



Design Setup and Preparation Suggestion in the Process of Furniture Manufacturing in Interior Architecture/Design

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Keywords

Interior
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Productivity, Built-in
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Production.

Abstract

Built-in furniture is one of the main design elements that has to be considered within Interior Architecture/Design. There has to be a productive way of formatting the built-in furniture within the design process. The Interior Architecture/Design is a profession that lives the design and productional procedure within the same time during the constructional processes. As the furniture design and the production of it is one of the main processes of it. The purpose of the research is; to search for the plan and the schedule of the built-in furniture process, which is beginning by designing, and ending with the installation. At which part of the designing procedure the furniture gets the importance? How does the designing and productional processes get involved with each other? How does these processes bring to life, at which points the conflicts may occur and what are the main reasons about these conflicts within the professional life of Interior Architecture/Design? This study has tested the operational process with the manufacturing workshops. The information obtained is tested by putting them on tables, making comparisons, and evaluations. By this way the importance of the built-in furniture design and way of production is discussed within the life of the Interior Architect/Designer.

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1. Introduction

The “designing” procedure is the most valuable part within the Interior Architecture/Design profession. That is the creational part of it, which is getting according to the knowledge, researches, and decisions related with lots of things related with the human factors, constructional needs/features, material formation and of course the creational feelings about the project and/or product that the designer live by himself/herself.

That is why IFI (International Federation of Interior Architects / Designers) which was founded in 1963 describes that;

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“Interior designers and interior architects synthesize human and environmental ecologies and translate science to beauty addressing all the senses.” (IFI, 2011, para. 13)

“The practitioner listens, observes, analyses, improves and creates original ideas, visions and spaces that have measurable value.” (IFI, 2011, para. 14)

“The responsibility of the interior designers and the interior architects is to define the practice and the required expertise, educate ourselves and the public realm as experts in the built environment.” (IFI, 2011, para. 15)

within IFI Interiors Declaration (2011).

By defining the needs, and the problems related with the functions, the interior architect/ designer can form out the interior designing, by researching and adding creativity in order to solve the problem, for that reason, the interior architect/designer deals with the space analysis, space design, site checking, building systems, aesthetics, constructional information, materials, relative equipment and equipment providence information during the designing procedure. That is why, “The interior architect/designer should be the one, who has the ability, knowledge, and the experience for preparing the drawings and the documents for the interior spaces” (Ozdamar, 2016, 2).

The interior architect/designer is not just the one, “who is forming a design”. After having the period of deciding and designing, there will be the long and the important process for the production of the designed elements. Beside the constructional part, like plumbing, electrical constructions, HVAC, lighting, and things like those, the furniture is one of the most important part of the designing and constructional portion of the Interior Architecture/Design.

2. The Furniture in Interior Architecture/Design

The furniture, is one of the main elements within the life of the mankind with the living environments of them. It is one of the basic tools that the mankind uses it to make life easier or and improve living comfort of them.

It is the design element, which holds the most important place among the determinants of the space, as it meets the needs of the users in the spaces, and enables them to move easily according to the function of the space, and helps them by their actions while performing them, it can also offer the user; a safe, comfortable and healthy usage (Başbuğ, 2016, 49).

This means that, we use “furniture” for all the aspects of our life, by the environments those are all being used in; the homes, the offices, the social spaces and so on; which are all designed related with the usage way, and functions of them.

The designed furniture plays an active role in functionalizing the space and making it suitable for user preferences, and the actions of them. In addition to that, it is directly affecting the perception of space by adding values such as function, comfort and aesthetics to the space. This situation shows that, the space design or

the designed space has the power to influence, shape and transform the furniture and the furniture the space. Therefore, space and furniture are directly related and constantly interacting with each other.

While this interaction shows the importance of interior architecture/design, that has an important role with the furniture design, and with the development of the furniture industry. Beside these, it also reveals the importance of the interior architecture discipline, such as researching, developing, and determining the problems of the furniture industry in order to meet and develop the needs of the furniture industry. At the same time, in order to complete this development, it is necessary to increase the advantages of the furniture sector, to eliminate its weaknesses, to take measures against threats and to evaluate opportunities (Koç et al., 2015, 1159).

The furniture, especially the built-in furniture design and the production of it is one of the main processes of the Interior Architecture/Design within the living environment of designs; it has to be an operational mechanism during the construction of it, in order to form out a productive way within.

