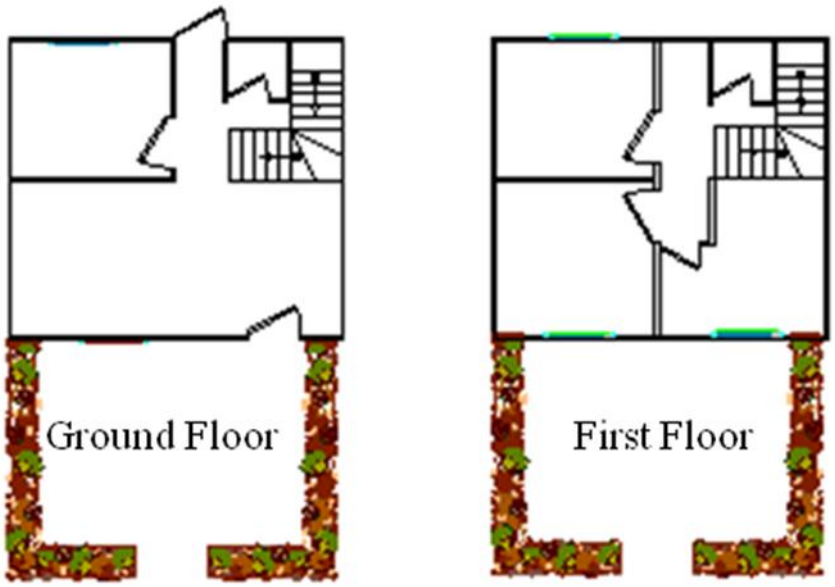


Figure 46: Ground and First Floor of Social Houses (Oktay, 2001)

Also, the orientation of the villas is not according to the local climate. The users are not satisfied with the prevailing wind which leads and pushes the exhausted air towards their outdoor space. The designer preferred to use fixed windows and air conditions, but the occupants prefer to be able to take advantage of natural wind blow. In terms of space organization, most of the participants have problem with the ventilation and situation of their kitchen. They said that it gets very hot during the day in the summer. Also, the space organization could not be changed in the most sample because of the structural system of villas. The interior and furniture is different from one house to another on. Users change them according to their preferences.

In terms of the exterior view of the building, it does not have spatial enclosure which is needed for encouraging more social life. Moreover, because one side of the houses faces some other residential buildings with numerous students' apartments, so they have problem with the crowd and noise. Their parking area supports only one car and the width of the street does not have the potential to give them more parking spaces, especially when they have visitors. Therefore, most of the time, their outdoor views are blocked by the cars which are parked in the streets (Figure 47).

Figure 47: Social Housing Complex,(Author,2013)

4.2.3 Social Housing Apartment Blocks

These houses are occupied by most middle aged people. These buildings are five-story apartments. Each floor has two double bedroom apartments with the same layout. In the ground floor of these houses, in most cases there are some shops next to each other. Therefore, the occupants, most of who are families with children could meet their daily needs easily (Figure 48, 49).

Figure 48: SAKARYA District, (URL1)

As we see in Table 10, they are not satisfied with the space organization of their apartments. Because of the hot climate of Cyprus, there is a good chance of using the semi-open or open spaces nine months in a year. Also, these open spaces could be defined as a public playground for their children. Moreover, the size of the balconies does not comply with Cypriot traditional life style. This is a critical point for the designers who do not use the probe study before starting the design process.

Figure 49: Apartment Type Complex,(Author,2013)

Table 10: User Satisfaction Percentage of Apartment Type Complex, (Author, 2013)

Factors of User Satisfaction	Apartment Type Complex	
Spatial organization	Dwelling size	48%
	Bed rooms Proportion	82%
	Size of the Balcony	17%
Technical Aspect	Electrical System	19%
	Thermal condition and Sound Isolation	31%
	Types of windows	76%
	Lighting	46%
Interior Design Quality	Colour and furniture	13%
Other Factors	Security	65%
	Accessibility	34%
	Landscaping and amount of green space	11%
	Parking facility	31%
	Public-Private interface	42%
	Children facility and sport	3%

The proportion of the living room is not appropriate in comparison to the bedrooms and it prevents the use of most public areas in the houses. Therefore, the degree of family interaction is reduced.

