Personalization of Space in Office Environments

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ABSTRACT

In today's world, offices play an important role in human's life because many people spend most of their time there. Office layout concepts were changed during years according to some factors such as "human needs", "organizational needs" and also "technology". Across the history of workplace, it changed from traditional closed office to open-plan cubicles offices. All types of offices need to support user's physical and psychological needs. An important issue that should be considered in office design is personalization of space that is linked to concepts of privacy, territorial behaviors and personal space. Personalization of space refers to the purposeful ornamentation, decoration, modification, or rearrangement of an environment by its users to reflect their individual identities. In the workplace most employees need to personalize their spaces to identify their own space. Personalization of workspace serves many purposes such as preventing stress resulted from work and it helps to enhance satisfaction with the work environment and the job, expressing self-identity and perhaps even well-being of employers, all these shows the importance of this term.

This study focuses on reasons of personalizing of space for employees and affects of it on the organization of the interior space of the work environments and well-being of users.

For this purpose all concepts which are linked to personalization such as territory, proxemics, privacy, and personal space are described and finally the personalization

and affect of it on user and space are explained. The aim of this study is to expose the manners of personalization in work environments which help designers to create more suitable interior spaces in offices for employees according to their physical and psychological needs. The study also aims to find out whether personalization have the same meaning for different people, whether the reasons of personalization changes according to the gender or not, whether females personalize their space in different manners than males do, do they believe on affect of personalization on well-being or not and at the end whether they arrange their space to control interactions and communication or not. For these purpose a case study has been done in this study to find the answers of the above questions.

ÖZET

Günümüzde bir çok insan zamanının büyük bir kısmını ofisinde geçirdiğinden ofisler hayatımızda önemli bir rol oynamaktadırlar. Zaman içinde ofis düzenlemeleri 'insan gereksinimleri', 'İş gereksinimleri' ve 'teknoloji' gibi bir çok etkenden dolayı değişim göstermiştir. Tarihsel gelişiminde, ofis geleneksel kapalı ofisten açık ofise doğru bir evrim göstermektedir. Tüm ofis türlerinin, kullanıcıların fiziksel ve psikolojik ihtiyaçlarını desteklemeleri gerekmektedir. Ofis tasarımında dikkat edilmesi gereken konulardan biri mekanın kişiselleştirilmesidir. Bu konu mahremiyet, hudut belirleme davranışları ve kişisel alan kavramları ile doğrudan ilişki içindedir.

Mekanın kişiselleştirilmesi, kullanıcının kimliğini yansıtmak için bilinçli olarak mekanı süslemesi, dekore etmesi, değiştirmesi; veya ortamı yeniden yerleştirmesi olarak tanımlanır. Çalışma ortamında çalışanların çoğu kendi mekanını tanımlamak üzere mekan kişiselleştirmesine gereksinim duymaktadırlar. Mekanın kişiselleştirilmesi işten dolayı yaratılan stresi engellemek gibi bir çok amaca hizmet ederken; iş ortamından ve işten memnuniyet, kendi kimliğini ifade etmeye ve hatta çalışanın refah düzeyini arttırmaya yardımcı olmaktadır. Tüm bu gerçekler bu kavramın önemini göstermektedir.

Bu araştırma, çalışanların mekanı kişiselleştirmelerinin nedenlerini ve bu konunun iş alanlarındaki iç mekan düzenlenmesi ve kullanıcıların refahı üzerindeki etkisini irdelemeyi amaçlar.

Bundan dolayı kişiselleştirme ile ilgi tüm konular: hudut belirleme, yaklaşma, mahremiyet konuları ve kişisel alan kavramları anlatılmış, kullanıcı ve mekan üstündeki etkileri irdelenmiştir.

Bu çalışmanın amacı ayrıca tasarımcılar için çalışanların psikolojik ve fiziki ihtiyaçları doğrultusunda daha uygun ofis mekanları tasarlayabilmelerine yardımcı olmak üzere çalışma mekanlarının kişiselleştirme yöntemlerini aydınlatmaktır.

Bu çalışma farklı insanlar için mekan kişselleştirilmesinin anlamının farklı olup olmadığını; farklı cinsiyetler için kişiselleştirme nedenlerinin farklı olup olmadığını; kadınların ve erkeklerin mekan kişiselleştirme yöntemlerindeki farklılıkları; bu konunun refah düzeyi üzerindeki etkisine inanıp inanmadıkları; ve mekanı, etkileşim ve iletişimlerini denetlemek üzere düzenleyip düzenlemediklerini sorgulamayı amaçlarlar. Çalışma kapsamında, bu sorulara bir cevap bulabilmek amacıyla bir alan çalışması yapılmıştır.

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To my dear father who is always in my mind…

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CHAPTER 1

INTRODUCTION

1.1 Definition of the problem

Offices are the daily work environments; where many people spend more than half of the day at work there. As smith & kearny(1994) describe there are diffrences between defenitions of terms such as work environment, workplace, work area and workspace.

1. "Work environment is a generic term applying to a place of any size where work occurs.
2. Workplace is a larger area where many people or groups work.
3. Work area is a smaller area, often including space for meetings and common equipment, where a discrete work group of any size works. Self-directed work teams fit in here.
4. Workspace is the individual area where one person works. The terms of work areas and workspaces can be called offices when they are created by ceiling-high solid walls or partitions" (smith & kearny, 1994, p. xxi).

For a large number of people office environment is important in their daily life. As its' physical setting influences their behaviors, emotions and their well-being.

According to changes in technology and tasks the design of office has changed during years to provide users needs, such as functional needs, physical needs and psychological needs. Some of the most important issues that are mostly ignored in design of interior spaces are the social and psychological needs of users such as personal space, privacy, communication, controlling interaction, personalization, etc.

Physical environment affect the social and professional interaction among employees. From architectural point of view this influence can be controlled with a relative accessibility of interaction, such as physical distance that represents a major determinant of social influence. On the other hand physical environment can control visual and auditory interactions between people by using barriers to reduce the ease and efficiency of communication between employees. Finally as an architect it is important to consider that the layout of space and interaction reciprocally influence on each other (Lang & Moleski, 1982).

For an architect it is important to consider the nature of the work processes which is taking place in an office and find the desirable level of communication and interaction between groups or individuals according to job requirements in the work areas, to support users' needs such as privacy and personalization which will affect their well-being and also job satisfaction. Certainly, the physical environment with spatial arrangements and facilities provides the needs of users and the activities which occur in the place. Physical environment can facilitate the formation of social gatherings and make the communication and movement in place easy. It can provide the desirable level of privacy for users with help of personalizing of their on space and defining their individual boundaries. All these shows it is significant to arrange the physical components in space according to not only functional needs but also

behavioral needs of people. Moleski model (1974) shows the process of environmental design as blow; he believes that understanding the behavioral needs is a significant issue in design (Figure1).

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┌──────────┐     ┌──────────────┐     ┌──────────────┐     ┌──────────────┐
│ Perceived │ ▶  │ Determination │ ▶  │ Ternslation of │ ▶ │ Environmental │
│  problem  │    │ of behavioral │    │   needs into   │   │    design     │
│           │    │     needs     │    │    physical    │   │               │
│           │    │               │    │   component    │   │               │
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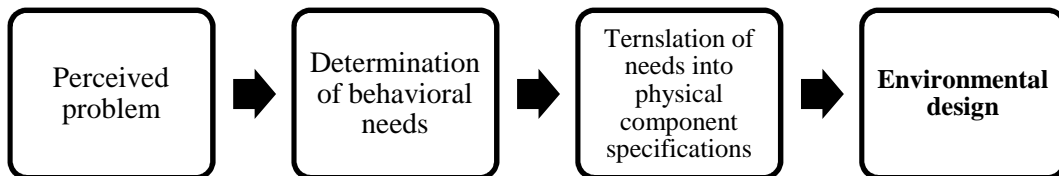
Figure 1: Behavioral programming process (Moleski, 1974)

One of the important needs of people is personalizing the personal space in the work environment. They want to personalize their personal space for different reasons such as to identify their own space, regulating social interaction and privacy. Office personalization serves many purposes such as preventing stress caused by work and it helps to enhance satisfaction with the work environment, the job, and perhaps even well-being of employees (Sundstrom, 1986).

This thesis will focus on the key words of personalization in offices which affect the employees' attitudes and job satisfaction. For this purpose it describes all concepts which are linked to personalization such as territory, proxemics, privacy, personal space and finally it explain the personalization and affect of it on well-being.

1.2 Aim of the study

The main aim of present study is to expose the manners of personalization in work environments which help designers to create more suitable interior spaces in offices

for employees according to their physical and psychological needs. This study tries to answer the following questions:

1. What is the meaning of personalization?

2. Which concepts of human behavioral are linked to personalization?

3. What are the main reasons for personalization?

4. How people personalize their personal space?

5. How personalization of office affect on employee or the result of job?

6. How gender affect on personalization?

Therefore, answers to these questions will expose some guidelines which help designers to create more suitable interior spaces in offices for employees according to their needs.

1.3 Method of study

In order to express the concepts which are related to the subject of personalization, such as privacy, territory, proximity, personal space… and find the necessary and adequate information about these key words and objectives of this study, a literature survey and a library research is done. So the collection of data in this research is based on theoretical and documentary information and based on literature review. Also how these issues can be applied in work environment during the process of design, and how arrangement of physical setting and components affects on personalization of employee on office is discussed. The aim of this study is to give significant information that helps designers to design offices as more satisfactory spaces, intense of privacy and personalization of work environment which provides users needs. In the second part of this thesis there is an observation of some offices in

Eastern Mediterranean University (EMU)-Faculty of Architecture in Cyprus. The selective offices were chosen form a group of employees with the same profession, culture, age range and education. These offices are analyzed according to the arrangement of interior space and items which shows that employees tries to personalize their own space. This observation tries to find out the answers to some questions which were the main research questions and compare it to the information which is found in literature review such as:

1. What are the reasons of personalization?
2. What is the meaning of personalization for each employee?
3. Is personalization affect on job satisfaction or well-being of employee?
4. How personalization of space affect on space organization and arrangement of it?
5. Does gender differences affect on personalization?

1.4 Structure of the thesis

Chapter one is introduction part that explains general information about the subject of thesis, the aim, methodology and the limitation of the study.

Chapter two, introduction to office background explains two kinds of categorization of offices, according to layout of the office and type of work that occur in the environment. Also it describes the affect of organization of space on user performance.

Chapter three, deals with relationship of space on human behavior and job satisfaction in the office. Also it explains personal space and the factors which affect it.

Chapter four includes the definition and types of privacy. This chapter will help designers to understand the meaning of privacy and it shows how it affects on design of office environment.

Chapter five deals with the term personalization, effect of gender differences on personalization of space, and how personalization in office can influence on well-being of employees. This chapter shows the importance of this subject in work environment.

Chapter6 part is an observation in some offices in EMU which analyzes the reasons of personalizing the space by instructors and it test and evaluates the information found in literature survey part.

Chapter 7 as conclusion of present study summarizes the findings of the research.

1.5 Limitation of the study

There may be many other human needs related to design of office such as safety, stimulation, clarity but this thesis will focus only on personalization of space and the concepts that is tightly linked with it such as territory, proxemics, personal space and privacy. In observation part the categorizing is according to gender differences and effect of it on personalization of office. Although some other factors affect on personalization of space such as profession, age, culture… but in this evaluation

these factors kept constant in all cases. As a further research it seems that it is important to find out if profession also affects on personalizing of space or not. For example do designers and engineers act the same way in personalizing their space or not?

CHAPTER 2

INTRODUCTION TO OFFICE BACKGROUND

The office is a place where people come together to engage in activities and works. The term of office originally derived from the Latin word "officium" (duty) and even before that, in Old Latin, "opificium" from "opus" (to work) and "facere" (to make) (http://home.telkomsa.net/deycor). People come together in offices to use specialized equipment, initially typewriters, telephones and then computers, copiers, printers and fax machines (Becker & Sims, 2001). The employees who work in an office with different ages and genders use space for different tasks, such as typing, filing, accounting, reading, writing, drafting, operating computer, conducting interviews, meeting, etc. in both possibility of group or individually for temporary or certain period of time (Duffy, 1992).

Therefore office is a place that people come together for specific activities and sharing information and using the technology; it is a daily work environment. Office layout concepts were changed during years according to some factors such as "human needs", "organizational needs" and also "technology". The office should match with functional needs and users needs. For success in this match understanding of office work, users need and task requirements are important. On the other hand the work environment affects on employees well-being (physically,

psychologically, and sociologically). So the office type should be chosen carefully to reach to optimum regulation.

This section will have a critical view on office types in two categorizes:

1. According to history of offices and office design and layout
2. According to pattern of work

Generally office types can be classified according to their layout, into traditional (private/bull-pen/closed) or modern (open) types. It is significant to find out which type of office (individual offices or open plan offices) is suitable for the user and job.

2.1 Evolution of office design according to layout

The office can be categorized according to their design layout as follow:

1. Closed plan offices
2. Open plan offices

   2.1 Landscaped offices

   2.2 Furniture system

The following pages describe and evaluate changes in office design from traditional closed office to open-plan cubicles offices.

2.1.1 Closed plan office – up to 1960

Up to 1800's business was more a small family concern which was managed by the owner of the activity and sometimes with help of a few clerks. In that period there

was no difference between an office building and a residential one. Simple rooms in parts of a house were known as the first offices that work was done in them. This early type of office is called "Honeycomb" System because of using small rooms in a building that was not designed specifically to be used as an office (Figure 2). This type of office is still in limited use by small businesses.
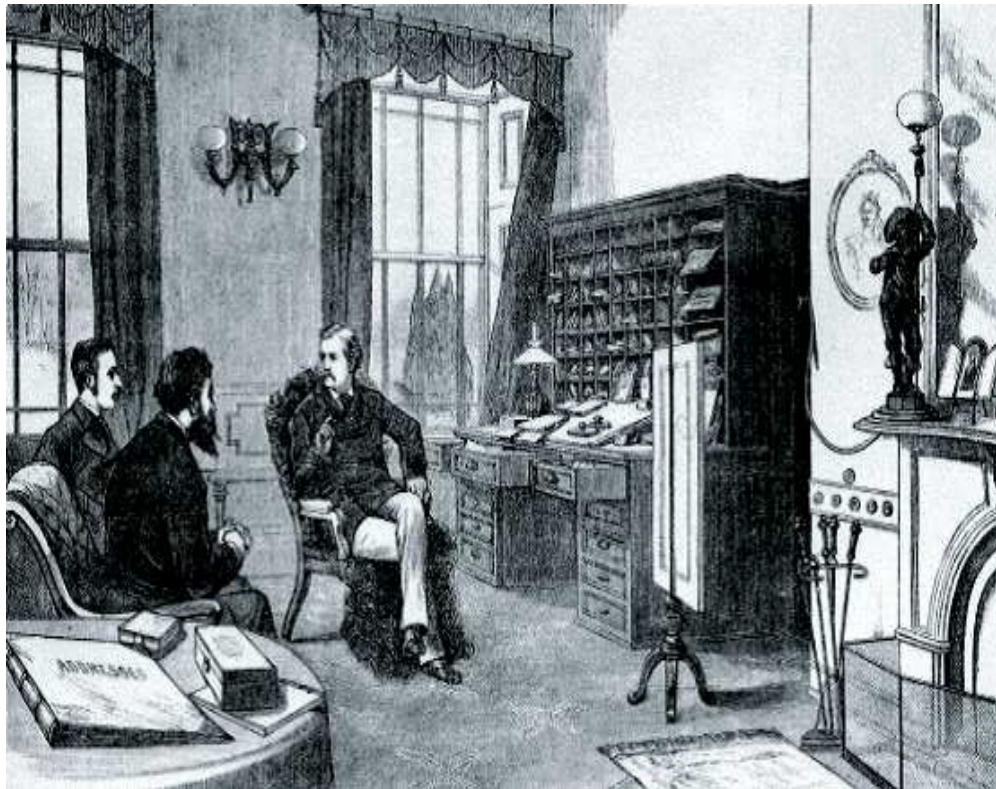
Figure 2: Early Offices and the Honeycomb System – up to about 1800
(Http://home.telkomsa.net/deycor)

By development in business and trading, buildings with specific usage for business activities have been designed. Gathering of employees with various activities was the idea of office buildings. The first type of offices was closed ones.

Generally closed plan offices are private offices which are defined by four full height walls and are mostly used by one or a few individuals (Figure 3).
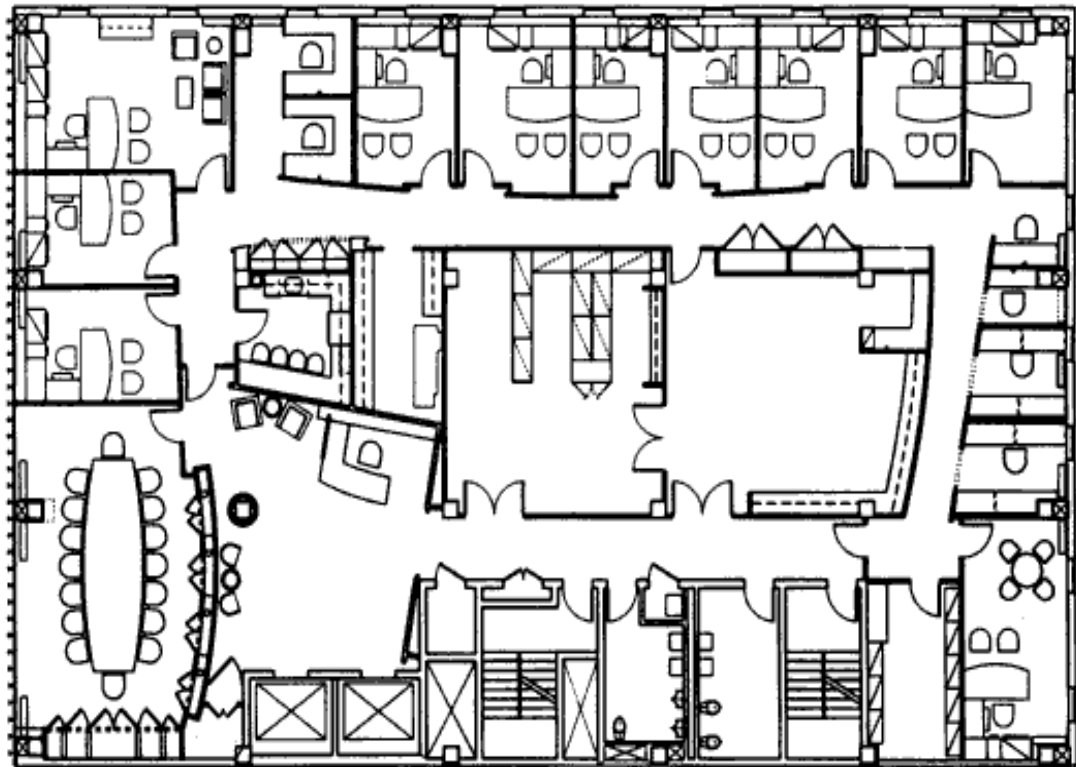
Figure 3: Floor plan of a corporate office showing a closed floor plan (Piotrowski & Rogers, 2007, p. 45)

This layout is similar to Honeycomb system but the main difference between them is that, the closed office is designed to be used as the office. This kind of planning was used mostly in traditional offices, however, these days closed offices are mostly utilized for high rank employees in a workplace (Piotrowski & Rogers, 2007).

In closed offices, the space is divided by walls or full height partitions with doors to single or shared offices, being single or shared is decided according to the type of office work (individual or team work) and organizational need. Baker & Sims (2001) mention that close office does not mean that it should be used by an individual person; it can be used by a group as a shared enclosed office that is occupied by 2-12 people (Figure 4).

Figure 4: Private shared enclosed office (Becker & Sims, 2001)

The concept of cell office based on the individual cellular offices that link together with corridors and pass ways was an approach for creating close and private space for employees (Figure 5). The Cellular system tried to improve the confidence and motivation of employees and the aim was to attract employee to work in offices. This

layout of office gives employees the feeling of having their own space, territory and privacy (http://home.telkomsa.net/deycor, 2008).

