Chapter 53

Design Process and Communication in Interior Architecture

Eda BALABAN VAROL*

INTRODUCTION

The contemporary design world is the most important indicator of the humans' desire for creativity. During the historical process the concept of design developed according to the necessities of the period and it reached today creating different areas of expertise. The act of design, which has probably begun by motives such as personalization or possession inside the caves, now forms the basis of many occupations. One of these occupations is interior architecture, which looks at design with a space-human scale, turns towards the individual along with a collective perspective and customizes the life of the individual.

"It is the nature of Humankind not only to use spaces, but to fill them with beauty and meaning" (IFI, 2011). Therefore, ''Interior architecture, which is characterized as the occupation of the 21st century, emerges as an unavoidable reality of life with its education, fields of application and auxiliary occupational groups.''(Kaptan, 1998). Even though it has a short history, there has been many definitions of "interior architecture" discipline from many different perspectives and many other areas of expertise, such as illumination design and acoustics design, were developed in connection with this discipline. If we consider the general definition of the concept of interior architecture, " has defined interior architecture as an occupation, which designs predetermined spaces in terms of practical, aesthetical and symbolical functions, in accordance with humans' physical and spiritual properties and their actions, in order to meet the humans' needs" (Kacar, 1998).

Like all design disciplines, interior architecture discipline has also created its own culture. This culture is comprised of its own means of communication. The drawing language of interior architects, the scale and terminology used by the internal architects are among these means of communication and they form the basis of interior architecture. This study examines these communication techniques used during the design process and raises awareness regarding the importance of this matter.

Communication and Language

During the historical process, humans have seen communication as a necessity; they have created a number of communication methods for sharing emotions, thoughts and values both with the people around themselves and with other generations. In this process, which has begun with cave drawings, communication, with its visual images and syntax, has progressed and changed depending on the culture, and took its current form.

Communication "can be defined as transfer of emotion, thought, behavior and information between two persons or groups/masses of people, named sender and

* Res. Assist., Hacettepe University, Faculty of Fine Arts, Department of Interior Architecture and Environmental Design.

receiver... Communication is the link that ties one person to their close and remote peers" (Becer, 1997). Communication is a process and this process happens in five stages: sender, message, transmission medium, receiver and feedback. In order to communicate this cycle has to be realized.

Table 1: Communication process (Becer, 1997).

The first definition of language, which is a means of transmission in the communication cycle that comes to mind, is that 'it is a system of utterances used by humans to convey their sensations and thoughts (Hançerlioğlu, 1993). This definition of Hançerlioğlu becomes inadequate when we consider today's world. Language is the group of imagery used for defining a situation, an idea particular to a group of people. It is a means of communication. This means of communication does not have to be depended only on a syntax, it can also make use of any other visual image or body language. Any work of art, an architectural building, is also a means of communication, a language. Within this communication cycle sender is the designer or the artist, medium is the object itself-their design, receiver is the user or the person influenced by the work of art.

DESIGN LANGUAGE

As well as being a general communication cycle, a language can also be a means of communication that makes a class special. Professional languages are among this group. This language is based on transmission of emotions and thoughts between the profession's shareholders via occupational terms or visual imagery. 'Design' disciplines that continuously interact with other disciplines have created their own communication techniques and their own language during both design and implementation phases.

"During the design process, information exchange happens in many forms such as verbal, visual, electronic communication and models" (Ensici, 2010). This exchange can occur within a single discipline design group comprised of the designers themselves, as well as within a multi-disciplinary design team that gathers different professions. This situation shows that, when we consider design branches such as interior architecture, architecture, industrial design, and graphic design, even though their presentation methods and drawing language are different, their communication cycles and the designers' approach during the process are similar. If we have a general look at the designer's approach for all professions under the umbrella of design;

- "Designers tackle 'ill-defined' problems.
- Their mode of problem-solving is 'solution-focused.
- Their mode of thinking is 'constructive.
- They use 'codes' that translate abstract requirements into concrete objects.
- They use these codes to both 'read and write' in 'object languages" (Cross, 2006)

"Design might look like a linear act: There is a starting point and an ending point at which the project is implemented" (Dodsworth, 2011). This period from the first stage of the design to the last implementation stage is called 'design process'. "Design process includes a series of acts that are conducted in order to realize a design…" (Dodsworth, 2011). Each of these acts has their own communication cycles. Claiming

that the language of design consists of only 'drawings' means ignoring the verbal language used with the user and the implementer and the occupational terms added to our dictionary.