There are two main factors with the furniture; the “designing” process and the “production/manufacturing” process. It is the procedure which has to be corelated by the interior architect/designer with the all phases of it. While, the “productivity” begins with the designing process of the furniture, and gets till the formation of it like the production process of an armchair at HTT Group by an Interior Architect/Designer (Figure 1, 2, 3).

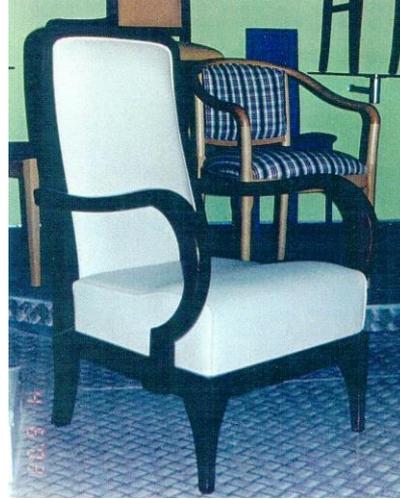
Figure 1: The technical drawing of the product



Figure 2: The production process



Figure 3: The product



3. The Purpose – Aim

The purpose of the research is, to find out the plan for the furniture formation, and the relation of it with the other design features, which is beginning by designing and ending with the installation of it.

According to that it is aimed to answer the questions of;

- At which part of the designing procedure in interior architecture/ design, the furniture gains the importance?
- How does the designing, and the production processes get involved with each other and how does these processes bring to life?
- At which points the conflicts may occur and what are the main reasons about these conflicts within the professional life of Interior Architecture/ Design.

With the results of the findings; it is aimed to reach the results where the weaknesses and strengths can be revealed. By the results of the findings obtained from the examination of design, and production processes, the values and requirements of the “practical” information and achievements carried out in the process of furniture design and manufacturing process within the professional life is discussed, and evaluated.

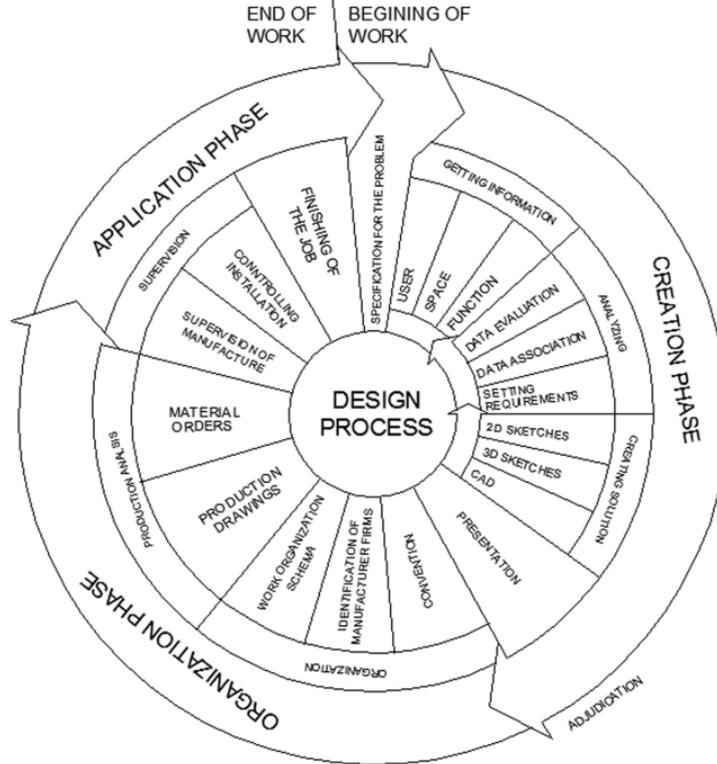
4. The Scope

The profession interior design/architecture which has been started the professional life by the beginning of the 20th century, is one of the professions which is constantly renewing itself with the effects of social, cultural, economic and technological changes. In parallel with this structure, and understanding; there has been a relevant and continuous renovation with the process of design to production.