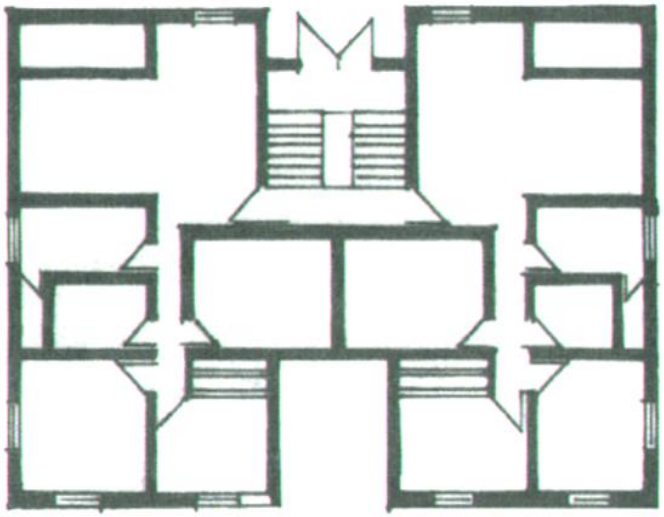


Figure 50: Typical Floor Plan of Apartment Type Complex, (Oktay, 2001)

Although the arches in the façade of try to bring identity for these houses, the occupants are not satisfied with the exterior view of their houses. Some of them prefer to have more dynamic and colorful façades for their apartments. Lack of green spaces which helps air circulation is another dissatisfactory factor. Accessibility is another problem for them because they feel isolated from the city center.

Because the main population of these apartments is the families with children, the necessity of an elevator is another important dissatisfactory item. In this case, the main problem is that the actual users of these apartments were not consulted when the design process took place and even after finishing the construction period, the occupants are not a well defined user group.

4.2.4 Result from the Survey

According to the results of the questioners of all three cases, we categorized users by their age into three groups. We could concluded that the young population which

consists of a visitor group who are students has different preference and requirements other than the middle aged group which consists of the owners and the old population consists of mostly retired people who form the occupant group (Figure51).

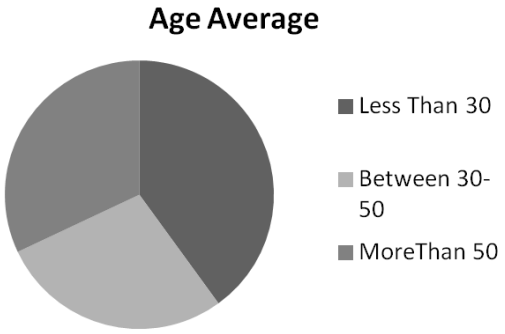


Figure51: Age Average of the People Who Filled out the Questionnaire (Author, 2013)

Some scholars consider satisfaction "as a criterion for evaluating the quality of the residential environment by measuring the effect of perception and assessments of the objective environment upon satisfaction" and others believe it is "a predictor of behavior" (Altaş & Özsoy, 1998). Kotler (1997) defines satisfaction as "the client's feelings of pleasure or disappointment resulting from comparing a product's (building or service) performance in relation to his or her expectations." Also Nkado and Mbachu (2001) believe that if the architects do not consider the clients' needs, they will not achieve much user satisfaction. They consider two types of user needs: "latent needs which may not be directly observed by the use of the conventional briefing instruments" (Runyon 1980; Salisbury, 1990), and "the stated needs which is the client's perceived solution for realizing the real latent needs" (Richardson, 1996 in Nkado and Mbachu, 2001). Based on Vischer (1989), the user/client satisfaction is based on the survey of different facilities. Collecting information about the internal functions and different

facilities brings out the level of user expectation. This evaluation could be defined as a satisfaction scale. In other words, the assessment of facility's fitness for the purpose through having an interview with different user groups could define the boundaries of user/client satisfaction with the building environment. Moreover, the result shows in some points, the relationship with neighbors and neighborhood and the level of interaction is more highlighted in comparison with physical features and facilities. What is concluded from the survey of these three cases is that even ordinary people, regardless of which user group they belong to, are capable of articulating their needs and giving appropriate responses to some design problems specifically in terms of physical and environmental aspects.