‘'Drawing is usually defined as a graphical language, hence people who can draw are deemed 'literate'. The reason of this is that it is possible to communicate via drawing. Space can be more quickly and effectively described by using line and colors instead of words. There is a lot of conversation during the design process: inside the design team, later between the designer and the employer, legal authorities, contractor, construction workers, and later on maybe between the designer and the publisher..." Dodsworth, 2011). This situation shows that there might be more than one communication cycles on the way from the design process to the product.

“Interior architecture includes organizing the volumes inside an architectural building in a way that it meets the requirements of the user, providing comfort inside the space, arranging and designing of form, texture, color, material, lighting, equipment and accessories by the interior architect” (Kaptan 1998). Therefore, interior architectural project process, which starts by determining user requirements and requests, goes through some stages until it reaches its last objective state. During these stages, the communication language used by the interior architect, the receiver and the message, that is to say the communication cycle, may differ. Within this context, we can examine the communication cycle during this process in three stages. In each of these three stages sender, who starts the communication cycle, is the designer themselves.

1. STAGE:

Client- Designer Communication

- **Sender**: Designer
- **Message**: Design
- **Medium**: Visual and Verbal Language - Presentation Sheets
- **Receiver:** client

First, three steps of the five steps of design occur during this stage: definition of the problem, collecting information, and creativity-innovation process. This process starts with the first communication with the client and communication cycle is based on persuading the client, that is, the language of rhetoric. ‘'The client might be anyone from anywhere. A client might be a company or an institution, as well as an individual” (Dodsworth, 2011). Therefore, first the problem is defined, the client profile is built, and information about the problem is collected. ‘’client profile is built in order to understand the customer and how do they live and/or work” (Dodsworth, 2011). This is the most important determining factor for the interior architect in his approach to the problem.

After collecting necessary data about the project and the client, the building is surveyed and these data has to be analyzed by the interior architect. Analysis stage is a preparation and decision process, in which the interior architect dominates over the problem and acknowledges the space to be designed. In addition to this, during this stage, a preliminary study of design and concept is conducted and the information is analyzed. For this reason, the scale, scope and concept of the project, the nature of design process and completion date of the project are determined at this stage.

“While the ideas are seeding, there might be an almost subconscious

communication between ideas and images; brain gets feedback from the images on the paper. Drawing becomes a way of thinking" (Spankie, 2012). For this reason, design-creation process of a project begins with drawing. The purpose of design is to build a bridge between the sketch and the product. On this bridge, the interior architect is in communication with themselves, each sketch is an embodiment of a product in their mind. Within this context ''most of the sketches are a search... They do not represent permanence and especially completeness, expression is always open-ended. Sketching is more of a source of continuous learning and thinking rather than just drawing" (Uraz, 1999).