Figure 4: The Design Process

By Kaptan, B.B. (2001) İç Mekanın Niteliğini Belirleyen Öğelerin Görsellik Kazanmasını

Sağlayan Oluşumlar



That is why the interior architects/designers are acting with a project schedule within their professional life; the furniture design and the manufacturing phases, are the important parts of that “application phase”. According to the professional decision, the designing procedure is the 30%, and the productional phase is the 70% of the design. This means that although the designing procedure is the important phase of the profession, it is really important to be able to control the productional phase, which is much more challenging process of the profession. So according to them, the interior architect/designer should know and/or learn about the production phases of a designed elements. Beside these the impact and the prosperity of the design is also so important for the firm and the designer.

In this study, the productional processes of the built-in furniture are examined. It is beginning by the designing procedure of it and ending with the installation process of the furniture. They are all put forward and the evaluations have been made within the framework of the differences between them depending on the operational phases within them. The results are reached by having the comparisons between the endings of the built-in furniture designs.

5. The Method

In order to increase productivity, a “design to production” process consisting of different stages will be proposed with sub-process definitions. This proposed process study is tested on the operational process with the manufacturing

workshop and data on productivity is collected at 5 productional firms. The information obtained is tested by putting them on tables, making comparisons and evaluations between the productions with the producers.

By this way the importance of the built-in furniture design and production of them will be discussed within the professional life of the Interior Architect/ Designer.

The evaluation opinions and decisions are gotten by the comparison with the researches, and the results of them are evaluated according to the working procedure of the Interior Architect/Designer.

6. The Interior Architecture/Design

The profession of interior architecture/design, and its' the first definition in Turkish; by an anonymous article published in Arkitekt magazine in 1932;

"Today the internal decoration and furnishing of buildings has become an art in itself. We also want to increase the number of our friends who are specialized in this branch, which we are beginning to feel the need for, and wish them to have a job site in our country and wish them success (Şumnu, 2013, 23).

The main decision of the profession is explained with these words; is it the gathering of the spatial requirements that arise with the needs of people under the roof of a profession? It is also been evaluated.

There are many other definitions for the interior architecture/design, but unfortunately, the generally known definition related with the profession is;

"Traditionally, the architect defines the structure with the walls created with the structural elements and the buildings come to life after the interior design is finished". If further work is required, the interior decorator may have added colour, pattern and texture coatings to the existing walls, ceilings and floors to select the space for a specific purpose and functionalize it (Higgins, 2015).

It is known as; the development of the interior architecture/design profession will continue to evolve as the spatial requirements of the users increase.

The profession comes to life not only within the framework of the structures formed out by architects, but also gets on life wherever people live at; airplanes, ships, wagons, yachts.

Interior design/architecture is an integrated design phenomenon in which the interdisciplinary and multi-relational systems are getting together. The relative design approaches like material selection, reinforcement of the designed elements, and ergonomic suitability value, creation of spatial acoustic conditions and creation of necessary lighting environments depending on the function, the design of escape routes for emergencies such as fire and user load relationship are just a few of the works of interior designers/architects. What is important in the interior design/architecture approach; necessary arrangements and designs to meet the functional requirements of the space, in line with user requirements; ergonomic, functional, psychological (perceptual), aesthetics and comfort to meet the values. (Özdamar, 2020)

These approaches, which can simply be called "planning", are actually much more strategic and form a complex relationship system. Space design is more than "two-dimensional" activity in which the spaces are arranged on the plan and section drawings, but the "three-dimensional" perception of the space/volume has to be considered:

"Volume and form; proportion, proximity and relationship of spaces; the way they are defined and connected, and roaming between and around them. All these elements have to be developed by interior architects to meet the needs of indoor users and to respond to the constraints set by the existing area where the interior schema exists" (Higgins, 2015).

By considering all these explanations, interior architecture/design; is to design all types of spaces with all their needed requirements for different functions, and purposes. When starting with such a definition; we can understand that, interior design/architecture, which is a profession related to human and living together, is a multifaceted body of relationships within its own structure. In this context, interior design/architecture, which constitutes its own definition, has been accepted as a profession to meet the spatial/vital needs in the future (Özdamar, 2020, 911).

The designed furniture is one of the main parts of that designing procedure, and will get on like that by the future also. As it is the connection of ours, within the living environment with the living process.

7. The Interaction of Design and Production

There has to be correlation of all aspects, beginning with the design of the furniture, until the submission of it; which has to be correlated by the interior architect/designer. According to the furniture producers;

- At which part of the designing procedure in interior architecture/ design, the furniture gains the importance?