Chapter 5

CONCLUSION

Considering the data gathered during this research, a conclusion can be reached, that although the user and designers are from two cultures with different attitudes, it is important that both the architect and the user contribute in the built environment. Participation issue has a direct influence on the outcome of the design process and it enhances the final design outcome. These participation activities create a closer relationship between the architects and users and this will directly influence the decision making process and will completely change the fundamental principles of the architect's method of working.

Increasing the user involvement during the design process shows how the relationship between the architect and user is changed and it simultaneously brings out some linguistic and communication challenges for both sides. It also illustrates the pressure that is currently experienced in the architecture profession;

- How can we ensure a successful connection between the end user requirements and architectural design in terms of method and techniques?
- How can we transform the results of the participation activities into a successful format of the architectural design process in terms of architectural product?

These are the research questions which I proposed in the introductory part of my research. The design process traditionally was separated from the part related to

analyzing the user's requirements. Nowadays, because of certain democratic and social tendencies of the societies, these two parts try to find a closer link between each other.

In recent years, the architecture profession not only involves finding unchangeable design solutions, but also has become a two-way communication process with the people who use the architect’s work. A considerable amount of energy of the designer should be spent on increasing the user's awareness about different design solutions. The architect should provide his professional advice and discuss different alternatives and their consequences. The design process could be performed in a successful way when the architects do not consider themselves only as the experts who can impose their ideas on the users.

The architect should learn how to work closely with different user and expert groups like landscape architects and product engineers. During the design process, the architect should lead the users to first, identify and articulate their preferences, second, bring up their opinions and ideas, third, make decisions and forth, evaluate their ideas and outcomes.

As Valand (2010) suggested, it is very important for the architect to consider the users as a compound body instead of a singular one. The user's idea can be collected through direct dialogue and conversation. It is a kind of bridge to fill the gap between the practical and theoretical knowledge. Moreover, it is a way to transform the ideas into the reality.

It is not believed that dialogue strategies would be without any conflicts; however, they increase the possibility of developing design concepts and a better understanding for both sides. Also, it would be easier for the user to display preferences in a more visible manner. When the architects use conversation as a tool to exchange different

perspectives, they give this opportunity to themselves to add new stories to their own stories. This conversational behavior is a tool to share mutual understanding and rationalize the process of decision making. It is a big step towards the user oriented approach.

The author's purpose of introducing some existing and successful methods of participation is to achieve a new definition of design which creates not only a product, but also an emerging process. This definition maintains the decision making process as a continuous process which gives the opportunity to both users and architects to establish their arguments and ideas. This could continuously give the sense of ownership to the users who participate in the current and future decision making process.

Based upon the findings and results of this study, the building projects often hold several kinds of requirements and high range of advanced stipulation in their outsets. This includes the number of the people who work or live in them or the size of the building and similar types of information. The reason why the case studies focussed on public buildings and workspaces is that office space organization could be defined as a center of decision making and legitimacy. It answers the question about how each space organization could be perceived as a conceptual tool, through which specific lifestyles could be comprehended.

Based on the projects proposed by the thesis, there are two general distinctions which Valand (2010), describes as the "piece of information" (which is the client requirements) and the "piece of inspiration" (which is what the end user produces parallel to the design process). The exploration of the selected precedents, approaches and methods such as briefing, workshop, etc., have developed in more innovative ways and blended with computer games and ICTS application.

In the Cyprus case studies, the pieces of information are gotten through classic briefing by the architects, but what is missing in these case studies are a piece of inspiration. These pieces are activities which modify the design solutions. These pieces should be translated by the architect while considering that each active unit holds a story of user experience within itself.

The direct interaction between the user and designer provides a fair collaboration since both sides find an opportunity to express their preferences while respecting each other's viewpoint. It would guarantee that the building is not only the product of the architect's values and regulations, but also the outcome of mutual decisions taken by the user and the professionals. Moreover, the explained dialogue method will help to define the common boundaries between the architect and user, so as to create a responsive architecture in the future.