Figure 5: Cell Offices - 1950 to 1960 (http://home.telkomsa.net/deycor)

Cellular offices were constructed in different sizes. Some of them had removable partitions. Sometimes in the center of the building was a "Bullpen" area and around

it, Cellular offices took place. In this office layout "Private offices typically are located along the window wall. Administrative support is housed in workstations along corridors or in shared rooms" (Rayfield, 1994, p. 92), or cellular offices were built in the center and the open "Bullpen" area was located around the edges of the area (Figure6).
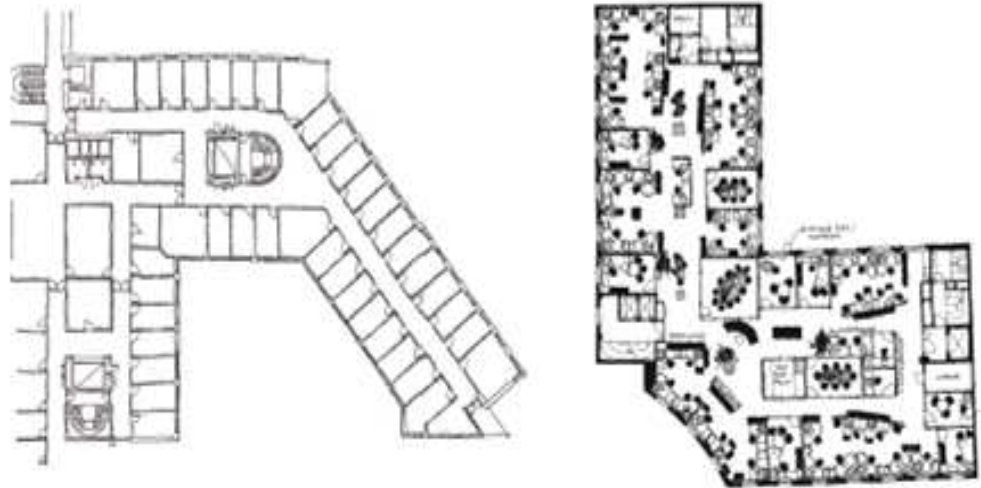
Figure 6: Left: Cellular offices in office building (Blakstad and Haugen, 1995).
Right: Innovative offices at Telenor Mobil (Arge and de Paoli, 2000)

Open-plan versus enclosed offices (combination of close and open-plan offices) is proposed due to balance open and close spaces. In this type of offices managers can have their own private offices; and related to organizational culture and need; the space can be subdivided to separated offices.

Figure (7) shows different possible approaches according to organizational needs which specify the amount and also type of separation of workplace. The amount of close or open-offices can figure out according to organizational needs and types of work. For example "perimeter offices" is selected if they company needs more close offices and "central office" plan is chosen when need of open-offices increase.
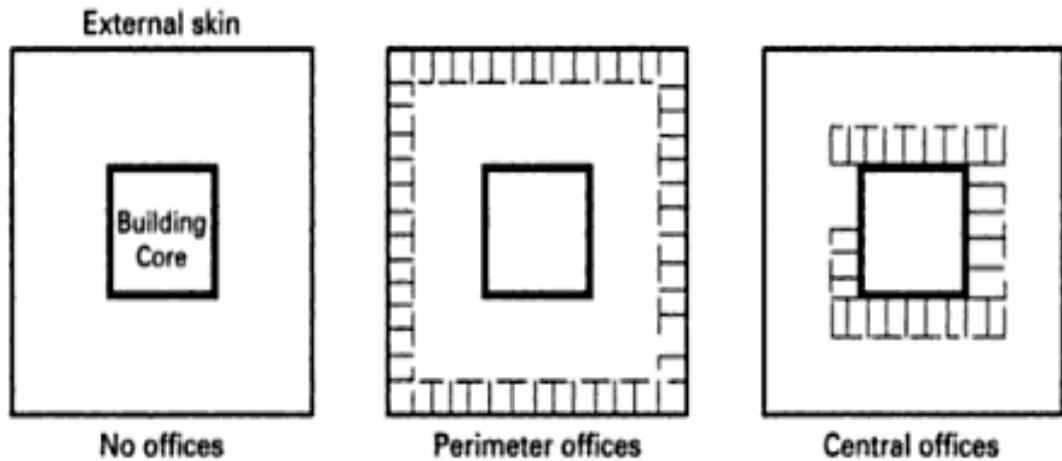
Figure 7: Location of enclosed offices nowhere, around the edges, or in the middle
(Marmot & Eley, 2007, p. 109)

In open versus close offices the status is marked out with using of different size of workspaces and subdivisions. As Marmot & Eley (2007) describe enclosed offices in open versus close layout, are generally occupied by the senior people and larger ones of this type belongs to more senior ones. The junior employees work in open offices and due to work type and need to interaction subdivisions figure out work places as single-person offices or shared-offices

Some of the disadvantages of this kind of office system are listed as follows:

1. It needs unnecessary and more space than the other layouts of office design

2. The construction cost is high

3. Individual offices make the communication and workflow difficult.

4. The management can not control workers directly.

5. Is not Flexible

Giving each employee an office is not enough in a workplace, the employees may feel isolated in this kind of office layout. On the other hand it is not flexible to the changes that occur due to organizational need or technology developments. Because

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of   Lack of flexibility, changing the organization was not easy and this was one of the main problems that prevent companies of using the cellular office system. As a key for solving this variety of problems open plan office was proposed.

The idea of the open plan was the result of a need for greater flexibility in the design of interior environments of offices. Certain specialized building types in the 20th century are following a programmatic principle, with form inflexibly following function. The 21st-century working places, however, needs more flexibility, as their functions frequently change and new technologies make their design less prescriptive (http://archrecord.construction.com, 2008). The following pages show how open plan offices were developed as an alternative to closed ones.

2.1.2 More need for flexibility, Introduction of Open Office

After industrial revolution mass production started and work activities became simplified, workers were channeled into specific activities and management began to develop. Certainly the style of management that was handling the small business in the past, could not work for large business organization of this period.

The goal of management was to increase the organizational profits by maximizing individual duties and productivity of employees. Each worker was doing a specific job and Work was not viewed as a social process, it was just a series of specific tasks, which were linked together by formal organizational structures (Becker & Sims, 2001). After the First World War the office became more efficient, due to use of Taylor model.

2.1.2.1 Taylorism and "Scientific Management"

Taylor was an American mechanical engineer who is regarded as the father of "Scientific Management" which is a management model. He tried to equivalence the principles of a running complex organization with following concepts of a machine:

1. Low-cost production progress
2. Interchangeable parts with specific function for each of them

In the first half of the twentieth century; this model was proposed for the organizational decisions in the factories. The work was viewed as separate units or tasks that each worker with limited skill could do it easily. But later, Taylor's principles were adapted to different forms of business, as well as office and organizational functions. The character of Clerical work in office changed into a set of individual tasks, which needed less skill from the master (Grech & Walters, 2008).

Actually, Taylor's policies affected the office environment intensively and created many of the organizational structures that are common nowadays. Using telephone and typewriter helped the incorporation of mass production principles to office work. The office environment under these conditions is similar to production line of the factory. This kind of office is named "Bullpen" or "Pool" office (Figure 8).
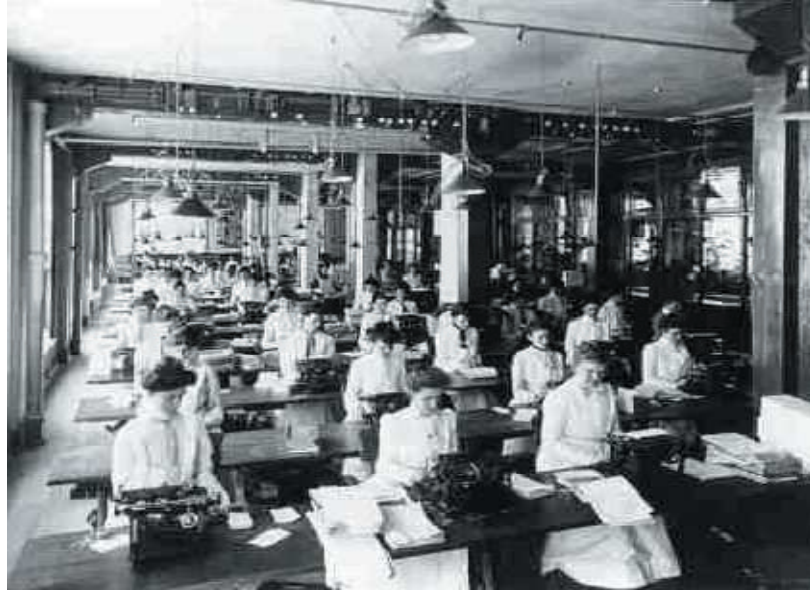
Figure 8: Mass Production and Bullpen Office Systems
(Http: //www.officemuseum.com)

Characteristics of "Bullpen "or "pool" office are as follows:

1. Open offices

2. Rows of desks in open offices

3. One or more supervisors in   front of the offices who overlooked at the rows of
   desks of employees.

This layout of office according to Taylor's principles standardized work activities
and helped to control workers without any difficulty. In this kind of office employees
were located in the open areas without any partitions and ornamentations. Work was
segmented to specific tasks which each worker dealt with it. None of the activities
needed any conversation or discussion so the office environment got similar to
factories, stressful and boring (http://home.telkomsa.net/deycor, 2008).

Backer & Sims (2001) state that, generally in this type of office the communication
process and individual performance was affected by layout of offices and it affected

the comfort and satisfaction of workers. The attention paid to workers comfort in this layout was not enough.

After the Second World War the use of the bullpen system became less common as it seemed to reduce the employees' motivation. "The main lesson we should learn from the Bullpen era is this - office systems that do not take account of the worker's human needs or hygiene factors - are seriously defective, particularly because they fail to address issues of worker motivation" (http://home.telkomsa.net/deycor, 2008). After the Second World War with developments in technology and "Automatic Data Processing" (ADP), office layout and status of the office works changed again (Danielsson, C., 2005). At this time office design was perceived as a status symbol and the aim was to achieve a large and private corner with a good view in an office (Duffy, 1992).

 By changing in work type as tem and group work and need of communication the plan of offices changes again. "Landscape offices" as an approach in open plan offices was the solution to solve team work problem.

2.1.2.2 Development in open-plan office

According to definition about the office, conventional offices were generally separate rooms for a number of people working together, mechanization of the works and enormous increase in the number of workers led to appearance of the first examples of open planned offices to accommodate large groups of workers" (http://www.architectureweek.com, 2008).

Open Plan is a design approach that makes more flexibility in buildings to be used in time or future. First developed by the architectural avante-garde in the early 20th

century, the idea of the open plan was the result of a need for greater transparency and flexibility in the design of interior environments. It is generally used in working spaces to achieve maximum density. Through the last decades of the 20th century the open-plan office became more popular as it saves money, helps team work and group work in office and also provides flexibility for future use. The description of room in common architectural practice, before this time was volumes that were enclosed by walls and specific activities took place in there. The open plan was developed in contrast with such a strict definition of function, and proposed an alternative for transparency and flexibility of function:

1. Transparency: each setting in the interior was open and visible to every other.
2. Flexibility: any part of the interior was designed to support a variety of possible activities. Activities could flow as needed from one part of the plan to another.

The open plan offices are located in one open space without full height walls (floor to ceiling) for defining the space; for this purpose they used movable partitions and/or furniture items (Piotrowski & Rogers, 2007).

The first examples of open plan offices were "Bullpen "or "pool" office that explained in Taylor model. By changing in work types (group works) and need for communication between employees as team works, the office layout changed again. Landscape office was an approach of open plan office that used movable furniture, screens or even plants as dividers instead of walls, partitions, grid or cellular layout system for placing the furniture in an office. These offices were designed to optimize the work flow and interpersonal communication of employees. The position and

arrangement of equipments in this layout is not shaped according to building but is related to working relationships and work needs (Hedge, 1982).

Figure 9: Carpet, paint and a few key design elements transform space quickly and at minimal cost (Becker & Sims, 2001)

Definitely the flexibility of the plan did not involve a uniform interior. They get different by changes in materials, lighting, built-in furniture, and shifts in floor and ceiling levels. The use of architectural elements other than walls to define settings had the added advantage of permitting a visual and experiential continuity from one setting to another. Figure (9) is an example of the use of design elements for defining the space without use of partitions and walls. Figure (10) is an example of landscape layout for offices that shows the use of furniture clusters in arrangement of the space.
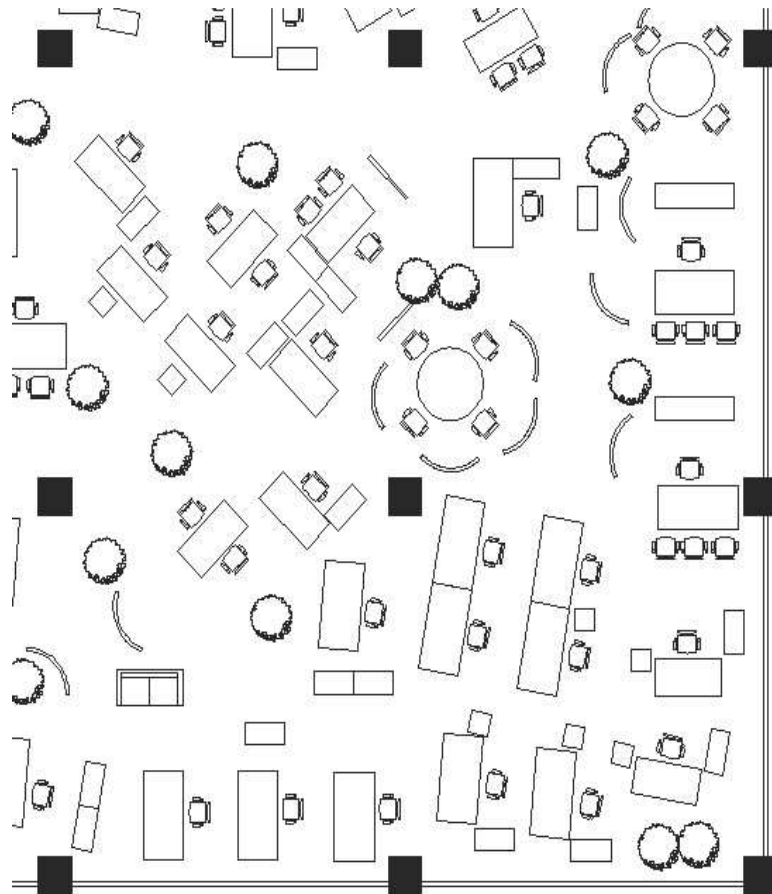
Figure 10: Office landscape (http://en.wikipedia.org/wiki/File:Office-landscape-plan.jpg)

In open- plan landscape office, walls were just ignored and an exposed expanse of floor office with the majority of stranded usage existed in building. They used conventional furniture, curved screens, large potted plants, and organic geometry to create work groups on large, open floors. The circulation in space was not easy also it has some problems related to personal space such as audio an acoustic privacy, controlling interaction and communication… The periodical team working and moveable arrangement according to requirements of job and growing use of technology and computers occurs in this period of time.

The problem with this layout was the lack of private space, personal space and privacy; using partition for dividing space to subspaces as personal space was the

solution for this requirement. In this type of office each employee could have their own personal space and the concept of cell office system emerged.

Generally open plan office has some advantage such as:

1. Open-plan offices are less expensive because instead of walls separation panels are transparent panels.
2. The panels can be installed quickly.
3. It is easy to reconfigure.
4. Open-plan offices increase communication and promote team work in working space.
5. Achieving maximum density in office environments is the other advantage of this layout.
6. Flexibility in the design of interior environments due to organizational needs and technology improvement.

Certainly, achieving to benefits of open-plan office required a privileged open-plan office condition on the other hand, in the poor open-plan workplaces employees feel uncomfortable disappointed and sick (http://irc.nrc-cnrc.gc.ca, 2008).

Hedge indicates that open plan offices face with common problems such as lack of auditory and visual privacy that affect on distractions of employees in the workplace (Hedge, 1982).

The next generation which tries to solve this problem in open office design was panel-hung or systems furniture office.

The use of panels for creating private environment for employees in organization is proposed in this layout design (Figure 11). Obviously minimal acoustic privacy is provided by using of panels and divisions but they show clearly the exact definition of one's personal territory (Becker & Sims, 2001). On the other hand, the panels made the communication and sharing of information and ideas difficult and do not provide enough acoustic privacy. Mostly they just define the person`s territory. The height of panels and also the size of the offices generally depend on the employee's status. Higher-ranking people have larger rooms and higher panels and the highest-ranking like bosses get real walls instead of panels with doors and the largest size of offices also belong to them (http://www.speechprivacysystems.com, 2008).

Figure 11: panel-hung or systems furniture office - 1950 to 1960
(http://home.telkomsa.net/deycor)

Today, the open-plan office can be defined as "a workspace whose perimeter boundaries do not go to the ceiling. Most often constructed of re-locatable panels and panel-hung work surfaces and storage; or of re-locatable panels with free-standing furniture or of non-re-locatable, drywall boundaries (not to the ceiling) and free standing furniture" (Brill, Weidman, & BOSTI Associates, quoted in Navai & Veitch, 2003). Some of the furniture that helps separating the space can be screens, bookshelves, cabinets, desks and also plants (Figure 12).

Figure 12: An example of open plan office layout
(http://www.eighthavenueplace.com)

Use of vertical planes which approaches our eye level in height, separates one space from another, and when the height of the vertical plane is less than the eye level it begins to provide a sense of enclosure but it allows visual continuity with the next space (Figure 12).
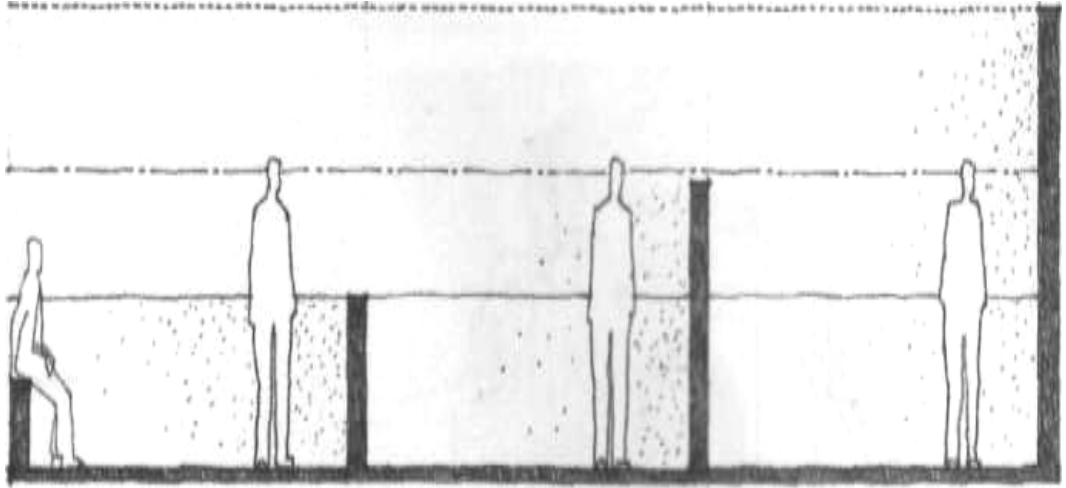
Figure 13: Single vertical plane (CHING, 1996, p. 131)

Baker & Sims categorized Open plan workspaces as follow due to the height of the panels and divisions:

1. High-paneled cubicles: the height of panel or screen is in a level that when a person is seated he/she is not able to see over the division (Figure 13).

Figure 14: High-paneled cubicle (Becker & Sims, 2001)

2. Low-paneled cubicles: in this type when the person seats it is possible to see over the panel or screen (Figure 14).

Figure 15: Low-paneled cubicle (Becker & Sims, 2001)

3. Pods: this is a kind of arrangement which enclosed space is occupied by a group of 4-6 workstations with high panels around the group boundary (Figure 15).

Figure 16: Team-oriented workstation/pod (Becker & Sims, 2001)

4. Team-oriented bullpen: In this kind of organization no partitions, screens or dividers is used between groups of 4-12 desks (Figure 16).

Figure 17: Team-oriented bullpen (Becker & Sims, 2001)

Decisions about the type of panels and height of them should be according to organizational needs and work type (Becker & Sims, 2001).

Decision about size of workspaces according to human territory and also location of it, is another issue that should be considered during design of an open plan office. As Becker & Steele (1995) state limiting the interactions and distractions is not enough to achieve the goal of defining ones territory, because the level of desired territory in workplace changes in relation to status and level of ranking of employee and distinction in ranking should be considered in an organization. For this purpose the size and location of offices have an important role. It means that higher ranking people can have larger cubicles and also higher panels than other people; also the highest ranking people like managers may get walls with doors and large offices. Private ones generally belong to them to reflect their relative ranking in comparison to lower level workers.

Many employees, however, view this design as a series of compromises in terms of space, prestige, and (most of all) privacy. Changing from the traditional closed office to open-plan cubicles, employees often have concerns about their abilities to work productively in what they anticipate to be a noisier, more distracting workplace. The overwhelmingly largest complaint about the open-plan office design is the lack of acoustic privacy.