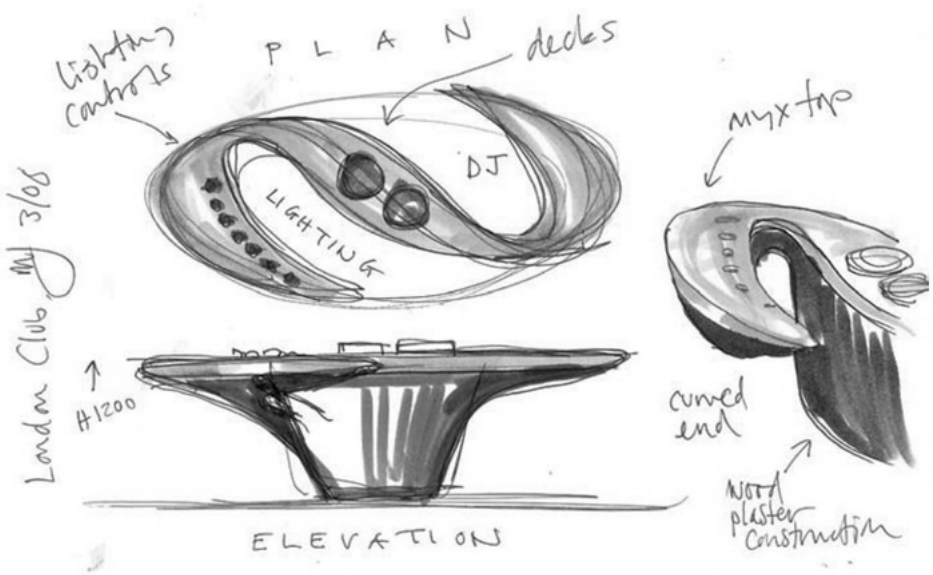

Figure 1: Sketch by Mark Humphrey (Dodsworth, 2011).

"Sketching is an introverted act of creation of the artist. Like singing while you are alone, reading a poem or dancing... It is the means of communication with the artist themselves, it does not adhere to systems of common language, style or signs. In this sense, drawings are notes on a paper" (Uraz, 1999). In fact, sketching stage is a creative process repeated over and over, sketches are drawings of ideas. During this process, designer may visualize their design with an idiosyncratic method such as brainstorming or synthesis, with a unique sketching technique. They create the manifesto of the design and basic setting depending on the concept, using the principles of design. At this stage, it is in fact a concept project, a preliminary project. At the end of this stage, design has to be presented in a way that would appeal to the client, without technical jargon and scale. "Idea drawings are short and depictive, presentation drawings are three-dimensional and they explain the effect of space over the user" (Spankie, 2012). Presentation drawings are based on the principle of making the client comprehend the space on all 6 surfaces via cross-sections, plans, and 3-dimensional drawings and models.

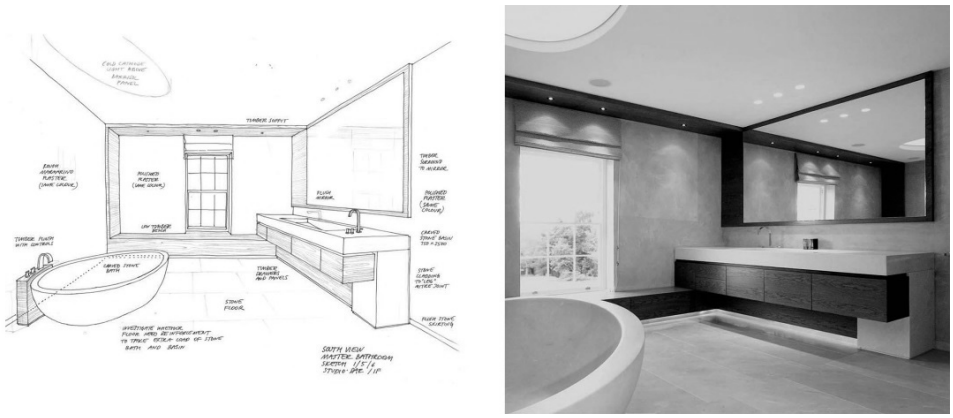

Figure 2: Perspective is useful for perceive a space (Dodsworth, 2011).

"Project presentations are, in fact, for selling the work and for this reason presenter has to uses necessary sales techniques and put forward convincing points. While the designer might be presenting their work to the client or clients, in some large offices, they might also be presenting it to a project manager, upon whose approval they will bring it to the client. Presentation techniques might be summarized as giving an overall good impression, including being on time for the meetings, dressing appropriately" (Dodsworth, 2011). Because, as a visual impression, manners and dress of the interior architect is also a message for the client. Upon approval of the presentation, project is revised according to client requests, contract is signed and technical drawing stage begins.