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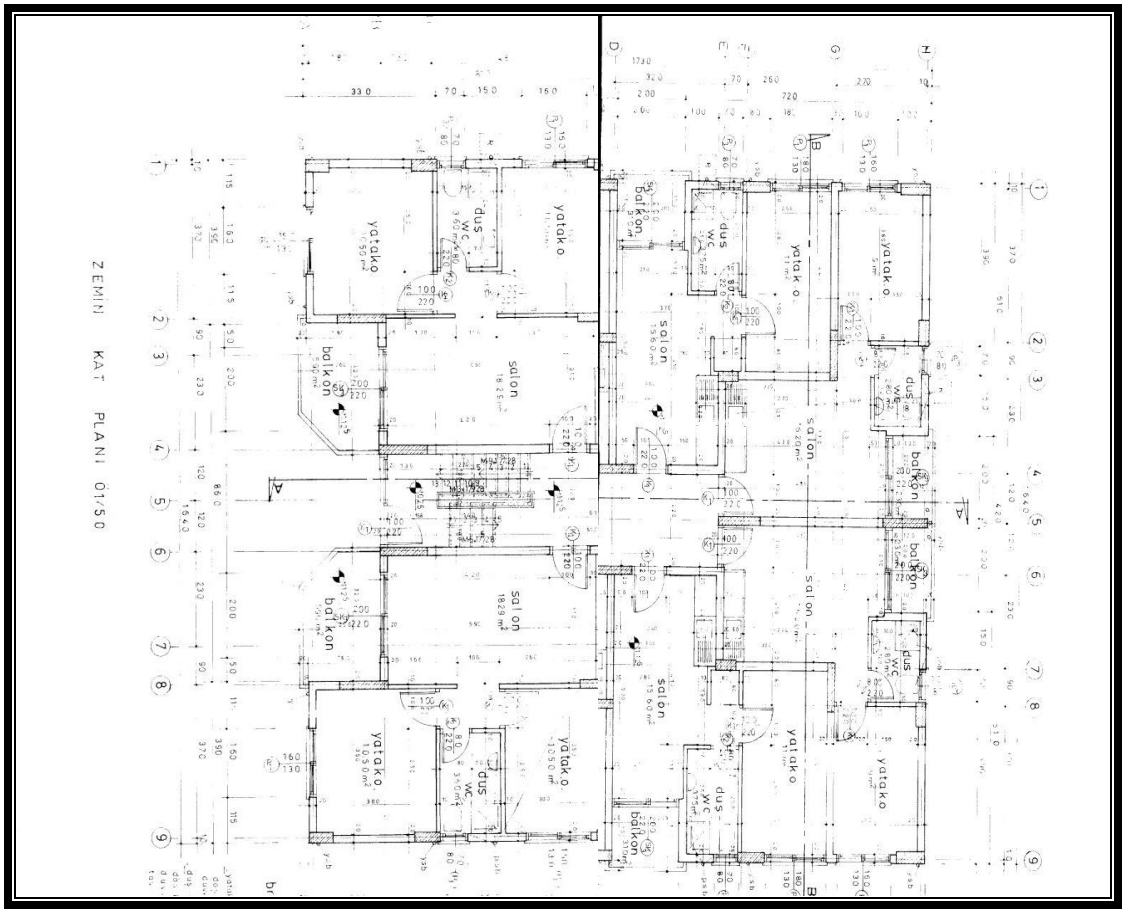
URL3: "http://www.arkitema.dk"

URL4: "http://www.google.com"