The designing, is a total process; beginning with the conceptual analysis, and ending with the construction/production of that designed feature. After the conceptual relations of the design features, it gets on with the geometrical trials with the spaces, and with those geometrical trials the designers deal with the functions of those spaces. That functional search, gets the furniture beside it. As, those are the elements that will be used by the users of the space. So, this means that; the designers are deciding, and designing the furniture nearly by the beginning of the project.

Beside these designing features, according to the meetings, and interviews; the selection of the materials (Figure 5), and the furniture affect the constructional costs of the projects, so there has to be the attentiveness related with the costs of the furniture, and the materials used for the production of the furniture. As it is affecting the total price of the production.

Figure 5: The Selection of Materials



So, the designer should deal with the “material selection” of the furniture by the beginning part of it, both with the designing and the economical part of it, which occurs by the selection of materials and the constructional ways. As the type of the construction may change according to the material. So, the furniture is an important part within the designing procedure, which is affecting the design both in appearance and cost of it.

- How does the designing and the productional processes get involved with each other and how does these processes bring to life?

According to the producers, the designing process should get on with the material specifications together. This is the discourse by lots of the designers, and another decision is related with the combination of those materials with the designs; that is also called by Ludwig Mies van der Rohe by saying “God is in the details”.

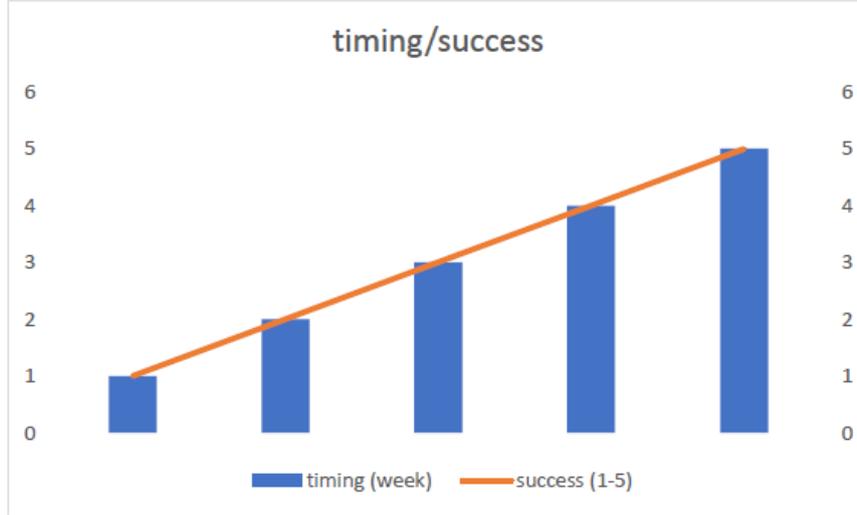
It is an important part of the production, “to combine the reality with the drawings”. According to the producers, it is really an important feature of the designer, to be able to design the furniture by thinking about the producing/productional material. It is indicated that, the designer should be able to get the material features by the design in order to be able put a successful design and production by the end of it.

That is why, the producers want to have the drawings of design in order to be able to have discussion on them with the designer, and while having those drawings they are mentioning about the timing procedure for that discussion. According to them, “if they have the chance to have the discussion on the productional drawings, the ending products are much more reliable, appropriate, and convenient.

According to the producers, without having the discussion on the designs and the productional features, there may be really big problems because of the different decisions by the ending of the furniture. The other thing again by the producers is the productional timing. According to them, the timing should be acceptable for the

productional period of the furniture. So, it has to be set according to the productional period of the furniture. This has to be arranged in a productive way; the appropriate timing for the best productional ending (Figure 6).

Figure 6: Timing/Success



Another point with the relation of the designer's vs producers, is the quality of the drawings for the productions. According to the producers, in order not to have a meeting related with the productions (Figure 7), the productional drawings should have every detail on it, so as to make the producers/workers be able to understand it easily (Figure 8).

Figure 7: The first drawing of the wall.