2. STAGE

Technical Communication

- **Sender**: Designer
- **Message**: Drawing or Model of Interior Architectural Project
- **Medium**: Technical Language
- **Receiver:** Technical Staff

Interior architect can design and visualize the project, but they have to be able to communicate with their both colleagues and implementers of the project, such as architects or engineers. Within this context, the design created as a result of the sketching stage acquires a common language via technical drawing. In fact, technical drawing is a visualization technique, like sketching. It differs from the sketch in that it has to adhere to particular standards such as scale, measure, letterhead, and it has to transmit the project to the receiver via universal interior architectural signs. This is the first step in the transition from abstract to concrete. Technical drawing is a system of images that can start a communication cycle anywhere in the world, without the requirement of a national syntax. Most fundamental elements of this system of images are points, lines, directions, measures, forms, values, textures and colors. These units give the designer the necessary means for conceptualizing the project. Technical drawing includes orthographic projection methods such as plans, cross-sections, and views, as well as three-dimensional drawings like perspectives. These drawings can be made by hand, using traditional methods, or they can be made in the computer environment using software such as AutoCAD, 3DsMax, Rhino, or Catia. Depending

on the nature of the project, sometimes model language might be necessary.

Even though technical drawing is used in all design disciplines, in time, each profession has created its own standards and indicators. In disciplines such as urban and regional planning, architecture, interior architecture and industrial design, when we look at it on the basis of product, we see that they all have a hierarchy of measure. This situation, causes differences in whole technical expression, of course, particularly in scale and detail. Urban and regional planners use; 1/2.000.000, 1/1,000,000, 1/ 250,000, 1/100,000, 1/50,000, 1/5,000 and 1/1,000 scales (Chamber of Turkish City and Regional Designers), architects use; 1/2,000, 1/1,000, 1/500, 1/200, 1/100 and 1/50 scales (Chamber of Turkish Architects). Scales used in interior architectural projects are:

- In location and layout plans, 1/200 and 1/100
- Floor plans, cross-sections and views; 1/100, 1/50, 1/20
- System details, 1/1, 1/2, 1/5 (Chamber of Turkish Interior Architects).

In drawings that use technical language, objects are generally drawn differently compared to what they appear to our eyes. They are not drawn like a picture; a different, special language of images is used. Even though concepts of plan, cross-section, and view are included in the terminology of every design discipline, drawing language used varies. Furthermore, even though interior architecture discipline looks like it speaks the same technical language as architecture, which is seen as its partner in many ways, their images are generally different. The things that are generally seen as 'furnishing' by the architect, the space, for which only the circulation is imagined form the problem itself for interior architecture discipline. This situation, which is partly caused by the scale difference between these disciplines, causes interior architecture to present a furnishing element, which is presented by a single line in architectural technical language, with its whole construction system.

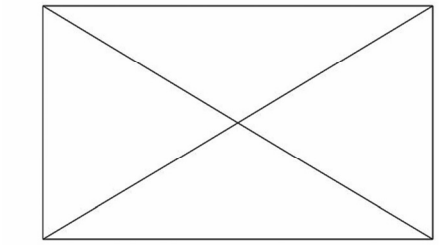

Figure 3: In Architecture discipline, the shape which is in right side means wardrobe while according to interior architecture discipline it means wooden wedge

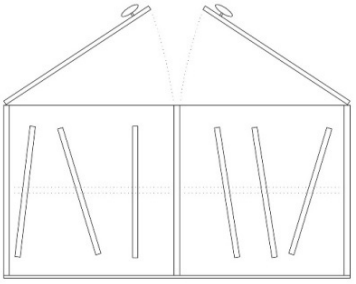

Figure 4: In interior architecture discipline, the shape gets involved in left side means wardrobe

In addition, it is often seen that a symbol used in architecture is used for representing a different object in interior architecture.