In respond to these weaknesses, furniture manufactures represented furniture system that was suitable for large exposed landscape offices. In this manner desk, screens, dividers and storage fit together with rules to create individual workstations for employees (Figure 17, Figure 18).
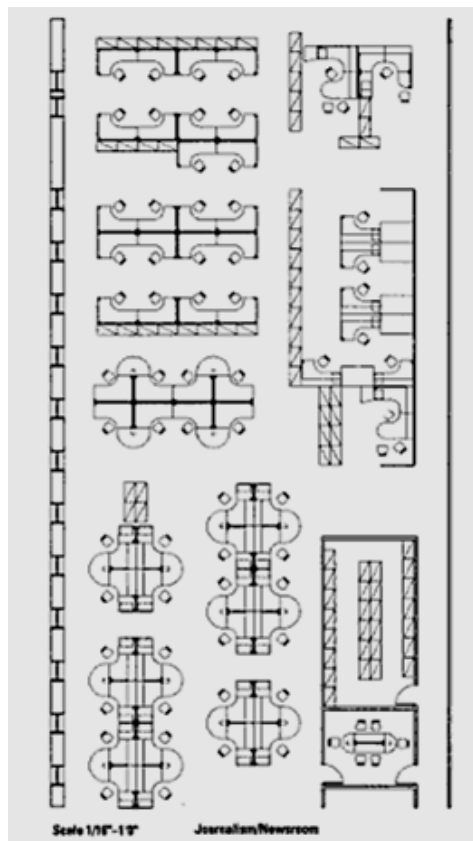
Figure 18: System furniture layout indicating straight circulation paths (Piotrowski & Rogers, 2007)
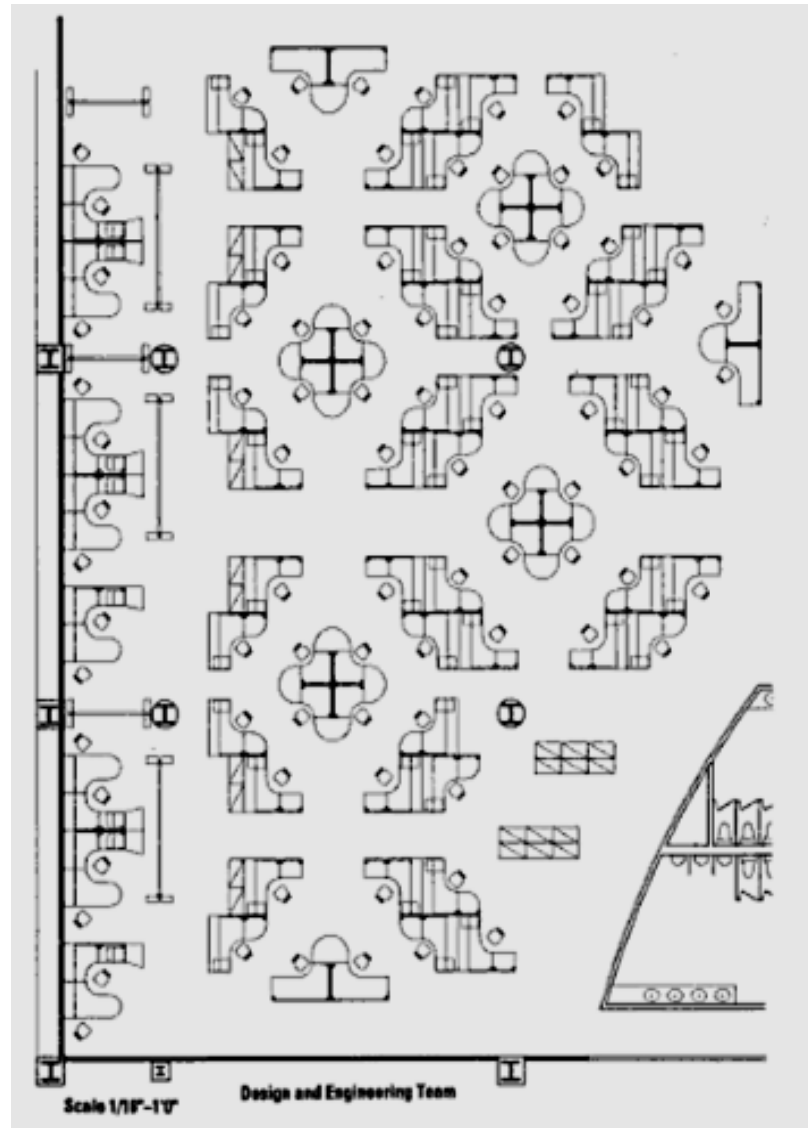
Figure 19: System furniture layout indicating angled circulation paths (Piotrowski & Rogers, 2007)

Office furniture system focus on work pattern, functional needs of users and client and moveable arrangement of space to provide team work and private space. Furniture (desk, screens, dividers, and storage) should satisfy performance criteria and not only designed for beauty, so the elements are used as both functional elements to create moveable arrangement of space, and to provide team work and private space and furnishing. The main idea in this design was to improve the automated workspace and to help users to have more control over their space (Piotrowski & Rogers, 2007).

Human behaviors' and economical issues are important factors which should be considered in office planning decisions. For example privacy can be desirable when it is in the level that people need, but when high degree of privacy occurs then people feel solitude. So it is important to find out a situation for office planning that makes a balance between satisfaction of employees and company.

Figure 20: The modified space planning concept integrates open planning for general office areas with close planning for conferencing and other support areas (Rayfield, 1994, p. 95)

In conclusion it can be said that the design of offices changes with improving in technology and changes in work methods. Choosing the type of office is an important subject for organization and also users. The design of office should be responsible to users need and task requirements.

2.2 Patterns of work & office space

Offices can be categorized according to work organization or spatial organization .In pervious part the categorizing was done according to spatial organization, this section will concentrate on the categorization of office according to work organization. Since there is a strong relation between these two (work organization and spatial organization) it is not easy to limit to use only one method to achieve desirable office environment for employees.

Duffy (1992) represented an approach for categorizing different offices. It is a combination of physical features (spatial organization) with functional features (function of office work) but the focus is more on function. He defines four different office types that each has a particular pattern of work and special requirements. He named them as below:

1. Cell office (corresponded to close office)

2. Club office

3. Hive office (corresponded to open office)

4. Den office (corresponded to flex-office)

Before describing the details of each type of offices according to above categorizes, it is significant to recognize the meaning of two terms of organizational variable, which will assist to understand the design logic of offices; one is interaction and the other is autonomy.

To carry out office works, personal face to face contact or through the computer or telephone is a necessity. If the interaction increases more than what is expected, then

more pressure is created to accommodate with it (this subject will be described in next chapter in details). As Duffy mentions "Forms of interaction vary as the complexity, urgency, and importance of the tasks being carried out increase, so settings for interaction can range from the most informal to the most formal meetings and from the most casual to the most structured encounters" (Duffy, 1992, p. 60).

In offices it is important for employees to control work which is carried out around them. Duffy (1992) underlined this need as autonomy. "Autonomy is the degree of control, responsibility, and discretion each office worker has over the content, method, location, and tools of the work process. The more autonomy office workers enjoy, the more they are likely to want to control their own working environments, singly and collectively, and the more discretion they are likely to want to exercise over the kind and quality of their surroundings in their places of work. Interaction and autonomy are strongly correlated with many aspects of office design because they affect workers' expectations about the layout, the work settings - the heights of the space-dividing elements, for example - and their control over environmental services and lighting" (Duffy F. , 1992, p. 60).

All of these explanations show how the two methods of office categorizations are tied together. To control the interactions it is important to know which kinds of work will be carried in the office and what the requirement of those tasks are. In answering to these needs Duffy recommends above classification according to different organization and work patterns.
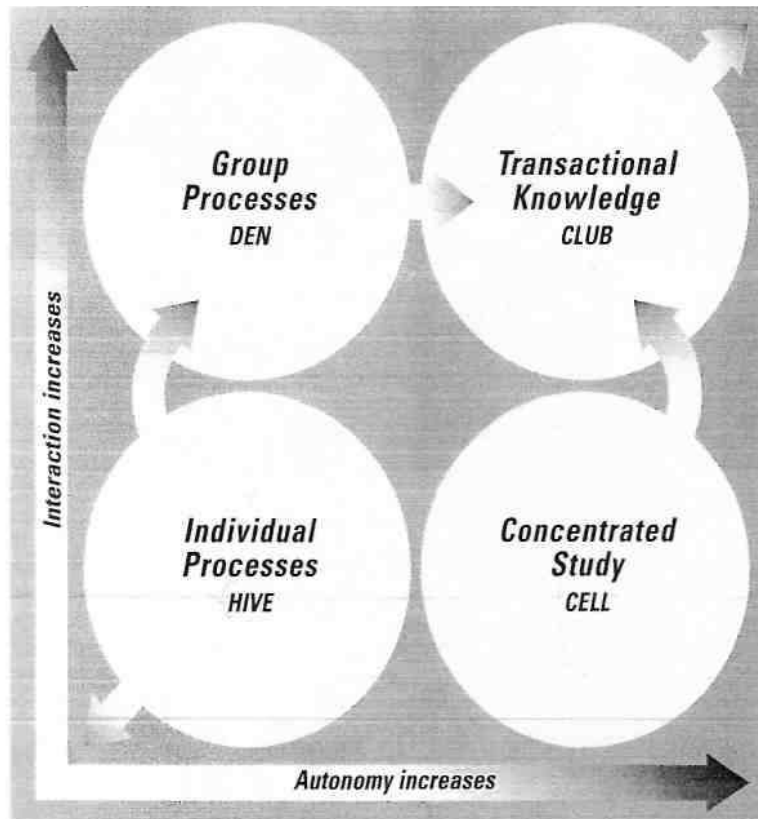
Figure 21: The diagram identifies four major organizational types: HIVES, CELLS, DENS, and CLUBS. (Duffy, 1992)

The diagram in Figure (21) describes the affinity between "the work patterns, the use of space, and the demands likely to be made by these groups on environmental services" (Duffy, 1992, p. 61).

Each of these office types will be introduced in the flowing sections.

1. Hive

It is known as hive because the office in this case is similar to beehives with busy bee workers. The work type that is performed in the offices is individual works that have a routine process. These tasks need low interaction and also low autonomy (Figure 22). In routine individual works, employees sit for a long period of time in a simple

work station. Workplace is usually the same, open plan, screened and they are impersonal. "Typical organizations or work groups include telesales, data-entry or processing, routine banking, financial and administrative operations, and basic information services and tasks" (Duffy, 1992, p. 62).

Figure 22: The hive office (Duffy, 1992)

2. Cell

Individual works that need more concentration will be done in cell offices (cellular). In this kind of offices interaction is less but autonomy is more for employee. In cell offices, an enclose cell or a high screened workstation in an open plan office is occupied by one employee (Figure 23). However the individual workplace may be used for a complex set of tasks and can be shared and occupied irregularly therefore the design of the cells should provide space for multi users and tasks. Mostly it is occupied by accountants, managements and tasks that need more privacy and concentration (Duffy, 1992, p. 63).
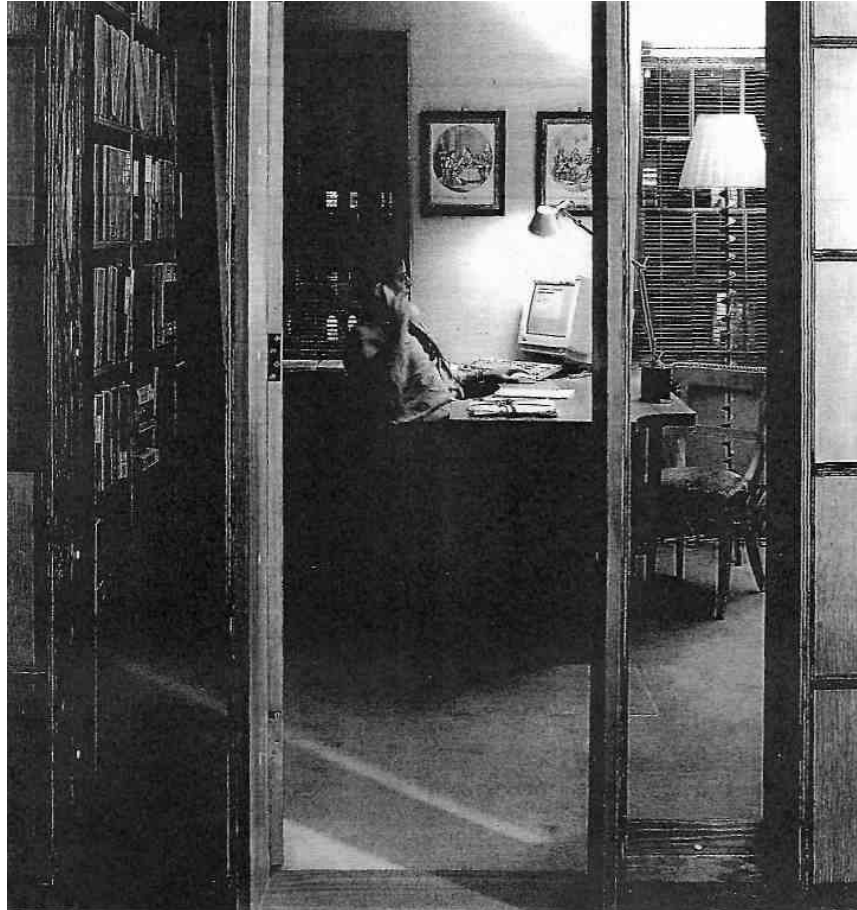
Figure 23: Cell office (Duffy, 1992)

4. Den

It refers to interactive and busy workplaces that team works (group work) can take place in them easily. In den offices interaction is in a high level but there is not necessarily a high level of autonomy. It is mostly a part of open plan office or is a shared room. Normally each employee in office has individual desk as their own desks but additional spaces can be used for meetings and team work or even for sharing the equipments such as printer, scanner, copy machine and other facilities (Figure 24). Tasks such as design, insurance processing, and some media work, particularly radio and TV and advertising are performed in den offices (Duffy, 1992, p. 64).
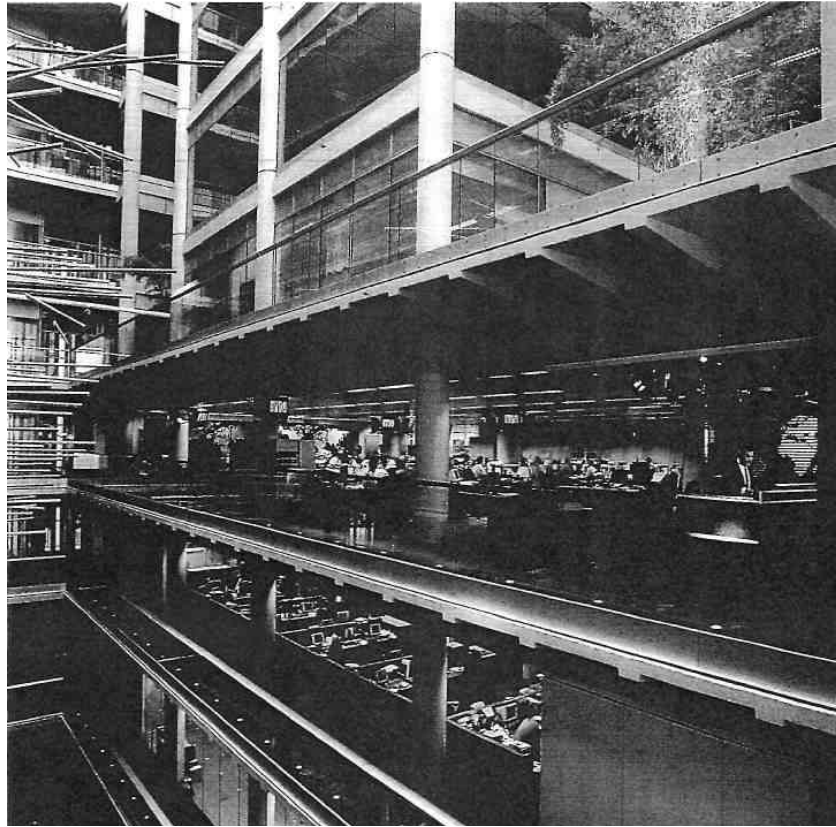
Figure 24: Den offices (Duffy, 1992)

4. Club

As Duffy describes club offices refer to models of new transactional knowledge offices. Mostly complex works take place in this kind of office. High autonomy and high interaction is visible in this kind of organization. The pattern of use of club office is irregular in different hours of a working day. It means both individual and group can occupy the space which has a wide range of facilities when they need. Variety of "time-share task-based" is visible in club offices (Figure 25).

It is mostly used for "advertising and media companies, information technology companies, and many management consultancies" (Duffy, 1992). This office is useful for sharing knowledge and having discussions for solving problems.

Figure 25: Club offices (Duffy, 1992)

The comparison of offices according to job organization (work type) and space organization shows that for having a practical office the designer should consider both of the methods because each of them alone will have some limitations.

Present work environments generally designed concerning employees needs and their work demands and they are more flexible in use. Creative knowledge work demands a combination of highly concentrated individual work alongside interactive team work. Increased teamwork has created the need for more different types of group areas and interactive spaces than just conference rooms. As a result individual workspaces are decreasing in size, but the need for a space for concentration, privacy, and quiet has not. Table (1) below gives a summary of each four types of organizations according to pattern of work, occupancy of space over time, type of space layout and also use of informational technology.

Each of these models has different impacts on use of space, environmental services that they request and building type that can be suitable for them. Through use of computers and new technology, today offices are shifted to a center of creativity of ideas, information and applications with team works that share their ideas for a better result in tasks. Office designers focus on the business needs and users' needs that help productivity, flexibility and communication in the space.

Table 1: Pattern of work and office spaces (Duffy, 1992)

	Hive	Cell	Den	Club
Pattern of work	Work broken down into smallest components and carried out by staff who are given precise instructions and little discretion.	High-level work carried out by talented independent individuals (isolated knowledge work).	Project or other group work of a straightforward kind needing a changing balance of different, interdependent skills.	High-level work carried out by talented independent individuals who need to work both collaboratively and individually: work process constantly being redesigned.
Occupancy of space over time, capacity for sharing space over time	Conventional 9–5, but tending towards shift work. Routine timetable, low interaction, and full-time occupancy of space offer little scope for shared space use except for 24-hour shift work.	Increasingly ragged and variable, more extended working days, depending on individual arrangements. If occupancy of space is low, opportunities exist for shared individual settings (enclosed or open).	Conventional 9–5, but becoming more varied by subgroup activities. Opportunity for sharing space over time increases since interactive staff more likely to be away from desks or out of building.	Complex and dependent on what needs to be done and on individual arrangements, but expect high-occupancy pattern of use over extended periods of time. Highly intermittent pattern of occupancy supports shared use of task settings.
Type of space layout	Open, ganged (4 or 6 pack), minimal partitions, maximal filing. Imposed simple space standards.	Cellular enclosed offices or individually used open workstations with high screening or partitions.	Group space or group rooms, medium filing. Complex and continuous spaces incorporating meeting spaces and work spaces.	Diverse, complex and manipulable range of settings based on wide variety of tasks.
Use of IT	Simple dumb terminals or networked PCs.	Variety of individual PCs on networks and widespread use of laptops.	PCs and some shared specialized group equipment.	Variety of individual PCs on networks and widespread use of laptops.

2.3 Effect of organization of space on use performance

In previous part "evaluation of office environment" the changes in the design of office according to new ways of working (group or team work) and also the effects

of development in technology on it were discussed. On the other hand today understanding the impact of significant issues of work environment and organizations on personal preferences and needs, and factors which affect on wellbeing of employee and on the quality of work become more important issues in design of a workplace.

The work environment affects the employee performance (Thinking and working well). If a work environment concerns behavioral needs, then it will support user's performance. Employees expect a workplace that answers their individual needs such as privacy, comfort.... Mostly work environments force employees to spend energy to adapt themselves with the characteristics of the workplace because they are impersonal. "Interfering work environments direct people's attention and energy away from their work, lowering performance and organizational productivity" (smith & kearny, 1994, p. 4).

Furthermore, some tention and strees can be created through work environment to empolyees. Although humans are very adaptable to different situations and surrounding environments, it is not a good way to push the limites of human adaptibility with unexpected workplaces because adaptation takes so much energy and time.

Duffy, Laing and Crisp propose the "Responsible workplace" as an approach to solve the tension which comes from environment to employees in the innovative workplace. With this proposal they remind the importance of the "responsive and humane environments" which is linked with the new way of working (group and team working) in offices. The "Responsible Workplace" was a decision to create

office buildings according to users' needs and what employees expect from their working environments which support users' ecology (Duffy, Laing, & Crisp, 1993).

The way of thinking about finding connections between space design and organizational success is known as organizational ecology. Organizational ecology conceptualizes the workplace as a system in which physical design factors both shape and are shaped by the work processes. According to Becker & Steele the key elements of organizational ecology are:

1. "Decisions about the physical setting in which work is carried out.
2. Decision about the processes used for planning and designing the workplace system.
3. Decision about "how space, equipment and furnishing are allocated and used over time" (Becker & Steele, 1995, p. 11).