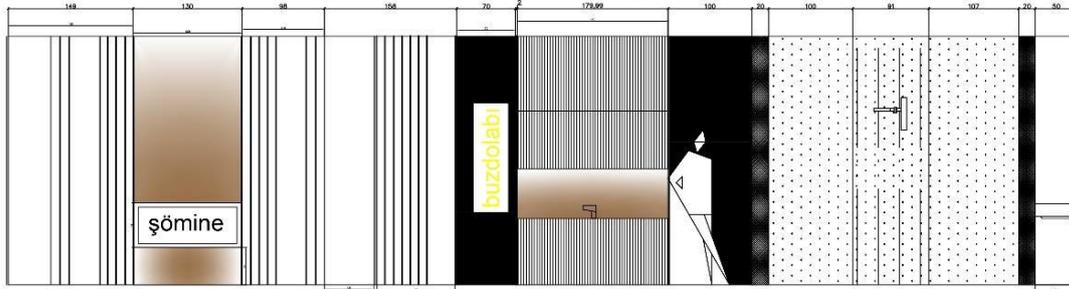
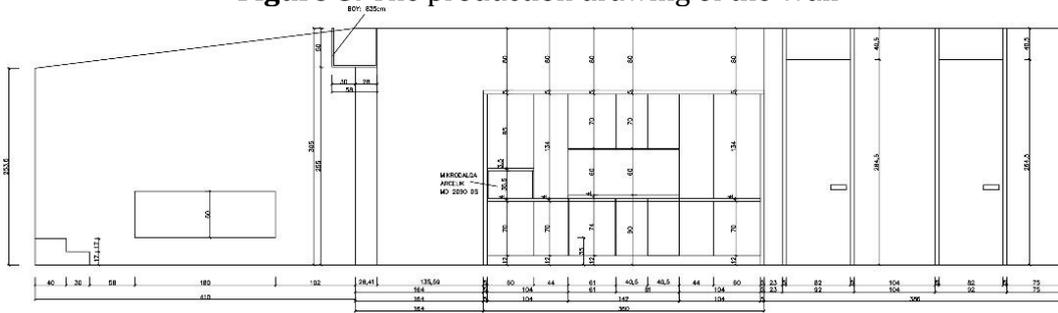


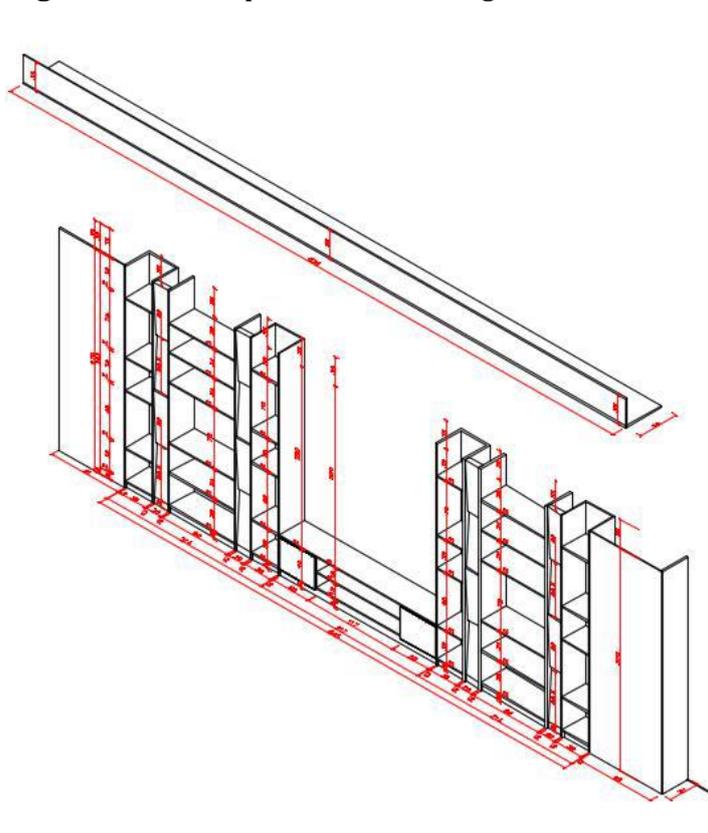
Figure 8: The production drawing of the Wall



As it is seen with the figures 7, and 8 by Berk Decoration, although they are the drawings of the same area and production, they seem to be different, and the explanatory of them are different from each other; as there has to be the explanation of the design for the production with all dimensions, materials, surface treatments and etc. on those drawings.

Another way to get on with the production drawings is to have them in 3-dimensional way, which is explaining the production in a much more realistic way (Figure 9).

Figure 9: The 3-D production drawing of the furniture



- At which points the conflicts may occur and what are the main reasons about these conflicts within the professional life of Interior Architecture/ Design?