APPENDICES

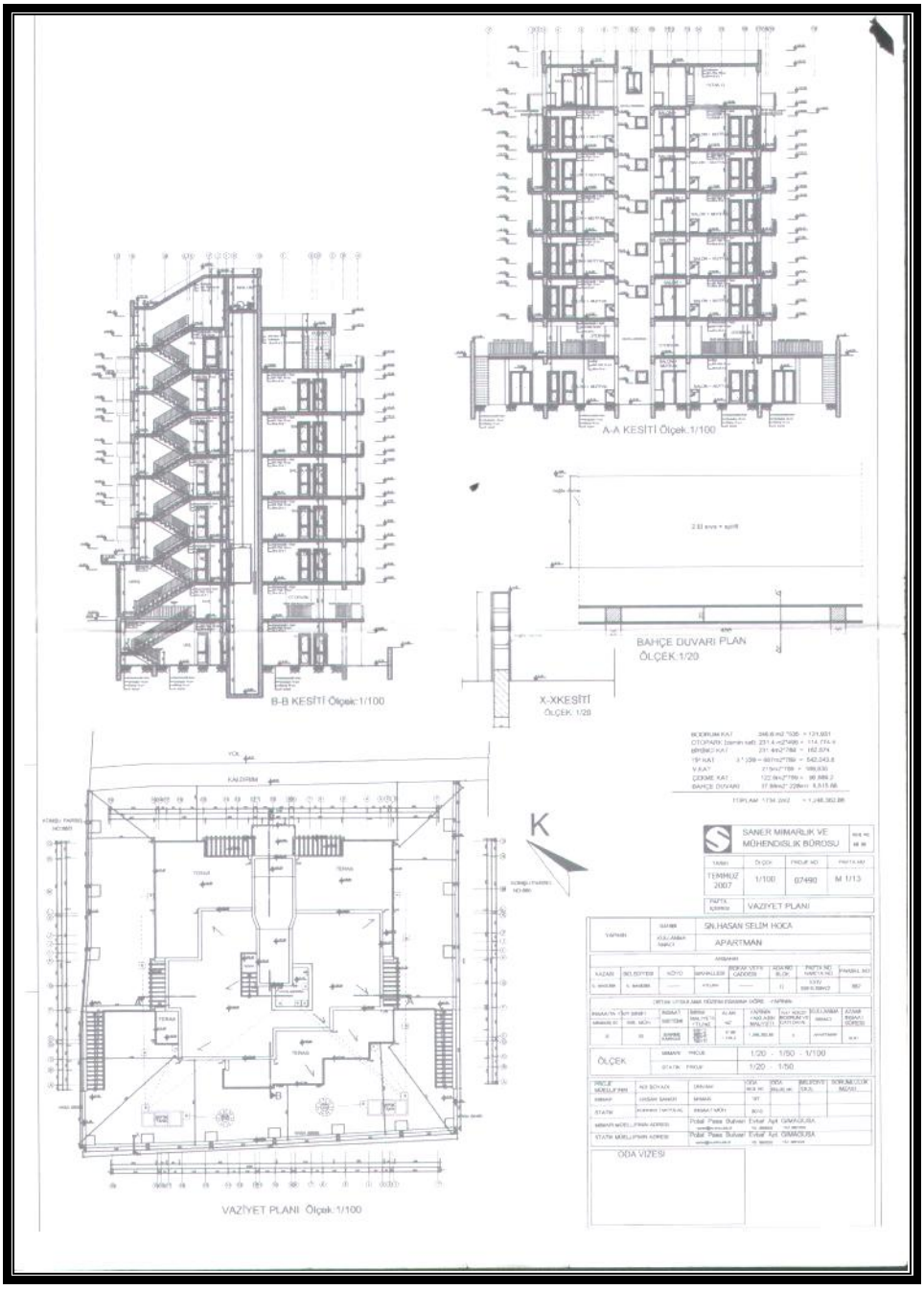
Appendix A:

Architectural Plans of Hasan Hoca2



Ground Floor Plan

Appendix B: The Architectural Plans of Hasan Hoca 3



Site Plan and Sections

Appendix C: Questionnaires

Eastern Mediterranean University Faculty of architecture

Subject: Investigation on the Pursuit of a Dialogue between User and Architect through participatory Design on Mass Housing

Gender: Male Female Age: 1. below20 2.20-30 3. 30-40 4.40-50 5.50and above

Please answer the following questions by choosing your responses by choosing on number from 1 to 5 1. Good 2. Very good 3. Neutral 4.Bad 5. Very bad

1-what is your satisfaction degree of the spatial organization of your apartment?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

2-how would you describe the situation of your apartment in order to get the natural light during the day time?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

3-how would you evaluate the necessity of the elevator in your building?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

4-are you satisfy with the proportion of the sitting room in compare to the bedrooms?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

5-do you think the dwelling size of your apartment is enough for you?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

6-do you think the size of the balcony is appropriate for student's usage?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

7-how do you view the usage of the close and separated kitchen for your apartment?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

8-how do you evaluate the number of the electrical ports in your apartment?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

9-what is your opinion about the quality of thermal condition in your apartment?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

10-how would you describe the sound insulation of your apartment?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

11-what do you think about the harmony of the furniture's color?

1.◯ 2.◯ 3.◯ 4.◯ 5.◯

12-what is your satisfaction degree about the furniture selection of your apartment?

1. ◯ 2. ◯ 3. ◯ 4. ◯ 5. ◯

13-what is your idea about contributing in design process of the building?

What would your comment be on the living in this conditions in mass housing units which constructed by individuals?(Thanks for your participation)