Organizational ecology must consider different issues related to human behavior such as motivation, performance of work, communication, organizational and environmental needs of users (light, noise control, ventilation, and air quality), to propose a layout which support the work process with help of designed space due to the nature of furniture, materials and finishes (Becker & Steele, 1995).

The late 1950's and 1960's witnessed a vast development in organizational behavior studies. As Kossen & Drafke mention organizational behavior (OB) refferes to human relationship in an organization to help to join "personal needs and the objectives with the general needs and objectives of the organization" (Kossen & Drafke, 1998, p. 3).

Nowadays a lot of   people   go to work every day and spend long hours at their workplace. So it is important to find out what can help them to work better and provide well being in an office environment. Since mid of twentieth century many researches and investigations have been done to develope the conditions in the work environments and to find out its relation with employees performance, but there are some remaining questions and gaps that need a deeper survey. Employees need workplace environments that answer to their individual needs.

The needs that help people manage their performance can be studied under four main heading:

 "1. Participation (influence and control)

 2. Physical factors (furnishings, equipment, and lighting)

 3. Sensory factors (privacy, stimulation, and sensory functioning)

 4. Interaction with co-workers (access and ease)" (smith & kearny, 1994, p. 20).

All of these factors depend on the work type that the employee is engaged with it. For example routine works needs less privacy than complex jobs.

The diagram in (Figure 26) shows the needs of people from their work environment in order to think effectively. It describes four prime workplace factors and their interrelated effect on attention. It shows how people need to manage these demands to manage their performances. So understanding of what people need due to their work type will help to achieve this goal.
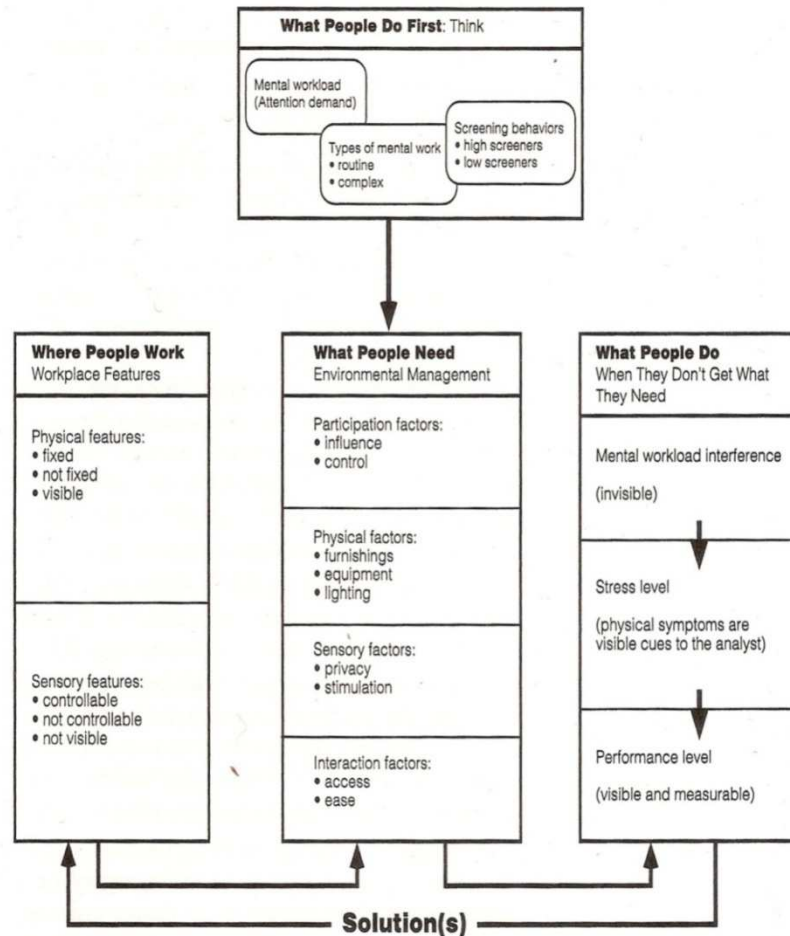
Figure 26. The mental work environment, (smith & kearny, 1994)

Figure (26) shows the factors such as participation factors, physical factors (furnishing, lighting...) sensory factors (privacy and stimulation…) and interaction factors (access and ease…) which contribute in creating work environment according to the users' needs and task requirements. The workplace physical features (visible such as: walls, floor, windows, furnishing... fix such as load bearing walls ,columns, stairways,..Not fixed such as: interior partitions, panels, dividers, heating and cooling system…) and sensory features (invisibles such as light, sound, temperature,… fixed such as exterior light and sound and temperature ,… not fixed such as : interior sounds of equipments, printer, faxes, traffic entry, reception…) are chosen according to the work type and its' requirements . Also it shows what people do when they do

not get what they need: exhibit stress and lowered performance. These factors demands on attention and impact on performance in the work environment.
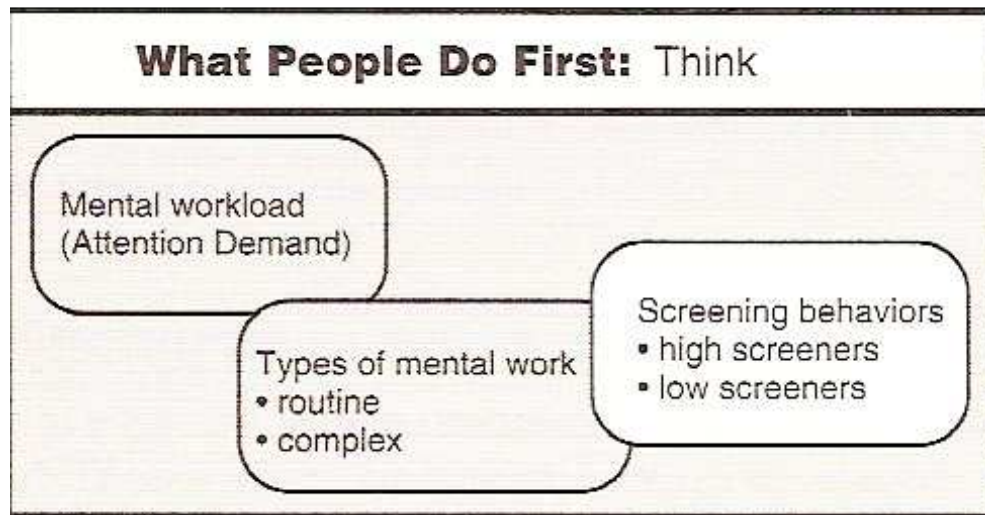
Figure 27: The mental work environment (smith & kearny, 1994)

As Anderson (1980) mentions mental work is classified in to two types, routine and complex works (Figure 27). Routine works are repetitive procedures and they do not need much new information and attention to reach to the clear goal. They can easily continue if they are interrupted by any cause and also more than one routine job can be performed at the same time because this kind of work does not need so much attention (Anderson, 1980 cited in Smith & Kearny, 1994).

Compared to routine work, there is another type that is identified as complex work. This kind of jobs need more attention; mostly they do not have a clear goal and procedures and employees need new information to combine with information that they have already have to find and generate new decisions about the work. It needs more attention and a long term memory to reach the purpose (Anderson, 1980; Card, Moren and Newell, 1986 Cited in Smith & Kearny, 1994). Each employee is occupied to one of these types of work during day.

"Planned organizational change represents the intentional attempt by managers and employees to improve the functioning of groups, departments, or an entire organization in some important way. Thus planned change efforts always involve specific goals, such as higher productivity, employee acceptance of new technology, greater employee motivation, more innovative employee behaviors, increased market share, and so on" (Hellriegel & Woodman, 1989, p. 35, Quoted in Cakiroglu2005).

Indeed the organizational leaders should discuss about the design of workplace and find out how physical setting such as space, equipments and finishes should be allocated and used over time according to the nature of the work (Robbins, 2005).

The other important issue that should be considered in planning of a workplace is placing the people in correct location according to the job and sensitivity of personality that Smith & Kearny (1994) mention as screen behaviors and mental workload of employee.

The people who are doing similar jobs can control their attention on the work in different ways and levels. It means some people can control their reaction to casual stimuli in the surrounding environment more easily than others, this ability is known as: "screening" (Mehrabian, 1976), "filtering, shadowing" (Anderson, 1980), "selective attention" (O'Donnell and Eggemeier, 1986). "Screening means paying little or no attention to extraneous stimuli" (Quoted in smith & kearny, 1994, p. 17).

High-screen behavior   Low-screen behavior
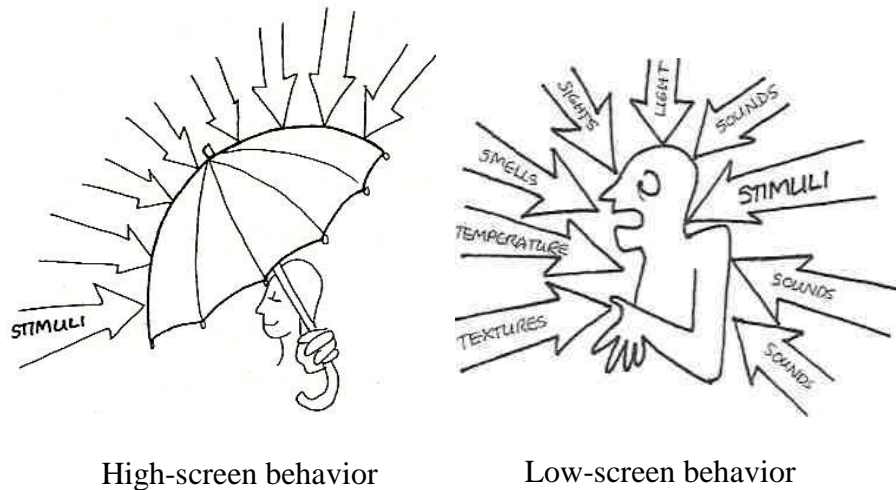
Figure 28: High and Low-Screening Behavior (smith & kearny, 1994)

The ability to screen out some stimuli which senses receive can help people select the information they need to pay attention to. High screeners tend to have more screening capability— screen more easily—than low screeners (Figure 28). One of the aims of organizations should be finding a way to respond to stimulate users in the workspace, for example using panels in open-plan offices is an approach to this purpose.

Becker and Steele (1995) argue that today's working environment promotes interaction of workers and manager of every scale to be more productive and immunize themselves towards pitfalls.

An organization is successful when employees have a supportive environment which is responsive to the users' needs and job requirements (Moleski & Lang, 1982). In the next chapter the relationship of space and human behavior will be explained in details.

CHAPTER 3

RELATIONSHIP OF SPACE AND HUMAN BEHAVIOR

The subject of office design as a social setting becomes a significant and interesting topic for managers, designers and also researchers in different fields. Although many researches have been done in this area, there are still some questions that are not satisfactory answered about, the relationships between physical office environment and employee behaviors and also their performance.

Goodrich (1986) mentions that the designed environment influences our social relations in different ways. It influences our contact with others, the type of interaction, the amount and the quality of interaction and interaction process itself (Cited in Farivarsadri, 1992). On the other hand Sundstrom (1986) describes that social and psychological needs of employees will affect on their job satisfaction and performance in the office environment. This chapter deals with this important subject.

3.1 Employee satisfaction

Everyone expect to spend time in environments which respond to their certain needs. For example a classroom needs enough light and comfortable seats, a library needs to be quite and have a good way for finding sources, a shop should control the circulation of customers and a satisfactory shelf arrangement helps to find stuff

easily. People get aggressive and distress if the environmental conditions interrupt their activities. In this case environment is unsuccessful in responded role. If a person feels content, comfortable and relaxes with the physical setting of an environment, then environment is satisfactor within its responsibility to make the user satisfied. Therefore for increasing the level of satisfaction in environment it is important to find out the needs of the occupant and try to meet those needs. Veitch & Gifford argue that Satisfaction with physical environment will affect on the work satisfaction of employee and their attitude (Veitch & Gifford, 1996).

One of the concerns which increased in open plan office environment is satisfaction and productivity of employee in job, so, interest on researches about "effects of physical environment on employee behavior and attitude" increased in 20th century which was parallel with period of increasing open plan layout in office design.

Achieving to a healthy and comfortable environment, will motivate staff satisfaction and solve the problem of absenteeism which is one of the challenges of work environment these days. Better attitude of employee will make a better result in job and enhance satisfaction and productivity as a whole.

Institute of research in construction (IRC) in national research council of Canada and innovation and solutions directorate (ISD) indicate that, The behaviors and attitudes of employee are affected by different factors such as "employee-employer relations, salary, management practices, non-monetary incentives, up-to-date technology, employees' skills and abilities, and opportunities for varied and stimulating work " (IRC , ISD, 2004).

The other important factor is physical environment which can interfere with needs of occupants such as: privacy (distraction and lack of privacy in open office is an important issue), acoustics (noise of office equipment and also employee and communication), thermal comfort, air quality, lighting and personalization of workstation; that affect on employees' behaviors and attitudes (Figure 29).

In open plan office when occupants share a common space (share space for a team work), it is not easy to create a satisfactory environment that can answer to all users needs properly. Despite that difficulty, organizations prefer to choose open offices because open plan offices are quick in install, cheep and flexible and easily reconfigured according to organizational changes and it helps to increase communication. However poor open plan office will distract employee in doing their task with a good quality.
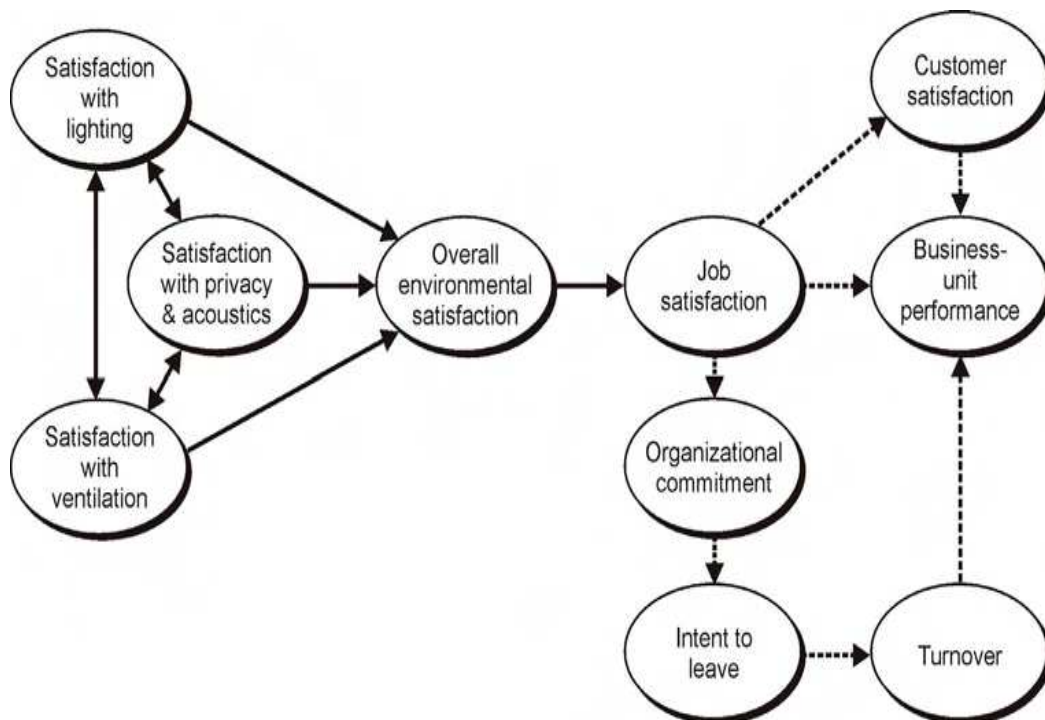

Figure 29: Satisfaction with the environment contributes to organizational success.
(IRC , ISD, 2004)

The Environmental Satisfaction study follows Cost-effective Open-Plan Environments (COPE) project model which is presented in figure (29). This project shows correlation between open plan office and jobsatisfaction. It explains the important effect of satisfaction with environment on job satisfaction (figure 30).
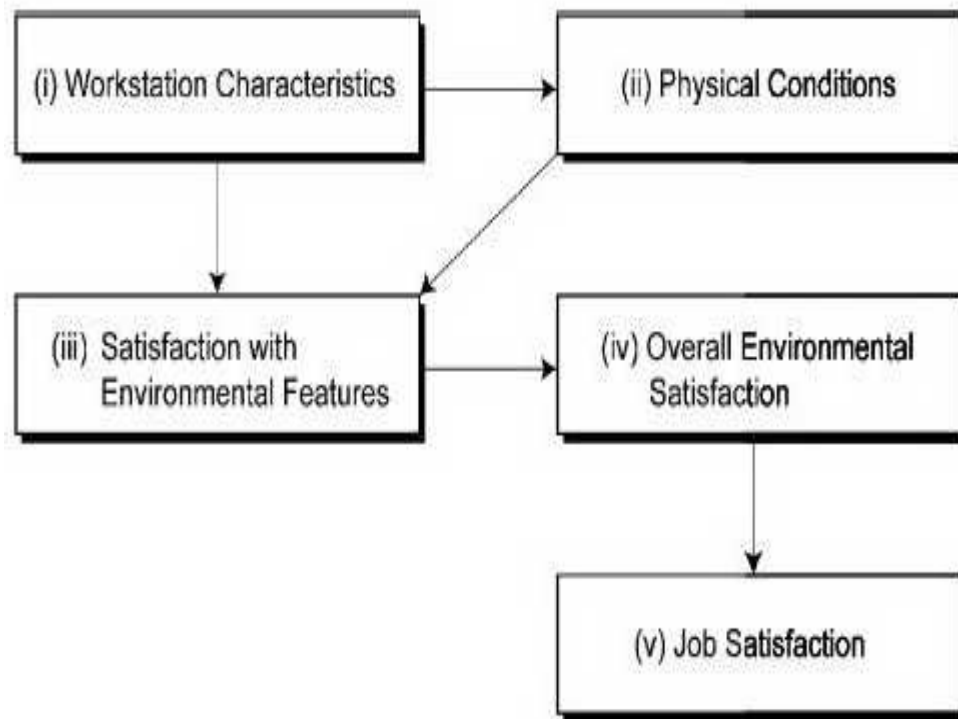
Figure 30: COPE model (http://irc.nrc-cnrc.gc.ca)

So many researches have been done by "British Council for Offices (BCO) which is Britain's leading forum" for the discussion and debate of issues affecting the office sector. "A research study has shown that 14 million days are lost each year in the UK through absenteeism from work, at least 70 percent of which is related to health issues, a small component of which may be attributed to comfort in offices. The most important factors in achieving comfort are a rapid response to reported problems, manageability, and the integration of air conditioning, lighting and related building systems. Post-occupancy feedback regularly shows, however, that these basic

requirements of human comfort (physical conditions such as thermal comfort, privacy, noise control, spatial comfort, lighting comfort, building noise control, and air quality) are not being delivered" (CABE/BCO, 2005, p. 12). These show the importance of physical factors in job satisfaction. Beside the physical factors there are other factors which affect the satisfaction of the uses and their well-being.

"Several office environment investigations have examined direct effects of environmental features on job satisfaction (e.g., Oldham & Brass, 1979; Oldham & Fried, 1987; Sundstrom, Burt, & Kamp, 1980). More intriguing are those studies in which reactions to the physical office environment mediate the relationship between the physical conditions and relevant outcomes for organizations. Such studies offer the possibility of including both direct and indirect effects. Wells (2000), for example, found that the ability to personalize one's work area was positively related to environmental satisfaction, which in turn positively influenced job satisfaction and employee well-being" (Veitch, Charles, Farley, & Newsham, 2007).

However the needs of employee will vary by different job, organization and individual characteristics, but some factors are the same for all. Actually people can not be satisfied with work when they are unable to breathe, hear and see properly. As humans are different from each other, each individual person reacts in different manners to the stimuli from his/her their surroundings. Some people are more sensitive to noises and some others with temperature and air quality or lighting and acoustical privacy (Environmental Features). Some people should define their territory by having enough privacy and personalizing their workstation. All of these issues together will make a place comfortable for employee.

In an open plan office it is difficult to achieve a satisfactory environment which all users are pleased with it. Because as mentioned before a space is mostly occupied with a group and it is shared between employees or it is divided to individual subspaces with dividers (partition or panels and furniture) but the air, sound and light is held in common.

For example managers need more privacy than office workers, also mental workers and researchers should be in more quiet spaces than group or team workers. Accordingly, following the same fixed guidelines without having occupant needs in mind can not bring designer to a satisfactory open plan office layout. As mentioned in figure (3.1) to reach to a healthy and comfortable place, the main aspects are air quality, temperature, overall comfort, lighting and also noise. The issues such as number of enclosures, and accessibility are also important to create a satisfactory environment, because they affect on controlling interactions and communication in office environments.