“Interior Architecture Implementation projects: Interior Architecture starts with the approval of the final project. Includes project works using appropriate scales such as 1/50, 1/20, 1/10 and 1/5 including all measures, levels, technical notes, reference points, cross-section and view locations, lines of sight, names of materials, layout plans, floor, ceiling and wall vies and necessary manufacturing drawings, as well as material and

time sheet of the location, drawings of interior architectural equipment and details of manufacturing" (Anon. 200). At this stage, specific methods such as 'open surface plan' or the mostly used two-dimensional techniques in interior architecture, orthographic projection, can be used. In other words, plans comprise the technical language made of cross-sections and views. In these drawings, traditional drawing techniques or technological, digital drawing techniques may be used. Common characteristics of this technical language are;

- In an interior architectural plan, cross-section or view, interior architectural scales are used.
- The impression of three dimensions may be given by shading technique, but perspective is never used.
- In these three types of drawing techniques, different drawing styles and line widths are used to make it easily readable. In plan and cross-section, architectural structure in the cross-section is indicated by a thick line, while interior architectural elements are drawn with different line thicknesses according to their front-behind relation. They represent a graphical presentation, rather than a pictorial one.
- In all drawings, whether it is a plan, cross-section or a view, header including necessary information has to be presented within a certain sheet layout. The header must include information such as scale, measure, floor and altitude information, date drawn or revised, name of the designer and name of the project; if it represents a view or a cross-section of the space line of sight information must be included.
- In technical drawing of an interior architectural project there are codes and symbols similar to those in architecture discipline. These codes and symbols form a means of communication for transmitting necessary information to the technical staff, they are the symbols of technical language. These symbols might include the type of material, or altitude difference, even an electrical installation.

Plan

"Is the measured horizontal slice of a space or an object? Buildings are generally sliced at one meter above the floor and direction of view is towards the bottom, or in case of a ceiling plan, towards the top (Spankie, 2012). The plan is the most effective technical element, in which the limits of the space is completely understood and which is active in determining the scale, in interior architecture. It is the stage where the user enters into space and where circulation inside the space and the actions inside the space is designed by the designer. Furthermore, in order to be able to implement a project, designer has to draw a layout plan, as well as other plans such as an illumination plan, electrical plan, HVAC plan, and floor plan.

View

While plan depicts the layout on the horizontal plane of the space, view depicts the layout on vertical surfaces. "In views, we assume that we are looking at the wall we are directed at from a distance of 1 meter, and we instill all the furnishings inside that distance into the view" (Dodsworth, 2011). If we consider a space with a rectangular plan, we can draw all for walls of the space in view, and transmit necessary information to the technical staff. The purpose of views is to provide a three-dimensional understanding of the space, there is no need to include details of the structure.

Figure 5: Example of Process of Drawing (Personal Archive, 2012)

Cross-section

"Is the measured vertical slice of a space or an object? It is usually taken at the center of the space, but it can be taken from any point" (Spankie, 2012). It shows vertical surfaces like views. However, they are different from the views, since space is sliced at the point where details have to be conveyed. Architectural structure sliced by the cross-section line is drawn in detail with different line thicknesses.

In order to be able to implement in real life the objects in the plan and in the cross-section, information regarding 'how it is going to be made' and 'from what it is going to be made' has to be given. Drawings including this information are detail drawings. "Detail drawing is a large scale (1:1, 1:2, 1:5) drawing, which examines and explains the components of a project. Similar to anatomical drawings, detail drawings explain building secrets, hidden geometric compositions and the way different materials are assembled…" (Spankie, 2012). Detail drawings can be made in cross-section, plan and view, as well as perspective. Details considered in interior architecture are details regarding equipment and furniture. In order to draw these details, interior architect must have the necessary knowledge, such as knowledge of materials, knowledge of construction, and knowledge of measure. For instance, in order to draw a designed cupboard, one has to know the MDS used and the standard thickness of surface lining used. If it is considered that the cupboards will open with a sliding system, the type of joint and screw to be used must be included in the details.