According to the manufacturers, the main problematic issue with the production of the designed elements of the Interior Architect/Designer occurs by the dimensioning of the furniture on the drawings.

The designer should give the dimensions of the production with the reality, after lots of controls (Figure 10, 11, 12, 13). It is one of the main points with the production. As if the production can not get on with the other designed units, and the related equipment, the main problem gets on with the re-production of the furniture, and this affects the producers by the purchase of the new material, which is affecting by time and money. And it also affects the program of the production of the other works of the workshop also. So there has to be a great control with the submission of those productional drawings.

Figure 10: The construction drawing of a kitchen

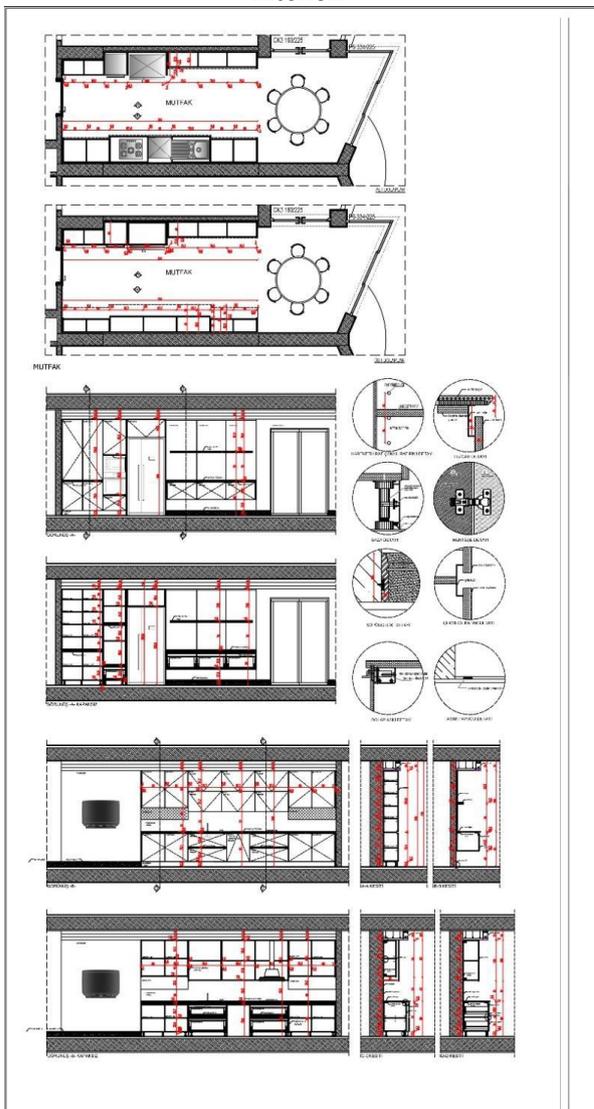


Figure 11: The constructed kitchen 1



Figure 12: The constructed kitchen 2



Figure 13: The constructed kitchen 3



8. Conclusion

The ending of the built-in furniture is done by the submission of the design to the owner of the work. There has to be the comfort of the rightness and the wellness of the submission for both the customer and the interior architect/designer. It is the main thing with the dealing of the work; to have the good job by the customer according to the payment for the work, and to have the right submission without any problem for the interior architect/ designer. Both sides should be peaceful with the work.

In order to have it;

the designer should be able to have the right dimensions of the space for the production, and this issue can be set by controlling the infrastructure before the production and the assembly of the designed furniture;

the designer should be able to control the other productions those are affecting the designed furniture; and this may be done by the correlation of the other constructional professions like masonry, electricity, plumbing, HVAC, and others with the furniture. The other constructional units should also have the necessary specifications related with the designed features. So, this gets the importance of having the constructional drawings for every production of the space;

the designer should be able to form out the right drawings for the production of the furniture, that has to have every necessary information about the production of them; the details, material selections, codes for the materials, the information related with the equipment that is to be used with the assembly of the designed furniture;

the designer should be able to chose the right materials for the production of the designed units, which is affecting the utilization of them; and beside this, the right material selection for those designs and productions is also affects the cost of the production, that is really an important issue with the reliability of that interior architect/designer within the professional life.

So as to have such a smooth atmosphere by the end of the work, the great occupation has to be done by the interior architect/designer which is to be really sure about the precision of the constructional drawings, and the control throughout the work.

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