To reach to a successful working environment design considering the needs of users is so important. To figure out the needs and preferred conditions of a working environment the best way is asking employees directly. In the report named "Workstation Design for Organizational Productivity", done by IRC and ISD which refers to a COPE field study, 700 open plan offices were investigated by researchers to find out the opinion of employees about physical environment. The result shows that "Air quality and ventilation were most frequently ranked number one in importance; privacy was the second, and noise levels, the third" (Figure 31).
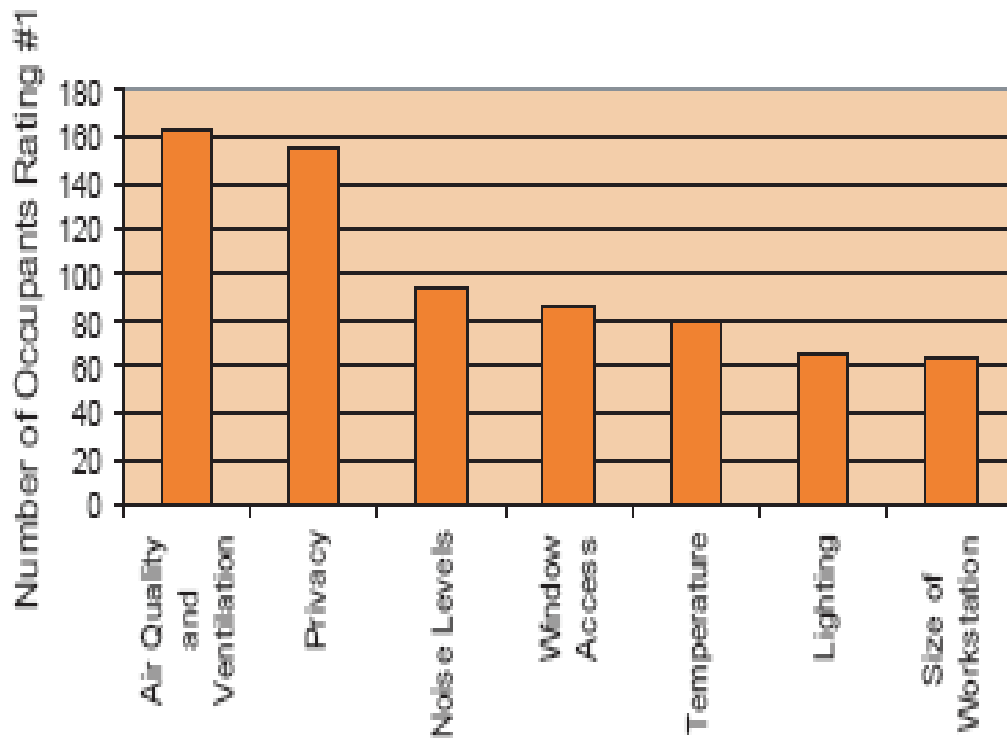
Desirable Office Conditions

Figure 31: Desired Office Conditions, (http://irc.nrc-cnrc.gc.ca, 2004)

Figure (31) shows that Privacy has the second most frequently ranked in factors that create desirable office environment. Lack of privacy makes employees unsatisfied and the environment unsupportive to users and task needs. Also privacy defined as the ability to control the interactions and communication, affects on control of noise level which is the third of rank in having a desirable condition.

Having a private office alone does not mean that privacy is available, having the ability to control surrounding (communication, access, comfort, providing functional requirements) will bring privacy and employee satisfaction. Figure 32 which have done by IRC and ISD in this research, shows the effect of physical environment on employees' satisfaction.
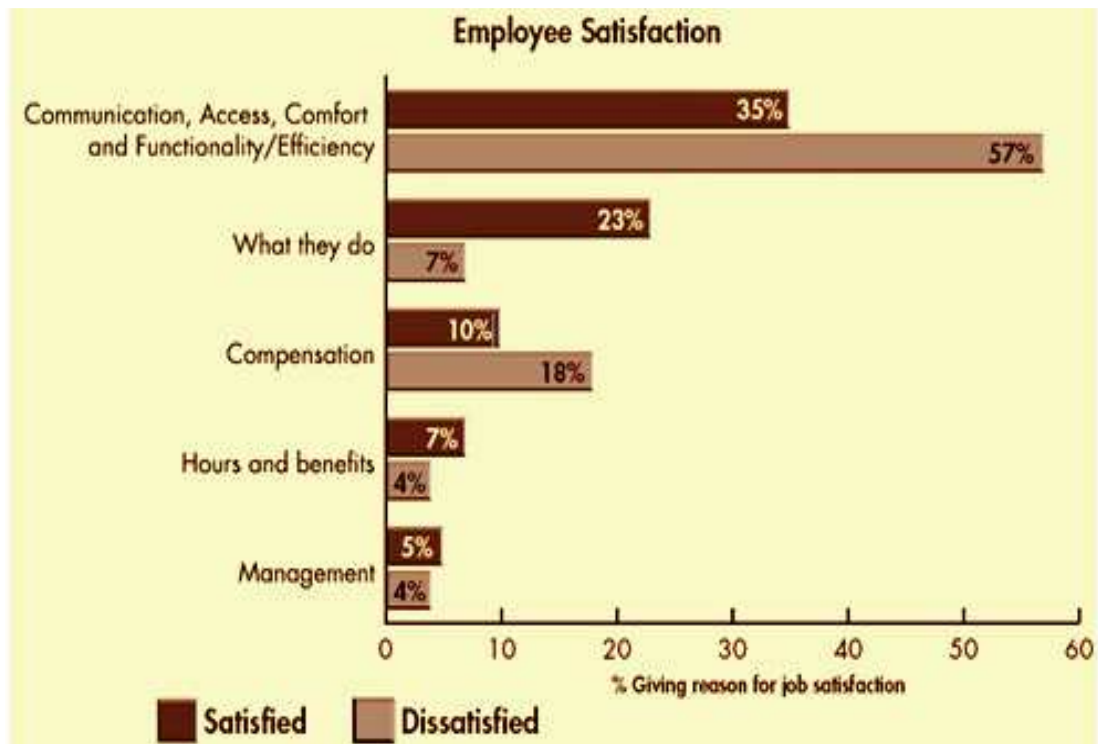
Figure 32: Factors affecting employee`s satisfaction (ASID)

Some behavior factors affect on comfort and satisfaction in physical environment, such as territoriality, privacy and personal space. As mentioned privacy helps to control communication, accessibility and brings comfort for employee in workstation. The main factors which affect on privacy are defining the boundaries of personal space and controlling the unwanted interaction. For this purpose next part will explain the different distances which people use in their social interactions to understand the meaning of personal space more easily.

3.2 Proxemics

In 1966 Edward T. Hall introduced a theory which demonstrates the alteration of man's attitude according to his social and personal space in the occupied physical environment. He mentions that, the observation and reaction to surroundings changes through ones language, and it varies just the same as speaking in different languages.

He believes that the man's behavior is shaped according to his culture just as language defines his perception of events. "Proxemics" is the term which Hall uses to explain the theories about man's use of space as a part of his culture. It is a hidden internal way of behaving with others. The proxemics behavior is more emulated from others and less being as eligible behavior and it influence on the distance between people.

Edward Hall (1966) classifies the variety of distances between people in four main types as below (Figure 33):

1. Intimate Distance
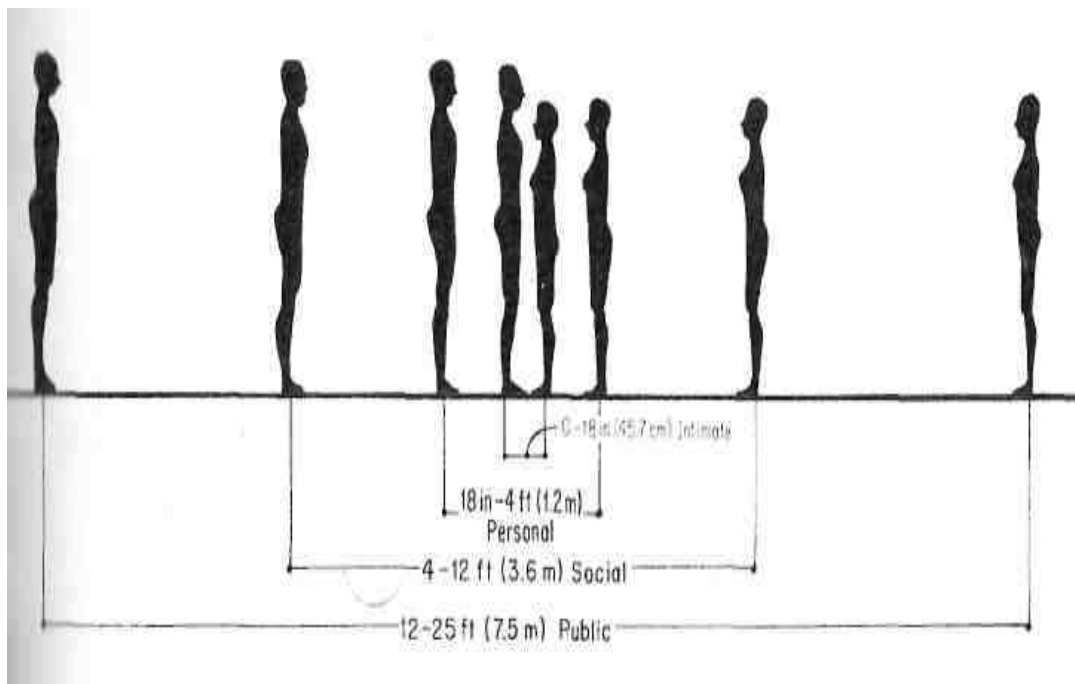2. Personal Distance
3. Social Distance
4. Public Distance

Figure 33: Into four distance zones in personal spaces (Madanipour, 2003)

3.2.1 Intimate Distance: Up to 45 cm Apart

In fact two persons are in close proximity if they are in distance less than 45cm from each other, this distance is known as Intimate Distance. Intimate Distance is visible between lovers, children and family members. The zone of 0-15cm in Intimate distance is for "lovemaking and wrestling, comforting, and protecting" and for individuals as good friends this distance will increase between the ranges of 15-45cm. Sometimes people are forced to be in intimate distance (in a crowded conference room, in a crowded bus,...) in these situations they find it uncomfortable to smell someone else's breath, feeling their body heat, or look at their pores in too close detail. This is why in public the following behaviors can be seen: in a reception room three patients do not share a three-seat sofa and the middle of it remains empty unless there are no other available seats there. In the cinema the seats in middle generally remain empty unless there is no other choice.

"While this zone is pleasant in some situations, as when one is interacting with a loved one, it can be quite unpleasant in other situations. For example, when people are forced involuntarily into proximity, as in a crowded elevator, they often become immobile and rigid, looking up nervously at the floor numbers or down at the floor, perhaps as a signal that they realize they are violating one another's intimate distances but are trying to do their best to avoid inappropriate interaction" (Altman, 1975, p. 59). Therefore the most involved space with physical and emotional interactions is in Intimate Distance.

3.2.2 Personal Distance: 45cm to 120cm Away

This is a distance which people feel comfortable within to have interaction with other people that they know. The near phase (45-75cm) is used by people who are familiar which each other. "The close phase of the zone (45 to 75 cm) still permits rich exchange of touch, smell, sight, and other cues, although there is by no means as much exchange as occurs in the intimate zone" (Altman, 1975, p. 59).

This distance increases between friends during social interactions (75-120cm). In 120 cm distance the smell of breath can be distinguished but the body heat is undetectable. This distance extends from a point that is just outside easy touching distance by one person to a point at which two people can touch hands if they extend their arms. "'Beyond it, a person cannot easily 'get his hands on' someone else" (Hall, 1966, p. 113).

3.2.3 Social Distance: 120 to 360 cm Away

It can be divided to two zones, a close zone (range of 1.2-2m) which impersonal interactions takes place and the far phase (2-3.5m) which is used in social communications and business affairs. In other words 120 to 360 cm is a good distance for people at casual social gatherings. Also this distance is the distance which impersonal business interactions occur in it. In 120cm distance two people can see the head, shoulders and upper trunk of each other in a full 60° sweep, and in 210 cm distance with the same sweep the whole figure is visible.

"For example, the typical office desk is 75cm wide. When chair locations on either side are taken into account, the distance between people will be in the neighborhood

of 120 cm or more. (We also know that the higher one's status, the larger the desk, so that important people are often located at the upper ranges of this zone)" (Altman, 1975, p. 60).

It is clear that, in far phase of this distance, there obviously is less involvement than in the close one. In working spaces colleagues prefer to use close distances more, even when they are more amity they may use each other's personal spaces. At close social distance, communication is more efficient and accurate because of the clear perception of speech and facial expressions (Figure34).
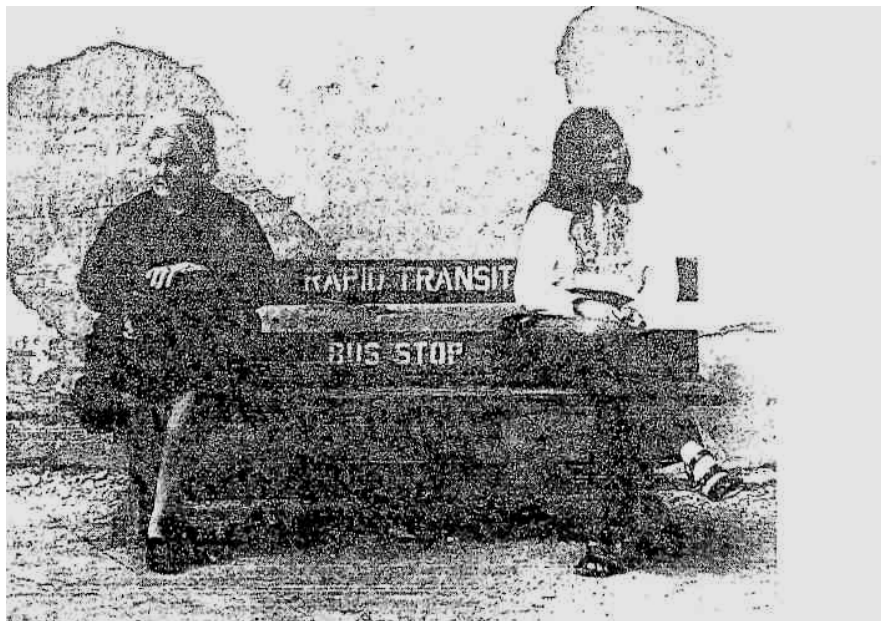
Figure 34: Social distance—a zone used widely in public settings (Altman, The environment and social behavior, 1975)

3.2.4 Public Distance: 3.5 to 7 m or More

It varies from 3.5 to 7 m and more. In this distance communication cues become quite gross. It can be divided to two zones, a close zone (3.5-7m) which is a formal zone and low voices can not be heard clearly therefore voices must be raised in order to be heard. However, it is still not a shout. A good example for it can be the

distance between lectures and audience in a classroom which affect on the arrangement of seats of students in the area. In the other zone which is the far zone (more than 7m), in order to be understood the voices and actions should be exaggerated. It is often necessary to shout.

"At both the close and the far distances, it is not always necessary to acknowledge another's presence since the spacing can be perceived as in the public domain. Beyond 9M, other people are part of the scenery. They can be ignored with impunity" (Cohen & Cohen, 1983, p. 112).

In Hall's analysis of distance zones it is clear that:

1. "The zones are not necessarily universal, and there are wide cultural variations in what behaviors are acceptable in each zone and in what distances are appropriate with certain persons in certain settings.
2. The zones are not important in terms of physical distance per se; they are important because of the interpersonal communication possibilities they offer. They are milieus within which a variety of behavioral possibilities and communication channels are embedded" (Altman, 1975, p. 60).

Therefore proximity can be realized as a communication mechanism in space. When two spaces are sharing a common boundary then the factors such as accessibility, visibility and olfactory will affect both spaces' privacy. In this case two spaces will be in proximity. Hall states this meaning with a good example. He noted that "Japanese have strong feelings against sharing a wall of their house with others. He considers his house and the zone immediately surrounding it as one structure. This

sliver of space is considered to be as much part of the house as the roof is" (Hall, 1966, p. 142).

It is comprehensible that when two spaces are in proximity and they have some shared boundaries, then the privacy between two spaces will decrease. Territories and personal sphere and personal space are two other important terms which help to understand the way space can be used to reach the desired level of privacy.

3.3 TERRITORIALITY

Territoriality is expressing the feeling of ownership of space also it influence on social interaction. Altman (1975) mentions territory and territoriality refers to behaviors that a person can personalize, mark, own and defend a geographic area. Marking devices such as fences, furniture, and personal belongings and nameplates create and show the human territories boundaries. Using these territorial markers affect on regulation of social interaction and it helps contact between people in a manner avoiding social conflict and miscommunication.

Privacy in people is achieved by the creation and controlling of Interpersonal boundaries. People would agree that, there is such a thing as human territory that is surrounding each person, the boundary which is not visible by vision but can be understood and felt easily (Figure 35).

Certainly territorial behavior can not only be seen in human being but also in animals too. For example a lion is wilder in his den than in open area, or birds sit on the wires with same distance from each other (Hall, E. T. , 1966).
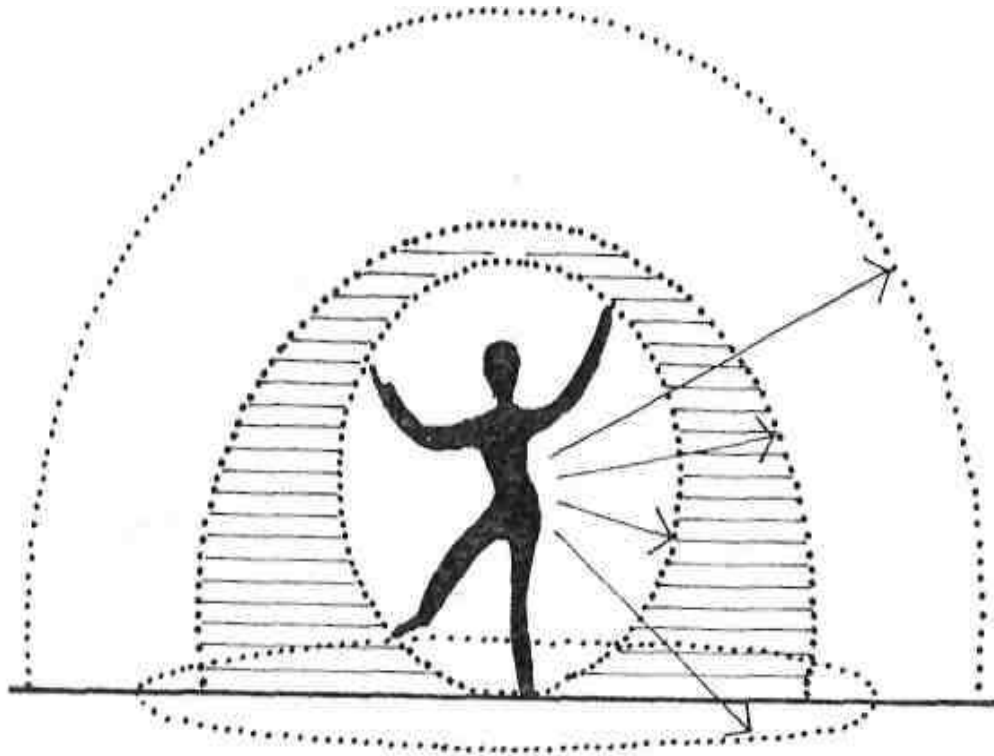
Figure 35: Human territoriality varies from person to person. Some people have stronger feelings toward their environments than others (Madanipour, 2003)

Territoriality is essential for our psychological being. The environment should be responsive to the variability of human needs and behavior, so that a person can maintain an uninterrupted and meaningful connection with it by adapting or personalizing it.

Territoriality will affect on environmental perceptions of comfort and privacy. Altman (1975) perceives territoriality as a mechanism which helps to achieve privacy due to territorial behavior. "Territorial behavior is a self/other boundary regulation mechanism that involves personalization of or marking a place or object and communication that it is "owned" by a person or group. Personalization and ownership are designed to regulate social interaction and to help satisfy various social and physical motives. Defense responses may sometimes occur when territorial boundaries are violated" (p.107). This definition of territory high lights that

ownership, personalization, controlling communication (controlling resources and people, by controlling area) and providing the functional needs (cognitive and aesthetic needs) are the essential characteristics of territory.

For example in a house each person may own a room to have his/her territory. It is detectable that territory exists in public places too. Most of us have same experiences such as seating on the same seat everyday in a classroom, or even when we are in a doctor's office and temporary we leave the seat after returning we prefer to occupy the same seat as before and if it is occupied then we will try to find another place, a tricky way to reserve a chair in a public place is placing a personal object like a jacket or bag upon it, then if the office get crowded that seat will remain empty (Madanipour, 2003).