In order to perceive a space, two-dimensional technical drawing is generally not enough. For this reason, along with two-dimensional drawings three-dimensional drawings and model language must be used. While three-dimensional presentations give an overall idea about the space, it also helps perceiving the design space via ceiling-floor relation. It makes it possible for a person to exist inside the space. For this reason, interior architecture uses three-dimensional visual presentation techniques.

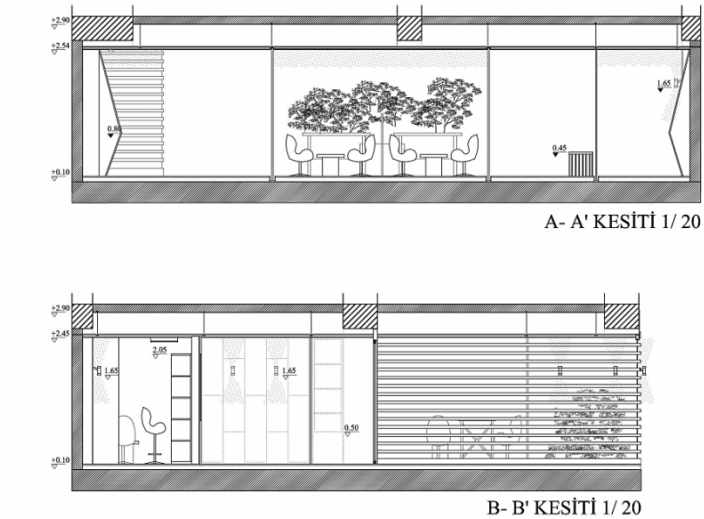

Figure 6: Example of Cross-section (Personal Archive, 2012)

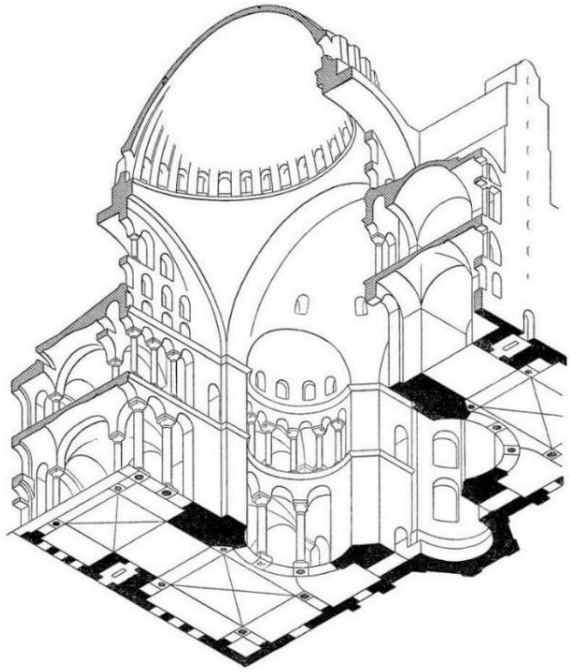

Figure 7: Axonometric drawing (Spankie, 2012)

The word *perspective*, which comes from Latin perspicere, meaning 'seeing through', is based on transferring what the eye sees from the angle of sight of the eye onto the picture surface. There are various perspective techniques, however in interior architecture generally axonometric drawings and perspectives named based on the number of vanishing points are used. In axonometric perspective, object or space is drawn in a manner that they make a 30 degrees or 45 degrees angle with the plan plane.

They have different names depending on their angle but their drawing logic is the same. Vanishing point perspectives used in interior architecture are one-point and two-point perspectives. Since these perspectives have scale, they can give a more realistic impression of the space.

"*Models,* stand between representation and reality, they are both representation of something and a tangible object" (Spankie, 2012). Model is scaled down state of a space or an object and it can create a realistic visualization depending on the materials used. Historically models were made for both presentation and structure testing purposes, and they are still used today as an important presentation technique.

3. STAGE

Designer - Implementer communication

- **Sender**: Designer
- **Message**: Implementation and Assembly
- **Medium**: Verbal Language - Technical Sheets
- **Receiver:** Implementer - Craftsman / Company

After making the last decisions regarding the design and completing technical drawings, implementation stage, which is usually seen by the designers as the hardest and longest stage, begins. At this stage, the interior architect is expected to be a good organization. "One of the primary preconditions for having a professional attitude might be being able to organize well. One might say that only 20% of the workload of interior architects, who also take charge during the implementation stage, is creating a design" (Dodsworth, 2011). A large part of the remaining 80% is comprised of job follow-up and managerial responsibilities. For this reason, during the implementation stage, interior architect must first make a detailed action plan and indicate the optimum completion time of the implementation in this plan, taking into account the possibility of project revision requirements that might arise during the implementation. Answers to question regarding implementation, such as 'what, when, with who, where, how' must be included in the implementation plan and technical drawings prepared by the interior architect.

"In some countries, depending on the education received by the designer, executive authority of the interior architect may be limited. In some countries 'project management' can only be carried out by people trained as project managers. The role of the interior architect during implementation may differ in different countries, according to relevant regulations" (Dodsworth, 2011). For this reason, this stage was written with conditions in Turkey in mind.

Implementation stage includes manufacturing designed elements in the workshop and assembly at the site. During the implementation, interior architect follows up with the implementation both at building site and at designed space during assembly. They directly communicate with craftsmen or technical staff. Implementation is the stage, where verbal and technical language is combined. Technical language used is universal, however verbal language is national; furthermore, it is a mass communication jargon specific to that profession. The meaning of jargon is; a terminology specific to a profession, common system of symbols used by a group of people with a common ground. The verbal language used by the interior architect during implementation is the building site jargon, that is, the jargon of craftsmen. This language is different from the daily language of interior architect, or the language they use with their colleagues or

clients, it is distinctive.

Figure 8: During the implementation phase.

Drawn technical projects have to be read and manufactured by the implementers. Layout plan, ceiling plan, installation drawings and all other technical drawings convey the technical information regarding manufacturing, without the need for the designer. However, in the case of unforeseen situations, interior architect might have to communicate in both verbal language and drawing language. Sometimes they may need to revise the drawings, or a problem may generally be solved by a new detail drawing. These are representational details freely drawn by hand. Bearing in mind that the craftsmen might not be able to read the technical language, generally, parallel perspective method is used. There are no technical preconditions for this method of communication; the important thing is being able to convey the information on how the implementation should be done to the craftsman. Even though this drawing might seem like a sketch, one should not forget that "some of the best details are drawn on site, on the back of an envelope, in order to solve a problem at the building site" (Spankie, 2012).

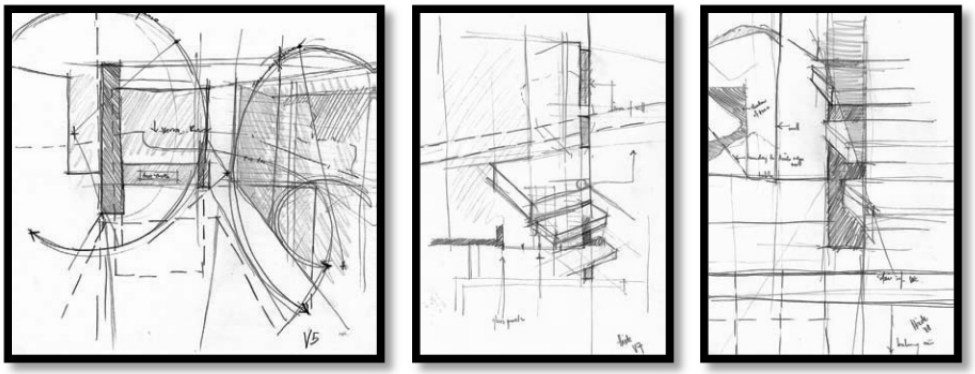

Figure 9: Details (Spankie, 2012).