Altman (1975) states that territorial behaviors are displayed in different ways in human beings and animals. In humans it is biologically and culturally biased but in animals it's just biologically based. The sense of territoriality can be seen between different animals and humans in different cultures and nationalities. The amount of this area changes due to differences in culture, status, relations, and etc.

Territorial behavior supports the need for controlling over our surrounding (Figure 36) which covers the needs of identity (finding the position in society), stimulating and security (having self-confidence and no bothering from out and others) in the environment (Altman, 1975).

Figure 36: The territory

El-Sharkawy & Hussein (1979) identify four types of territory:

1. Attached : The space bubble which surrounds a person's body

2. Central: the spaces that can be personalized by person unless it is not against the organization (such as home, workstation of people when they are private space).

3. Supporting: Supporting territories are either semiprivate (spaces which tend to be owned in association) or semipublic (places which are not owned by the users, however, still feel they have some control over them. Such as rooms in dormitories, the front lawns of houses, and sidewalks in front of houses).

4. Peripheral: some spaces and areas can not be personalized or possessed by users, because these areas are used by either individuals or a group. Peripheral territories are public spaces (Sharkawy & Hussein, 1979).

Therefore the perception of what kind of space people are in influences the territorial behavior and it perhaps is affected by cultural specifications. The definition of territory will open another term which is called personal space.

3.4 PERSONAL SPACE

A fundamental mechanism which helps to achieve privacy and regulate interpersonal interaction is known as personal space. The boundaries of human being are not just limited within his/her skin and body, it is also extended to the air that surrounds the body and can be defined as one's own space. Therefore territoriality can be as a part of another concept which is known as personal space. The concept of personal space verifies how people respond to their surrounding social and physical environment.

Sommer (1969) defines personal space as follows:

"Personal space refers to an area with an invisible boundary surrounding the person's body into which intruder's may not come. Like the porcupine in Schopenhauer's fable, people like to be close enough to obtain warmth and comradeship but far enough away to avoid pricking one another. Personal space is not necessarily spherical in shape, nor does it extend equally in all directions... it has been likened to a snail shell, a soap bubble, an aura and breathing room" (p. 26).

This description identifies the personal space as a hidden and invisible bubble which varies in size due to relations and situation person is involved with in.

Goffman (1971) described personal space as "the space surrounding an individual where within which an entering other causes the individual to feel encroached upon,

leading him to show displeasure and sometimes to withdraw" (Quoted in Altman,1975,p. 30).

Personal space is explained as physical distance from the others. The variety of distances between people which pointed out in "proximics" part are significant in defining the intimate, personal, social, and public distances in space. The change of space zones which clarifies the boundaries around the self will affect on degree of openness to others. By changing the distance from others (Personal space, or interpersonal distancing) the accessibility of others to us changes. Thus personal space can be mentioned as a mechanism which control the communication (moving away from others indicates the need for more privacy and moving close to them will permit gathering and communication with others) and regulate the contact with others and make the self boundaries more or less permeable. Hall (1966) emphasizes that distance itself is not important; it is the communication cues possible at various distances that lend significance to the concept of personal space.

Also the amount of distance among people change according to individual performances, culture of group, and even different regions. A good example can be a crowded bus, and the passengers in it. The Upper-class suburban people have more difficulty to accommodate themselves in the crowded bus than the inner-city people.

Bell, et al. (1996) also state that, the real or perceived role of status of individuals in society affects on the size of personal space. They mention that "It grows with age, sense of confidence and independence, and also with a sense of vulnerability and fear. The perception of personal space is different for the observer and the observed. Depending on their circumstances, they may observe different sizes of personal

space around a person. This gap can only become clear when an individual's personal space is tested or invaded. The size of personal space, the distance we maintain between ourselves and others, is determined by its two functions of protection and communication (Figure 37). The amount of space that could allow these functions depends on the situation in which individuals interact with each other, as some relationships and activities require more distance from the others" (Bell, et al., 1996, p. 278).

Figure 37: The size of personal space, the distance we mention between ourselves and others, is determined by its two functions of protection and communication, (Madanipour, 2003, p. 26)

Parallel to Hall`s opinion about personal space and four zones of distances, Robert Sommer (1969) did some experiments which forced people to define their personal space. For this aim and to examine the need of personal space, he sent a female researcher to a crowded reading room in a library and she sat down on the chair which was close to a female (subject) which occupied a large table with extra chairs alone. First the subject tried to protest and show her inconvenience by changing body posture (sending silent signals of discomfort), then she tried to make barriers with her books and winter clothes. And when she was not successful with these tricks then she

preferred to flee instead of seating there. Sommer reported that this process took about 15 minutes but location, age, culture, past experiences, gender will affect on the length of this time, for example for a person in New York it takes just five minutes to dislodge subjects. This experimentation was done in offices. Some facility planners, without paying attention to personal space requirements, crowd more workstations into an area. People begin to impinge upon one another's personal space and get try to be friendly with others or either leaves the space if they move into a crowded workstation. The minimum space between people should be more than an arm's length to feel comfortable (Cohen & Cohen, 1983).

This chapter considered the definitions and issues concerning personal space. Privacy is a concept which is essential for perceptional personal space as one's own space which is under his/her control. As mentioned before control over surrounding can give the sense of the space personalization and it can also affect on well-being of user of space. Next chapter will explain this concept in details.

CHAPTER 4

PRIVACY

Concepts of privacy vary from society to society and culture to culture. Privacy is an important issue that has been often neglected in design of our living space, but usually does not consider carefully by designers. Altman (1975) states that privacy generally is used in two meanings (meaning of word), namely: "(1) being apart from other people and (2) being sure that other individuals or groups does not have access to one's personal information" (p. 7). In human behavior studies he defined privacy as "selective control of access to the self or to one's group." This definition of privacy refers to control over choices, access and stimulation, also management of information about the self and the management of social interaction. So a person who has optimal privacy is not a loner but someone who is able to choose to be alone or not and who is able to share self information or not. Privacy thus means going toward others as well as going away from them and is further optimizing social interaction and information transfer, not merely restricting it (Altman, 1975).

Rapoport argues about privacy as ability of controlling interactions and giving alternatives to accept desired interactions and ignore the inconvenience ones (Rapoport, 1977). Also Altman has the same opinion; he mentions privacy as an "interpersonal boundary-control" which adjusts social interaction with the others (Altman, The environment and social behavior, 1975).

As Altman (1975) indicates some authors such as Bates (1964); Chapin (1951); Jourard (1966); Kira (1966); Kuper (1953) think about privacy as isolation and withdraw or no interaction at all. On the other hand, Schwartz (1989) disagrees with this definition of privacy, his belief is that privacy is not a withdrawal and isolation of a person to reach solitude privacy needs but he believes that privacy is controlling over choices (Schwartz, 1989).

The concept of privacy that is mentioned in this thesis refers to the first definition of privacy that Altman, Rapoport, Schwartz and Hall agree on it.

This definition accepts privacy as the need to control the accessibility of groups and other people to individualities of one (Altman, 1975; Backer & Steele, 1995; Grech & Walters, 2008).

4.1 Types of Privacy

Westin (1970) categorizes privacy in four functional groups as "solitude", "intimacy", "anonymity", and "reserve". "Solitude" is when there is no observation from others and person is totally alone (Cited in Altman, 1975).

Solitude happens when person separates from the group. In this type with the help of environmental elements and physical barriers that help controlling interactions, comprehensive condition of visual privacy occur for people and users of place. Westin also mentions that "Intimacy" occurs when we are in a small group (such as husband and wife), to feel unaccompanied and separated from others in order to be alone. "Anonymity", happens in public places, and crowd and that gives the person a feeling of not being recognized, the person is in a public but the psychological

feeling is being in private (being lost in a crowd), like going to cinema alone, that is so crowded, and finally "Reserve" is described as ignoring other unwanted things or people psychologically. It means instead of paying attention to unwished things, do not pay any attention to them and think about other things. This is a kind of psychological ignoring.

Westin (1970) also believes that people should have the possibility of controlling interaction and communication, in this manner people will have privacy.

4.2 Dimensions and concepts of privacy

Indeed privacy is an alternative process that helps one to regulate his or her closeness/openness to others, so by having privacy people can be open or close to others interactions as they desire in that occasion (Altman & Chemers, 1980).The meaning of having alternative is that the person that occupies the place can decide about having interactions or not, for example with closing the door or opening it the owner of place can accept the interactions or deny them.

Laufer, Proshansky, and Wolfe (1973) and Wolfe and Laufer (1974) discribe different dimensions of privacy as:

1. "Self-ego dimension": social development involves the growth of autonomy and people should understand when and how, as an individual they can be alone and separated from others or groups.
2. "Interaction dimension": it presents a balance between being with others and having individuality, also it deals with privacy as a "boundary control".

3. "Life-cycle dimension": "privacy is not a static process but shifts over the life history of people and as social roles and social responsibility change."

4. "Biography-history dimension": the privacy that people need and they concern differs according to the personality and also personal histories of them.

5. "Control dimension or freedom of choice": it means freedom of choice in accessibility and also interactions with others.

6. "Ecology-culture dimension": It achieve controlling interaction by using physical environment.(Cited in Altman,1975)

In this respect Lang highlights that with the use of design elements in environment such as walls, screens and symbolic and real territorial divisions achieving privacy in environment will be reachable (Lang, 1987, p. 145). Altman adds two more different dimensions of privacy as:

7. "Task orientation and ritual privacy dimensions": "refers to task and behaviors that are typically accomplished in nonpublic places."

8. "Phenomenological dimension": privacy is a psychological occurrence that helps to balance stimulation and motivation from others and also social interaction (Altman, 1975, p. 20).

So according to points that mentioned about different dimensions of privacy the concepts of privacy differ from culture to culture, nation to nation also society to society. Lange reminds that privacy that make a balance between sense of "individual autonomy "and social needs will help to create better social interactions

(Lang, 1987, p. 160). These different dimensions of privacy create the differences in individual privacy needs.

Rapoport discusses on various meanings of privacy according to gender and culture and he mentions that the feeling about privacy according to these factors my change (Rapoport, 1977). So as literature review shows people perceive privacy differently according to age, gender, status and culture. Thus, the concept of privacy is a multidimensional subject.

According to situation the privacy is perceived in four different dimensions of psychological, social, physical and informational (Leino-Kilpi, 2001). The Psychological dimension refers to the protection of personal identity and self-observation (Altman, 1975). Social privacy means having control over social contacts that occur around us. Controlling the physical access with help of personal space and defining territory for individuality refers to physical privacy. Finally controlling over personal information is called Informational privacy. (Leino-Kilpi, 2001).For example in offices people need privacy to talk on phone or to have individual meetings to feel relax and to have their individualities.

So the degree of privacy can be "computed from ratings of visual privacy, voice privacy, and telephone privacy, occupants also assess amount of visual contact with the rest of workspace" (Vischer, 1996, p. 69). If the workplace concurs to privacy needs of employee then it would give the feeling of comfort to them and this will help them to work better. That's why Privacy is one of the main issues in the work environment.

According to (Altman, 1975) and (Sundstrom, 1986) there are different factors that help to grip enough privacy in a working place. To perceive privacy in a place, three important issues should be considered:

1. Optimum balance between seclusion and interaction
2. Enough comfort (visual and acoustic privacy)
3. Physical environmental factors

4.2.1 Optimum level of privacy

It is important to notice that low level of privacy is not essentially harmful in different tasks and jobs or situations. Some tasks need social interactions also group connections and some needs more solitude. Also the limits of interaction that is required changes according to job types (routine and complex jobs).

People need to have some interaction so that they don't feel isolated and lonely. Altman noticed that: "privacy is not only a "keep-out" or "let-in" process; it involves a synthesis of being in contact with others and being out of contact with others. The desire for social interaction or no interaction changes over time and with different circumstances. The idea of privacy as a dialectic process, therefore, means that there is a balance of "opposing forces to be open and accessible to others and to be shut off or closed to others and that the net strength of these competing forces changes over time" (Altman, 1975, p. 23).

The workplace design should provide the possibility to make necessary interactions to make people come together and be apart when needed. Diagram 1a in Figure (38) shows an example of this vacillation in different times and situations as an example.

Altman mentioned that "too much or too little privacy is unsatisfactory and that persons or groups seek varying optimal levels of social interaction" (Altman, 1975, p. 25). The diagram in Figure (39) shows how the "optimization and dialectic properties of privacy" fit together. For example in time 2 a person requests a high level of interaction with others, if the person achieve to the level of desired interaction, then the social system is in a state of balance or equilibrium. To reach this goal it should be a balance of "forces to want and to avoid contact."
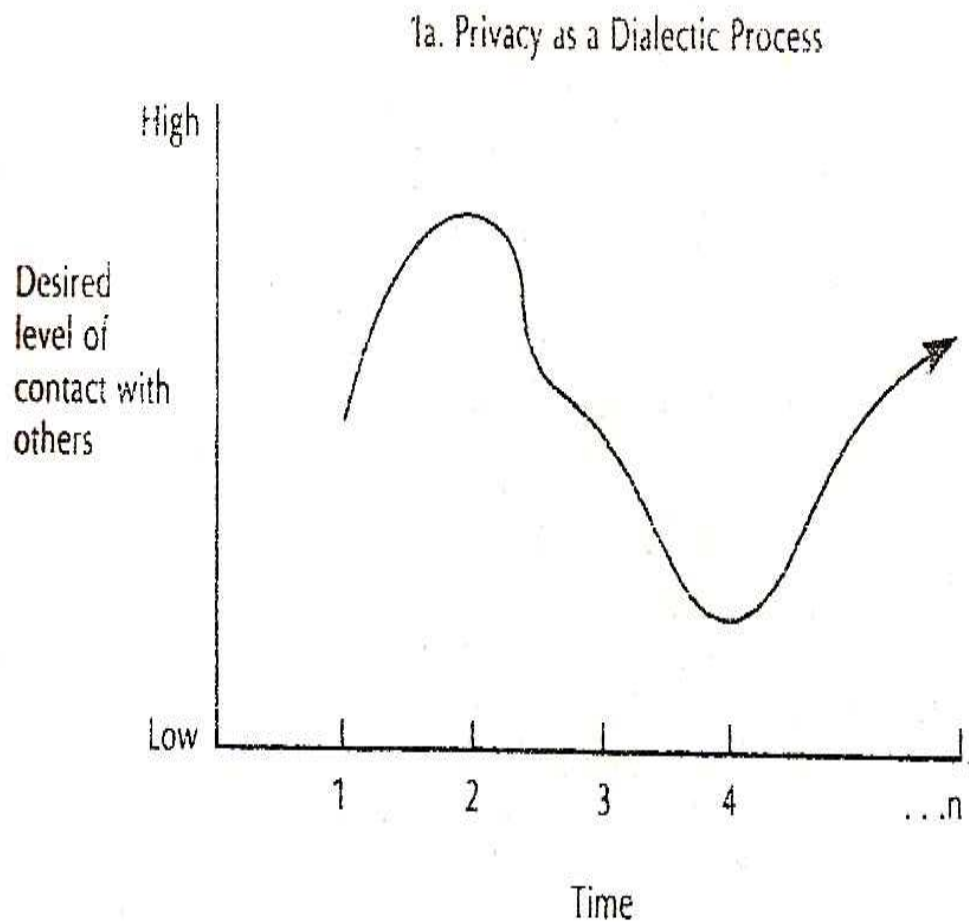
Figure 38: Dialectic and optimization properties of privacy (Altman, 1975)

1b. Privacy as an Optimization Process
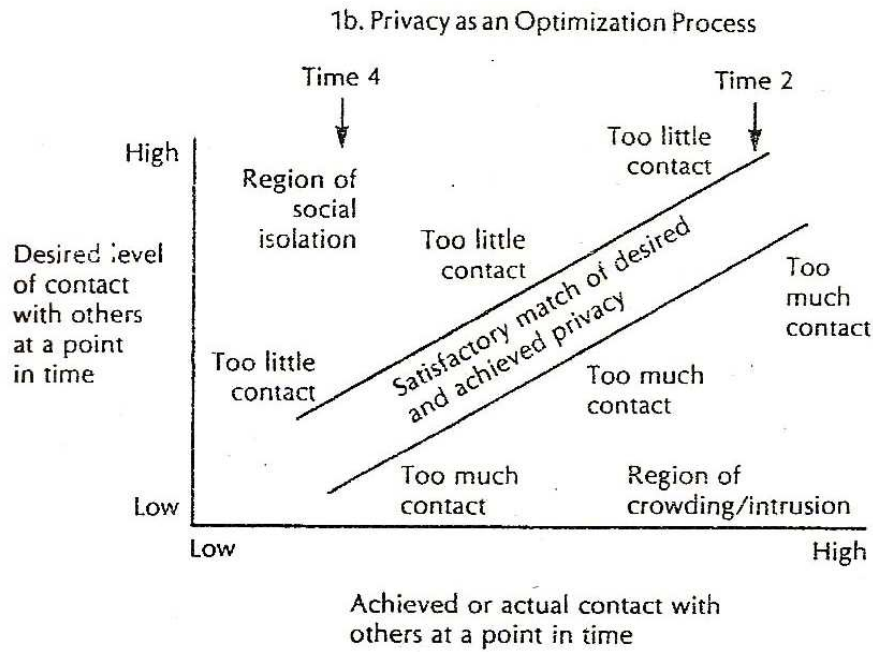
Figure 39: Dialectic and optimization properties of privacy (Altman, 1975)

Also he describes that a person will feel" isolated ","lonely "or" cut off "from others if he or she gets less interaction than desires from others, and the feeling of "intruded upon", "crowded", or "overloaded" happens when the person receives more interaction than she/he prefers to have. This too much or too little interaction depends on time and situation and also the desire of privacy of person (Altman, 1975).

Parallel to this view Vischer (1996) notices that to achieve privacy in modern offices the following steps should be considered to find out the level and degree of desired privacy:

1. The tasks and jobs should be analyzed to find out the employee needs according to the requirements of different job types, whether they need to concentrate and work alone (complex works) or they should work together and communicate with others as a group work.

75

2. Determining and shaping the individual workplaces according to the level and height of enclosed space that is required in an open-plan office.

3. Being patient about the degree of privacy in office space, perhaps having high degree of privacy can not be always an advantage of a good office because people want to have communication and they do not like to feel cut off or isolated from their colleagues.

He also states that "People's privacy requirements are more complex than merely being able to enter an enclosed space and not be overseen or overheard, especially as team-based and project work becomes more prevalent. To plan an effective group workspace, the need for privacy may better be understood as a need for control over the work environment rather than the presence or absence of physical enclosure" (Vischer, 1996, pp. 123,124).

Every person needs different levels of privacy; some need more and some need less privacy than others. Due to differences in perceiving privacy according to different persons and jobs and also desired privacy in different situations, another important issue that should be considered carefully in design of individual work space is clarifying the amount of screen behaviors of workers according to their jobs and personalities. According to the explanation about screen behavior (low or high screening) it is clear that low screeners need more privacy because they have less screening capability than the high screeners.

Equivalent to these explanations Lang emphasizes that the degree and level of privacy that a person perceives and desires depends on his/her behaviors, the cultural context and also personality of the individual (Figure40) (Lang, 1987, p. 145).
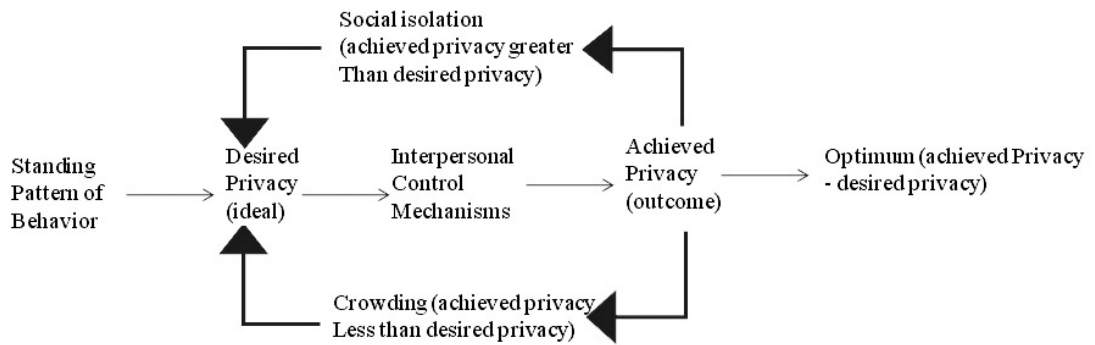
Figure 40: A dynamic model of privacy, (Lang, 1987, p: 145)

Altman mentions that privacy can be considered from two different perspectives:

1. "A personally defined ideal level of interaction that a person or group desires

2. Resulting outcome or achieved amount of actual interaction, which may or

may not match what was desired." (Altman, 1975, p. 27)

To regulated social interaction there should be a balance between the desired and
achieved privacy in the environment. Table 2 summarizes how the comparative
values of desired and achieved level of privacy affect the perception of privacy.

Table 2: Relation between achieved and desired privacy (Altman, 1975) table
developed by Author

	The level of achieved and desired privacy		Privacy level
1	Achieved privacy = desired privacy	⟶	Ideal level in social interaction (Optimum privacy)
2	Achieved privacy < desired privacy	⟶	contact and interactions are more than desired (is crowding and too little privacy is obtained)
3	Achieved privacy > desired privacy	⟶	feeling of isolation and loneliness

Based on these explanations it is a natural need of people to control their environment and also interactions and communications (having enough privacy) in order to achieve comfort, safety and productivity. Doing so will give the sense of confidence to people.

Lang explains that "Social interactions occur more easily when people's social needs are balanced by the sense of individual autonomy that comes with privacy" (Lang, 1987, p. 160). Also he believes that physical environment influences social interactions; therefore, the pattern of movement and also the location of facilities and services that are common to use in space affect the degree of interactions (Lang, 1987).

The space arrangement affect on social interactions, it helps group functioning, arrange the distance between people in a place in order to have easy reach and communication and also provides aspects such as privacy, territoriality and also personal space that all affect on the level of social interactions in space. In other words, when space do not answer to the user needs for privacy and interactions then normal social activities and group formations can be slowed or prevented. Stokols & Altman argue on this issue and they believe that Privacy and territoriality regulates social interactions (Stokols & Altman, 1987).

4.3 Privacy in office environment

Environmental psychology and social management of space, as individual's experience of environment, should be considered during design of office. Interpersonal distance (personal space), territory, privacy, status, physical setting of environment (work type), communication, etc, are some of these issues that should

be noticed as essential needs of users in workplace. Since employee performance, well-being, social relations, attitude and satisfaction in work, is influenced from physical and psychological environment (Sundstrom, 1986).

Refer to previous definitions one of the most important issues that should be considered in offices is the need of privacy for employees. Some employees in open-plan offices in comparison to traditional office setting (with private and close rooms) believe that they can not have enough privacy with the absence of doors and walls. This makes their reaction and opinion negative about open-plan offices. Oldham & Rotchford agree that the feelings of crowding and loss of privacy result in the unhappiness and negative reactions displayed by employees that are working in open-plan workspaces (Oldham, G. R., & Rotchford, N. L., 1983).

There is a clear need of having privacy in office for employee to achieve the goals of wellbeing, concentration, productivity, and reduction of stress. It also helps to define personal identity in space. The ability to reach the level of the privacy that each person requires is essential for having the feeling and sense of control over the individual space and also interruptions that comes from out. So the degree that an employee can control social interactions and distractions depends on the level of privacy that he or she has achieved in the environment. Controlling visual and auditory interactions defines the individual or group privacy.

One of the most important issues in design of a workplace is to allow an individual to regulate access of the others. As Altman mentions "privacy is selective control of access to the self or to one's group" (Altman, 1975, p. 7). He also mentions that "privacy serves functions such as interpersonal-boundary control, the interface of self

and others, and, most important, self-identity" (Altman, 1975, p. 32). Control over interaction, communication and physical factors of environment will provide privacy for individuals. In a workplace to reach optimum privacy employees should be able to get either solitude or companionship easily.

Physical environment has a main role in making privacy in space. Smith & Kearny (1994) summarize the physical factors which influence the privacy in a workplace as below:

1. Location and floor spacing and windows which symbolize the status and control the access and interactions and help for self-identity
2. Control over auditory stimulation and noises
3. Control over visual stimulation and light and color
4. Control over Air quality, temperature and humidity

Parallel to this view Sunderstorm (1986) states that, the level of satisfaction or dissatisfaction with privacy of employees in office is influenced by physical environment settings. In a study related to people who changed their private offices (which have walls) with open-plan offices, employees felt a significant decline in privacy. Other studies found that the height of partitions and the level of enclosure around the workstation affect on the level of the privacy (Sundstrom, 1986, pp. 305-307).

In line with Smith & Kearny (1994) view in a research which done by Marquardt; Veitch; and Charles (2002) for National Research Council of Canada they found out the same factors as partition shape and height, degree of enclosure, low noise levels and workstation size; important in creating desirable level of privacy.

Sundstorm (1980) mentions that by isolation from visual and acoustical distractions with the help of physical environment, architectural privacy is achieved.

This can be provided by correct dimension of partitions. Also the level of control over one's access to the others and social interactions depend on degree of existing architectural privacy and physical barriers or proximity distances.

There are different ways for examining the privacy issue in the work place:

1. Number of enclosure as a determinant of privacy: employees have reaction to the number of enclosures in a workspace. For example in Open-plan offices privacy is affected by lack of walls and partitions and is less than traditional Close-offices. Also employee's satisfaction improves among employees who work in an office with more partitions. (Oldham, G. R., & Rotchford, N. L., 1983)

2. Accessibility: Accessibility refers to social interaction and communication between employees in a workplace. An accessible workspace promotes effective interaction with employees, supervisors, and all resources.

Since all of these factors are interlocked together, well defined areas according to physical and psychological needs, increases the level of privacy for employees in workstation.

Personalization of space which helps to define one's own space and gives possibility of self-identity to employees will be described in details in the coming chapter.

CHAPTER 5

PERSONALIZATION

The environment should be responsive to the different needs of users. With personalizing or adapting the environment a person can preserve an uninterrupted and meaningful connection with his/her surrounding. By personalizing the space one can expresses his/her individuality.

Sundstorm defines personalization as a term in environmental psychology which helps the occupants reflect their individual identity with use of decoration, ornamentation, change and rearrangement of their individual and personal space. He also mentions that when environment changes according to occupiers (person or group) needs, then personalization occurs (Sundstrom, 1986). Personalization can be done by an individual, or by a group to express self-identity or group-identity.

Personalization can be classified in the following manners:

1. Displaying personal objects in the environment: adding artworks, family pictures, diploma, flower and plants to personal space.
2. Changing the furnishing of the occupied space or rearrangement of it: changing the position of desk and seats to have more comfort.

3. Addition or deletions of physical objects in the personal space: adding a table lamp for better lighting or taking out a cabinet for reaching to more open space in the office (Cohen & Cohen, 1983).

Since in personalization people use their belongings and their personal objects to defend and mark their territories to regulate the social interactions, the term of personalization can be considered as a territorial behavior (Altman, 1975) .

In fact personalization of space serves many different purposes such as: marking territory, regulating interaction and privacy, psychological security, aesthetic of space, adaptation to environment and providing needs of specific functions and users.

5.1 Personalization in workspace environment

The workplace should answer to the functional requirements of the task; also it should allow employees for self-expression which will affect on their behavior and expressing self-identity in their individual assigned personal space (workstation).

Sommer (1974), Sundstrom & Altman (1989) and Heidmets (1994) suggest that personalization has three different classifications:

1. It can be done by individuals to their own personal space such as changes in workstation arrangement by occupier person.
2. It can be done by group to their collective space such as sharing office or even office building or objects such as computers, work instruments and clothing.

3. It can be done to a place or belonging objects even permanently such as - "their house or their car, their computer"- or temporarily belongings "a seat on a bus or a book of library" (Cited in Wells, 2000).

Personalization in offices often focuses on the level of individuals' personalization of their own permanent places (personal working space). As mentioned before employees' personalization in office is more realized through using their own belongings to mark and defend their personal space and territory to regulate social interactions.

Since there are many studies which suggest satisfaction with physical environment and also job satisfaction and well-being of employee is related to personalization, personalization is an important issue in workplace. (Harris, L., & Associates, 1978)

Sundstrom (1986) indicates that the amount of space which is available for displaying personal things and belongings is related with employee satisfaction with the physical office environment.

Comparable to Sundstrom's view BOSTI (the Buffalo Organization for Social and Technological Innovation) (1981) states that "Employees with more room for display report greater satisfaction with the environment than employees with little room for display" (Cited in Wells, 2000).

Despite these findings, some facilities' managers restrict workspace personalization. In the past, some architects specified in their contracts that the building could not be altered without their written permission (Sommer, 1974).

Even today, some facilities managers see personalization as disorder or `visual chaos' (Becker, 1981; Donald, 1994) and are hesitant to allow office workers to personalize their workspaces, especially in new facilities (Sommer,1974; Steele & Jenks, 1977; Clearwater, 1980; Becker,1981, 1990; Brill et al., 1984; Steele, 1986; Donald,1994).

Also, there is a long-standing assumption, although it has never empirically been proven, that an orderly appearing environment promotes efficiency (Sundstrom, 1986). Therefore, some offices have adopted policies that limit personalization. These policies tend to restrict, the extent to which employees may personalize, the types of items employees may display, and the location of personal displays (Donald, 1994). However, studies have indicated that even when companies have clear policies restricting personalization, employees do it anyway (Clearwater, 1980; Becker, 1981; Brill et al., 1984). These findings suggest the possibility of a strong psychological need for people to personalize their space" (Cited in Wells, 2000).

Donald (1994) recommends that giving permission to employees to express themselves by personalizing their own office will influence on job performance and satisfaction, however forbidding employees to personalizing their personal space may have broad psychological results. Figure (42) shows an impersonalized office which will make employee tired of work.

Figure 41 : Employers who prohibit workplace personalization may stifle employees' professional growth and decrease initiative. (Hudson, 2004)

Because most colleagues express themselves through decorating of their own space in the workplace, therefore to avoid `visual chaos', "The workstation design should provide sufficient space, vertical and horizontal, to support personalization through the display of memorabilia, plants, photographs, etc. In addition, organizations should support personalization with policies that permit it and set out reasonable limits, if necessary" (IRC , ISD, 2004).

Researches done by National Research Council of Canada show that:

"Employees who display more personal items in their offices show higher environmental satisfaction, job satisfaction and well-being, and rate their organizations more positively. In addition, organizations that have policies permitting personalization are perceived as healthier" (Figure43) (IRC , ISD, 2004).

Figure 42: This workstation has been greatly personalized: low ambient light levels, task lights, and decoration. (IRC , ISD, 2004)

Ed Holder in "A Review of Workspace Personalization", 1999 found that employees are likely to personalize their spaces when they have positive job and interpersonal experiences at work, and workspace is a medium through which individuals can express their identities and status in the hierarchy. Conversely, employers who prohibit workspace personalization may stifle employees' professional growth and decrease initiative" (Quoted in Hudson, 2004).

Backer & Steele also mention that higher status and ranking employee have more freedom to personalize their office with expression that they like (Becker & Steele, 1995). As it was mentioned in the previous sections, in most of the offices the level of personalization allowed within a workstation is a status marker. So status affects on the level of freedom for personalizing of personal space. Also gender differences influence on the personalization of space.

5.2 Marking personal space and territory in the office environment

The design and arrangement of the place can affect on size of the personal space that occupier needs. Some researches which has been done in the field of office environment reveal that in the following conditions people require occupying a larger area as personal space:

1. When rooms are small in size or narrow in shape or ceiling is low

2. When they are placed in the corner of a room they need larger personal space than when they are placed in the centre.

3. When they are seated than standing in a place.

4. When they are in indoor spaces than outdoors.

5. When they are in crowded than non crowded environment.

So the availability of escaping in space will decrease the size of required personal space (Bell, et al., 1996, pp. 286-287).

Also according to personal space and classification of distances between people that was mentioned in previous chapters, to have enough sense of comfort, employees should have at least an arm's length distance from each other when they are seated next to each other. At the same time they need a distance from backs and sides too; Cohen & Cohen (1983) mention that some of their researches show that people like to protect their backs and sides and do not like people to reach them from behind (Figure 43). Therefore one reason for preferring closed offices according to these descriptions can be because they provide protection for employees (Employee is protected from back and sides with walls or windows and desk placed as a barrier, also the entering of others can be controlled by closing or opening the door). Having

protection is an essential need for all, but some people can not clearly realize this

need, for example some people feel they are uncomfortable and dissatisfied because

the open-plan workstations are nosier than close one's but perhaps the reason is lack

of protection in the open-plan office (Cohen & Cohen, 1983).

A research which was done in an open-plan office that was obviously more quiet

than close and traditional ones in the period of the test and examination, shows that

some people were complaining about being uncomfortable and they argue that the

problem was noise, but perhaps that was not the correct reason, whereas lack of

protection which was not considered by them made this inconvenience. "The truth is

that the typical open-plan workstation orients the occupant's back to the walkway. It

is especially unpleasant to have people walking behind one's back all day" (Cohen &

Cohen, 1983, p. 115).

Figure 43: Americans like to protect their backs and sides. They especially do not
like to sit with their backs vulnerable to the walkway (National laboratory), (Cohen
& Cohen, 1983)

Furniture companies try to solve this problem in the workstations by developing system furniture types which are more freestanding units and enclose space completely or in at least one side. "Many systems furniture workstations mimic typical enclosed offices. In some, the desks act as barriers and face the doorways. At the very least, the desks are perpendicular to the doorways. Then, too, the systems with panels that are 2m often provide doors, a feature unheard of not so long ago. In the original landscape design, doors were nonexistent, based on the philosophy that they impeded work flow. However, the simple workstations still tend to be nothing more than desks with shelving above. This style makes the occupant particularly vulnerable. Backs and sides are completely open. Often the workstation "wall" is less than 75 cm from one's face" (Cohen & Cohen, 1983, pp. 115-116).

The occupation and defense of territories by human (Territorial feelings), in physical space and the territorial behavior are subjects which are largely overlooked phases of organizational life. They have influence on relationships, communications, safety and also increasing of well-being of people.

In the other hand "The concept of territoriality makes a powerful addition to research on psychological ownership by providing a means of exploring the social and behavioral dynamics that sometimes follow from employees' sense of psychological ownership. Psychological ownership refers to feelings of possessiveness and attachment toward an object. Territoriality, in contrast, refers to actions or behaviors that often emanate from psychological ownership for the purposes of constructing, communicating, maintaining, and restoring one's attachment to an object" (Lawrence & Robinson, 2005, p. 579).

Generally psychological ownership affect on territorial behavior and basic needs of self-identity, and having a place of one's own. Respond to these needs will give value to individual to motivate him or herself with others in communication (through marking) and to protect and keep it (through defending) as his or her own. Also it gives the sense of "self-efficacy", "self-identity" and "security" to occupier of space (Taylor & Brooks, 1980).

Territorial behaviors are used to control communication and maintain the territories` boundaries. Territory can be defined with markings. Marking can be in two ways as "identity-oriented" marking or "control-oriented" marking. Below will explain these two terms are explained:

 "Marking involves the social construction of objects as "territories," as organizational members negotiate to whom the territories belong, as well as the boundaries around them (Brown, 1987; Sommer & Becker, 1969), and Blumer(1969) and Goffman (1967) agree that it requires the skilled use of locally meaningful gestures or symbols to signal one's territory and its boundaries" (Quoted in Lawrence & Robinson, 2005, p.580).

Physical symbols such as nameplate on an individual's door, putting family pictures on table or in shelves or either on screen of computer can be examples of markers which are used by employee in an office environment. Also there are social markers such as using of titles by employees (Status). As a result it is detectable that marking can help to establish permanent boundaries and control territory for an indefinite period of time. Also there are temporary markers that employees are using to define their boundaries for example in a meeting room which is occupied by employees for

a limited time it is noticeable that employees leave some file, paper, books, or even their names on a paper or placards on the table to mark their space in that time. Ruback, Pape, & Doriot (1989) noticied that in an open plan office employees mark their surrounding and space around their cubicles by putting their belongings or even by using audible markers such as using special telephone ring or listening to music which they like more.

When people are members in an organization, they use marking as a sign of the basis of ownership. To achieve to this goal they can use "identity-oriented "marking (personalization) which provides individuals to express their identities to others even to themselves and successfully distinguish themselves from others. Displaying family pictures, hanging diplomas on walls, using titles before their names (showing status) and placing belongings are some examples of "identity-marking" (Brown, B. B., 1987).

The other way of marking is known as "Control-oriented" marking. This kind of marking involves marking an organizational space issue with some symbols which shows the boundaries of a territory and the ownership over it, the purpose of using this kind of marking is not personalizing , but perhaps the role of "control-oriented" marking is for controlling the "communication" , "discourage accesses "and preventing unwanted interactions by others (Altman, 1975).

Whereas "identity-oriented" marking is used for expressing self identity, the function of "control-oriented" marking is controlling access or use of place. Some examples of this kind of marking are as below:

The position of manager desk in a shared office which distinguishes his proprietary space from others is an example of "Control-oriented" marking. Or using signs similar to "Do not disturb" might be used to regulate access and communication with others; in this case territory is defined with "control-oriented" marking. With both "identity-oriented" and "control-oriented" marking territory and boundaries can be defined (Lawrence & Robinson, 2005).

Studies which have done on employees in private offices show that most of colleagues place their desks as a divider to create three zones, a personal space as a working area which is behind the desk, an area in front of desk for visitors and a circulation area which connect these two areas. This shows how territorial behavior and marking can be used by employee in his/her office space. (Goodrich 1986 Cited in Farivarsadri, 1992)

In open-plan offices because the difference between private and public space is not clear sometimes, employees spend much energy on "control-oriented" marking to define their space and control the communication and access. This shows the importance of providing personal space in an office environment (Cohen & Cohen, 1983).

5.3 Status in office

People use different techniques for verifying their own self identities and also for representing their personality to the others. Their behaviors, attitudes, clothing, and their tastes and also some elements such as their homes, cars and their friends which they choose, somehow demonstrate their self definitions.

Status is defined by Konar and Sundstrom (1986) as "the value placed on an individual in comparison to the other individuals" (Cited in Farivarsadri, 1992).

The status of a worker in an organization is usually indicated by the nature of his or her workplace. In an office the employees' jobs and their categories (rank and education) affect on their office which they occupy. "It is a widely accepted practice in North America to denote rank or status by the perquisites of an individual's workplace. Private offices, corner windows, carpeting, wall paneling, and furniture quality are some of the means that are used to differentiate people of different ranks. Many corporations and public agencies have firm rules on how these amenities are to be distributed" (DEASY, 1985, p. 26).

Parallel to this view of different status, Cohen & Cohen mention that, "That is why inside the office complex; employees are often differentiated by the size and prestige of their workstations, as well as by the furnishings their workstations contain" (Cohen & Cohen, 1983, p. 120). "The perquisites and amenities that are provided for a workplace are frequently the most visible evidence of an individual's standing within an organization. If these are distributed unfairly, it may create a strong sense of injustice within a working group" (DEASY, 1985, p. 65).

Use of material and social status can help to demonstrate status differences between employees in an organization. Material status is determined by having things that people from a lower rank do not, like luxury furniture, a bigger space than others. Social status is more often marked by freedom to do things that others can not or difficulty to access and it is mainly determined by technical value or the importance

of the job one does in the technical structure or social value gained by the level of education and seniority (Farivarsadri, 1992).

The change in status between employees can be determined by design of office's interior (physical elements) so the office design has been used as a status marker. "Status markers serve, variously, as tools for communication, incentives for performance, and props for use in carrying out certain status-associated tasks." (Vischer, 2005, p. 61) The most important status markers can be listed as:

1. Employee office location: the location of employee's workstation generally depends on his/her ranking (Fischer & Etienne, 1997, p. 121). Some examples for location can be as follows: higher ranks occupy offices which are near the windows. On open plan offices high rank employees' offices can be located in the corners; even managers can have private close offices. "In some traditional companies, facility planners may characterize executive enclosed offices in terms of windows; one, two, three, or corner." (Cohen & Cohen, 1983, p. 121)

2. Accessibility of a space: "this notion represents the psychological cost of establishing an interaction between the individual occupying the space and another employee or member of management and this depends on the degree of the physical difficulty of access that is associated with it. Accessibility to a space is inversely proportional to the number of physical barriers it is necessary to cross to get there." (Fischer & Etienne, 1997, p. 121) For example higher rank employees have less accessibility than other employees it means they have more control over the access of their space that they occupied.

- Personalization of space: higher rank of employee has more freedom to personalize their workspace. "They have more freedom to individualize their space and adapt it to his/her own needs and desires" (DEASY, 1985, p. 24). For example high ranks can choose the color and furniture of their office also they can change the arrangement of their working space.

- Furnishing and interior equipments: Furniture is different in size, materials and style. As status and the employee rank changes the quality of furnishing generally changes too.

For example big size of desk and armchairs with large backs which are made of more expensive materials generally belong to higher rank employees. "Even the interior colors and textures of the interior design can be important. Dark woods, deep reds, leathers, and muted colors have higher status than other combinations. As an example a firm that furnishes its reception area with antiques may be considered more reliable than one that uses electric blue, glass, and chrome." (Cohen & Cohen, 1983, p. 121)

- Floor space: The other thing that is dependent upon status is "space standards". The size of office also varies due to change of status. The higher the level of status of employee occupy the bigger the size of the offices (Cohen & Cohen, 1983).

So the important issues for a designer while dealing with personal status is to understand that allocating floor space, windows locations, furnishings, and other facilities and services are not just for making attractive work environment and functional work spaces, they are also sensitive themes of allocating personal status.