Most important technical messages during the implementation stage are material sheets and floor plans. Material sheet conveys the information regarding all the

materials that are going to be used, from fabric to ceramic, how and where they are going to be used, to the craftsman. Floor plans are scaled drawings that show the layout of the materials and their joint gaps. If, in the floor plan, it says that the granite used on the floor should be lined in reference to the door frame, the craftsman will start laying out the material as indicated.

CONCLUSION

The design is a creative process based on communication. During this creative process, designer uses a number of communication techniques in order to transform the image in his mind into a product. Even though all design disciplines have similar communication cycles, techniques and methods used are different. During the historical process, like all design disciplines that have defined their own areas of expertise, interior architecture too have created a distinctive design process and a unique method of communication during this process.

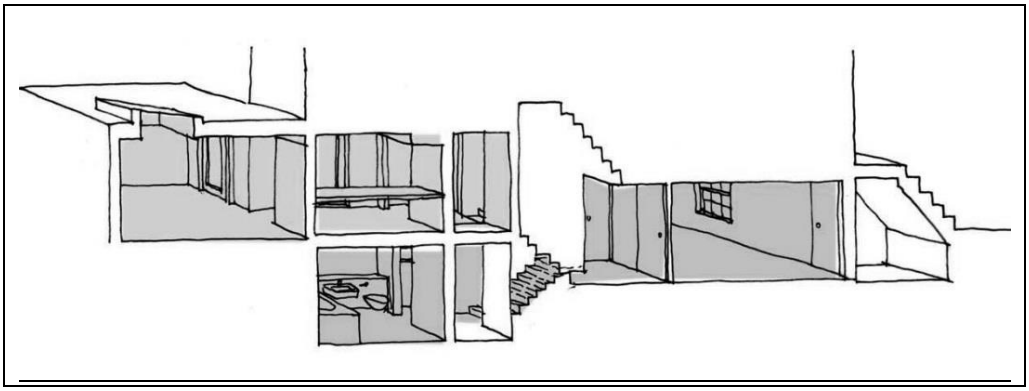

Figure10: Sketch by Emily Pitt (Dodsworth, 2011).

It is thought that interior architects use the same communication methods as the architects during design process. However, due to the fact that they cater to different requirements and use different scales, technical language they use, and even their perception of space is different. Because, “architects define volumes using planes, and they form buildings by combining these volumes” (Dodsworth, 2011). Whereas interior architects design each space within this building according to requirements, liking, needs, ergonomics, and economy of its user. They interfere with the private space of people, define their immediate environment. Concepts such as space, user, equipment that bring the design into existence have different connotations in these two disciplines. Therefore, one can say that these two disciplines have different characteristics.

Interior architect’s communication with the client at the first stage, and communication with technical staff during implementation, requires a cultural background. Interior architect is a man of culture and communication of this culture is carried out with the national language. An interior architect lacking this culture will have a hard time designing a space for a user with that culture, as well as having a hard time communicating with the craftsmen. For this reason, it is important for their professional life for interior architects to receive their fundamental education in their national language. This "culture that affects the interior architect takes part in the design process with its three different aspects:

1. Culture of the social structure,
2. Culture characteristic of the user (employer),
3. The individual culture of the designer" (Kaptan, 2013).

In conclusion, interior architecture is a profession that intervenes with people's living spaces, hence with their lives, and designs their activities inside a space. For this reason, interior architect's communication and interaction with the person that is both the user and the employer is more special compared to other design disciplines. Good communication is as important as a space or product designed to satisfy the user. This situation caused the development of a complex system of communication, which includes verbal language and drawing language, for interior architecture discipline.

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