5.4 The role of culture in description and use of space

The individual's sense of place varies from person to person and also use of objects and spaces change from one culture to another. Also the individual attitude toward the use of space is defined by his/ her culture. The culture of people who occupy the space affect on design of the surrounding environment, but the function of the objects as significant objects will not change from culture to culture. (Lang, 1987)

Hall in his book - The hidden dimension (1966) - classifies three levels of behavior as follow:

1. "Infracultural" level: It is a level of behavior which is organic (biological) and personal as a part of "man's phylogenetic past".
2. "Precultural" level: this level of behavior refers to perception of space through human senses and these senses are based on human culture, so the perception of space is not the same for all people.
3. "Microcultural" level: Microcultural behavior is related to the spatial organization of individual and group activities. It has three fundamental elements:
   a. "Fixed-feature space": in this method space is organized according to the plan of culture, a good example which illustrates this kind of organization is visible in layout of cities and the design of buildings, also it affects on interior space.
   b. "Semifixed feature space": it is the way of arrangement that users divide space according to the purpose and users needs of space, however it can affect on communications, and it can help to keep

people apart from each other ("sociofugal") or bring them together ("sociopetal"). In this manner, dividers such as furniture, screens and fix or movable partitions can be used as elements for dividing the space.

Parallel to this view Robert Sommer (1969) has done a study and argue that furniture arrangements are influential in determining whether people experience spaces as sociofugal or sociopetal. In addition, he states that what is desirable is flexibility and correspondence between function and design which will make a variety of different kind of spaces and according to requirements of the occasion and mood people can be involved or not. Therefore, it can be said that semi-fixed features can affect behavior a lot, but it is an effect that is situation-bounded.

C) "Informal space": it is the preserve distance between people. The amount of this distance depends on the level of relationship with others and the feeling of the person about others in the moment of communication. The distances used are influenced by one's cultural background and emotion (Hall, E. T. , 1966). The different distance zones were described initially in section related to personal space.

Parallel with this view Watson (1970) mentions that some people (Asians, Americans, Indians and northern Europeans) are seating and standing far away from each other and they generally use less touch, they are known as noncontact persons. Conversely some others (Arabs, southern Europeans and Latin Americans) are seating close to each other and they frequently touch each other, they are recognized

as contact persons. Malnar & Vodvarka (1992) mention that, the classification of public, semi-public and private spaces are a result of these explanations.

So in analyzing the spaces the cultural factor has an important rule. According to Long (1987), the systematic aspects of culture have certain levels of integration; the formal, informal, and technical. "The formal level constitutes the cultural codes that allow us to classify and process our surroundings; the informal level is situational, allowing for behavior modification in context; and the technical level allows for a constant supply of newly generated content that society can see" (Malnar & Vodvarka, 1992, p. 229).

Hall (1966) observed that the norms of different cultural groups were reflected in their architecture, space arrangement furniture use of public space, and also in setting of social distance. In a qualitative way he explains the differences in spatial habits of various cultural group members. For example he mentions that German people surround a larger personal space bubble around themselves and they are more sensitive to interruptions, also the physical separations (such as partitions, door...) is more important for them than Americans. He states that English people control their psychological distance from other people by verbal (voice characteristics) and nonverbal (eye contact) means more than physical environment means.

Also he describes Arabic culture as "highly sensory", for them breathe in one another's hues and touching each other are seen as normal habits. They use less distance from the other people in communication. All these cultural differences affect on perception of privacy, personal space, status and even territory. (Hall, 1966)

The culture possibly influence the individual design of people surrounding and especially the design of personal space, however the function of the significant objects is the same in different cultures. Therefore designing an environment is not only serving the functions and task requirements but it is also important to cover the social and psychological needs of the users too. So it will be helpful to learn about social and behavioral issues related to people in the culture which designer wants to arrange the space for them, to understand the concept of personal space, territory and privacy in that culture better.

5.5 Effect of personalization on well-being

Some researches show that personalization can protect people against negative physical, physiological, and psychological consequences of insufficient privacy regulations, such as illness, stress, and anxiety. These researches show that personalization is linked to psychological well-being of users by reducing the stress through regulation of privacy (Altman, 1975).

Parallel to the influence of personalization on well being Harris & Associates (1978) argue that allowing the expression of one's emotions and personality with personalizing their individual space will improve well-being. Many studies in office environment suggest that satisfaction with physical environment and job satisfaction is related to personalization of workspaces (Harris & Associates, 1978). All of these show the importance of personalization in office environment.

Generally personalization of space is considered as a territorial behavior which affects on well-being of person in different ways such as:

1. Protecting user of space against the negative physical, physiological and psychological results which rises from poor privacy regulation, such as illness, stress and anxiety.

2. Allowing a person to express his/her emotions and personality by personalizing the individual space will improve well-being (Altman, 1975).

3. Improving the feeling of personal control over space by personalizing it will increase satisfaction in job and reduce stress enhance well-being of users. (Becker , 1990)

Personalization is directly related to satisfaction with physical work environment which definitely influences job satisfaction, which absolutely is related with employee`s well-being (Becker , 1990).

Danielsson (2005) mentions that some Researches that are done in Sweden show that over the past years the number of absent from work due to stress related diseases has increased. He minions that some authors such as Karasek &Theorell (1990); Siegrist (1996) and Toomingas (1997), argue that work environment have an important affect on the health and well-being of employees.

Parallel to this view Steele (1986) states that the companies which do not allow employees to personalize their workspace will "give employees the feeling that the absent of traces of their influence on the physical work environment is symbolic of their influence in the organization" (Cited in Wells, 2000).

This will increases stress and decreases job performance and satisfaction.

Goodrich (1986), who has studied the problems of the office environment from the standpoint of the users, argues that office design must support physical activities of employees and also their social activities such as thought processes and emotional well-being of users.

Based on theories of Altman (1975), Sundstrom (1986), Goodrich (1986), Scheiberg (1990), Kasl (1973) and many others who worked on this topic, Walls (2000) proposed a model of personalization and well-being (Figure 44).
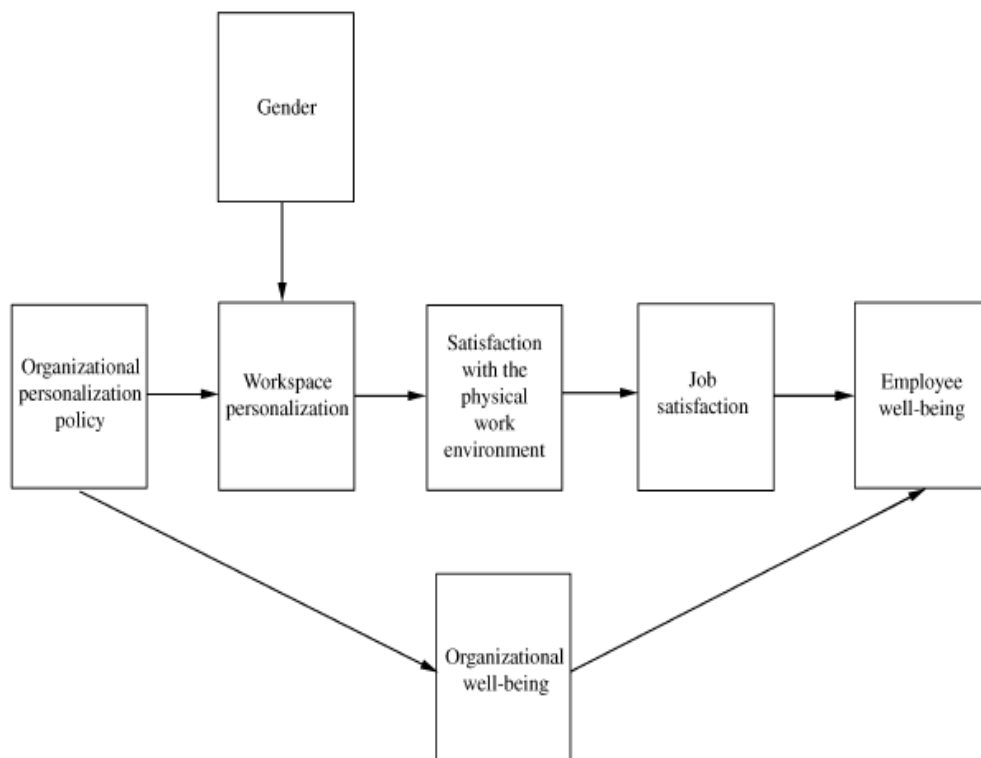
Figure 44 : Proposed model of the relationships between office personalization, gender, employee well-being and organizational well-being (Wells, 2000)

This model shows the relationship between personalization and well-being of employee in a workplace. Also it shows that gender affects on the way workspace personalized by user. This issue will explain in following pages by details.

5.6 Gender Differences in Personalization

Some researches state that personalization maybe performing differently between men and women. For example personalization of home is more important for women than for men. For personalizing the space women use more intimated manners such as using photos of their friends and family, plants, personal belongings than men do (Smith, 1994).

One study on personalization in office environment suggests that the quantity and quality of personalization varies by gender and type of job. This study point out that most women personalize their individual workplace with aesthetic items such as posters, photos, plants, personal items whereas most men personalize their personal space in working environment with items which shows their personal achievements or family attachments or things that shows their status (Goodrich, 1986).

As mentioned before personalization regulates privacy and privacy control the interaction and communications, so it can be said that personalization of space is a form of communication. Men and women are different in communication style and it affects on the way of personalizing their space for example women personalize their individual spaces in more intimated manner than men do. On the other hand men try to personalize their home or workplace to express their status and individual achievements.

5.7 Effect of personalization on well-being between different genders

It is remarkable that men and women personalize their space for different reasons, in different degrees and with different types of personal belongings and objects. So the

path between personalization and satisfaction with physical surrounding will not be the same for men and women. The interview data which were collected by Walls (2000) supports his hypothesis, "that personalization would be more integral to the well-being of women than to that of men", however the literature review which has been done by Walls before his interviews, point out personalization was not more important to the well-being of women than men and they think same about affect of personalization on their well-being, but in Walls (2000) interview data collection shows that when he asked "whether personalization improved their well-being", women consistently replied yes. One woman said `Yes, because they [these things] are a part of me, and it lets me express my identity'. Another replied `When I am away from my kids for so long during the week, just to look up to [pictures of] their faces once in a while makes it all worthwhile. It is a stress reliever. However, the men were not so sure that personalization enhanced their well-being. One man replied `I've never thought about whether it makes me feel better or not. It is fun to come in and see these things, though'. Another man responded `Maybe, I guess. I don't really know how to answer that one'" (Wells, 2000, p. 242). These interviews show that all woman agree personalization is important to their well being however some men think like this.

"Also, when asked how they would feel if their company strictly prohibited workspace personalization, women consistently replied that they would feel restricted, controlled, and like management did not care about them. However, the men were divided on the issue. For example, one man said, `I wouldn't care. It's just not my personal style'. However, another man said…It wouldn't sit well with me…If I'm going to do something for a career, make a life out of it; I am going to have to enjoy it. So it would be kind of depressing" (Wells, 2000, p. 242).

The answers about affect of personalization of space on the well-being of employee in work environment, according to gender, shows that all women and some men are agree about this issue. This shows the importance of personalization in the work environment.

All the information above shows that every work station should provide the means for personalization of employees individual personal space .This means that each person should have the opportunity to personalize his/her own space with photos, plants, posters, personal belongings or other mementos that gives the feeling of comfort and well-being. All business and professional offices should work on this topic as an essential part of design criteria which improve job satisfaction, job performance and also wellbeing of organization and employees. This recommendation may seem to upset the self-esteem and respectability of business and professional offices, but if it is taken as an essential part of the design criteria it is not difficult to accommodate.

CHAPTER 6

CASE STUDY

Recent chapter tries to find out the answers to some questions about personalization in the office according to literature survey that has been done in this study. It tries to figure out answers to some questions about personalization according to gender such as:

1. What are the reasons of personalizing the office for employees?
2. Does gender affect on personalization?
3. How people try to personalize their space?
4. Does personalization affect on well-being and job satisfaction?
5. How people arrange their space to control the interaction and communication?

Also whether personalization have same meaning for different people, whether the reasons of personalization changes according to the gender or not, whether females personalize their space in different manners than males do, do they believe on affect of personalization on well-being or not and at the end if they arrange their space to control interactions and communication or not. What is the meaning of personalization according to the users?

6.1 method of study

In order to form this case study and limit the research, some offices in Faculty of Architecture in Eastern Mediterranean University (EMU), in North Cyprus have been selected. The total number of instructor's offices in this faculty is 32 rooms which are occupied by Turkish Cypriots, Turkish and some international instructors (Table 3).

Table 3: Information of instructors in faculty of architecture in EMU

NATIONALITY	GENDER	ROOM NO.
TURKISH	MALE	ARCH 113
CYPRIOT	FEMALE	ARCH 108
CYPRIOT	FEMALE	ARCH 117
CYPRIOT	FEMALE	ARCH 022
CYPRIOT	MALE	ARCH 104
CYPRIOT	MALE	ARCH 021
CYPRIOT	FEMALE	ARCH 116
CYPRIOT	MALE	ARCH 106
TURKISH	FEMALE	ARCH 002
TURKISH	FEMALE	ARCH 102
CYPRIOT	FEMALE	ARCH 009
TURKISH	MALE	ARCH 113
TURKISH	MALE	ARCH 121
TURKISH	FEMALE	ARCH 114
TURKISH	FEMALE	ARCH 006
TURKISH	FEMALE	ARCH 005
TURKISH	FEMALE	ARCH 101
TURKISH	FEMALE	ARCH 107
CYPRIOT	FEMALE	ARCH 123
CYPRIOT	FEMALE	ARCH 118
CYPRIOT	MALE	ARCH 125
CYPRIOT	FEMALE	ARCH 129
TURKISH	FEMALE	ARCH 112
INTERNATIONAL	FEMALE	ARCH 109
TURKISH	FEMALE	ARCH 209
CYPRIOT	FEMALE	ARCH 024
CYPRIOT	MALE	ARCH 023
CYPRIOT	FEMALE	ARCH 008
CYPRIOT	MALE	ARCH 103
INTERNATIONAL	MALE	ARCH 122
INTERNATIONAL	MALE	ARCH 126
TURKISH	MALE	ARCH 114

To choose sample offices for this study the author selected the rooms of Turkish and Turkish Cypriots instructors in this faculty which are totally 29 rooms. In second step she categorized them according to gender differences which show ten of these offices belong to males and the other nineteen belong to female instructors (Turkish Cypriots, Turkish). To correlate information offices of 10 men and 10 women instructors was selected. The categorizing of this selection was according to some factors such as: The offices are nearly in the same size, all of the occupiers of these offices are instructors of the faculty of architecture, the occupiers have the same culture, they are all Turkish or Turkish Cypriots and the range of their age changes nearly between 30-50 years old. During the study 2 male and one female instructors were absent, so the final number of offices decreased to 8 male and 9 female instructor. To correlate according to gender the number of male and female should be equal so 8 male and 8 female were selected for this observation.

In order to come to a right conclusion, different techniques and materials were used throughout the analysis, such as observation, questionnaires (yes or no questionnaires about the reasons of personalization which were filled by occupier of the offices, this part refers to the literature survey of thesis), and interviews (users opinion about the meaning of personalization), observation of the cases and data collections analyzes (getting percentages and drawing charts from collected information).

Next pages include the observation and questioners which were used for this study. In the first stage the plan of offices were just drawn as sketches and the information was obtained by help of photographs and interviews as mentioned in the forms. After that the author tried to figure out the meaning of personalization and how users identify this term. (Table 4) and finally each case was evaluated according to Table

5. To find out which personal items are mostly used at workspace and if they have been influenced by gender differences or not. And at the end how the user controls the interaction and communication in personal space was interpreted through spatial organization of the office.

Table 4: Sample of the table used in research

Room NO :	Profession : Department :
Age : 30-40 40-50	Status :
Gender : m /f	Duration of stay in office :
nationality :	

Plan	**Your reason for personalization of your office:**
	Express identity and individuality
	Showing the status
	Expressing the individual's emotion
	Show office belongs to you
	Controlling and regulating interaction
	Provide needs of specific function and users
	Aesthetics
	Others

Full view of office

Notes of the user opinion:

Table 5: Sample table of evaluation of observation

EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures		
	posters		
	Personal belongings		
	hanging diplomas on walls		
	using titles before their names		
	plants		
	Radio, music		
	Addition or deletions of physical objects in the personal space		
	Others		
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk	Explanations:	
	Plan		
	Using signs:	Explanations:	

6.2 Analysis

In the context of this analysis, seventeen offices in faculty of architecture were investigated for items mentioned above. And it shows that the most important reason for personalization for employees of this case study according to questionnaire is to "provide needs of specific functions and users" and "showing status" was in the last level of attention for them. (Table 6)

Table 6: Reasons for personalization of office

Reasons for personalization of office	Total percentage
Expressing identity & individuality	56.25 %
Showing the status	12.5 %
Expressing the individual's emption	62.5 %
Show office belongs to the person	43.75 %
Controlling and regulating interaction	68.75 %
Provide needs of specific function and users	93.75 %
Aesthetic	31.25 %
Others	18.75 %

Reasns for personalization

■ RESONS FOR PERSONLIZATION
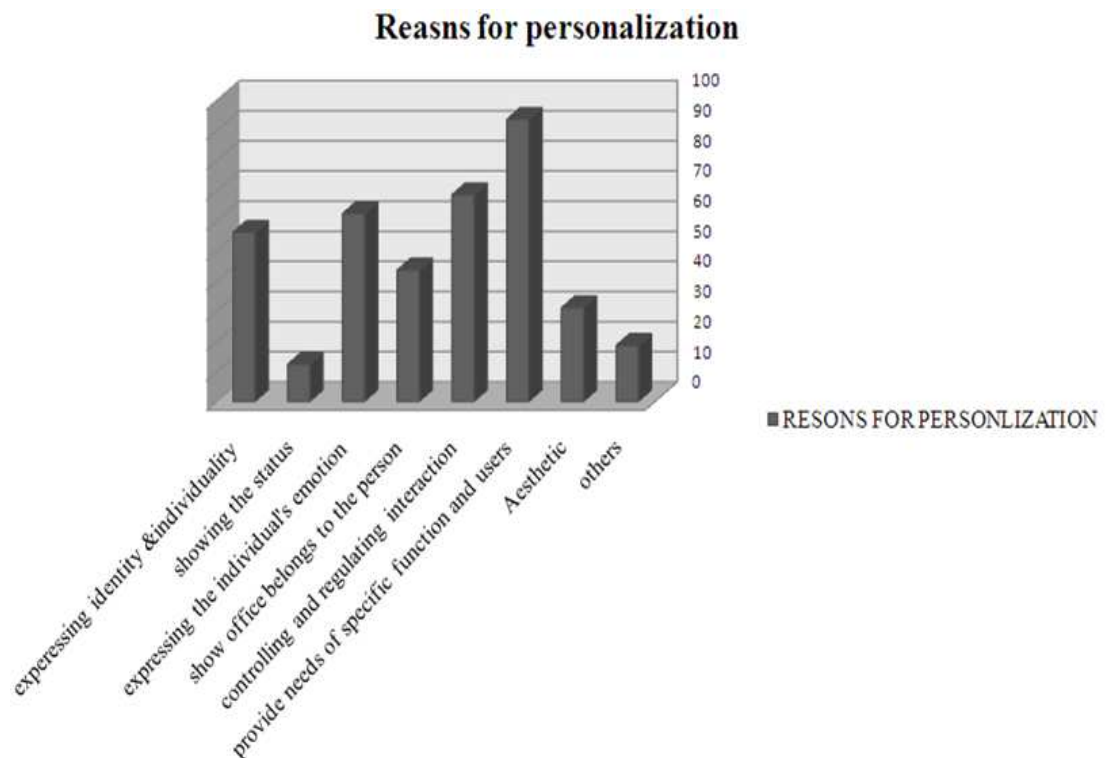
However the percentage of these reasons changes according to gender differences. As it can be seen in table 7, 100 % male and 87.5 % of female instructors agree that providing needs of specific function and users is the most important reason for personalizing the space. But in answer to importance of showing status by personalization all women disagree with it and 25 % of men instructors mentioned that it is their academic life achievements and it is a kind of belongings so they use their awards for personalizing offices.

Table 7: Reasons for personalization of office according to gender differs

Reasons for personalization of office According to gender differences	Total percentage	Male	female
Expressing identity & individuality	56.25 %	50 %	62.5 %
Showing the status	12.5 %	25 %	0 %
Expressing the individual's emption	62.5 %	50 %	75 %
Show office belongs to the person	43.75 %	37.5 %	50 %
Controlling and regulating interaction	68.75 %	62.5 %	75 %
Provide needs of specific function and users	93.75 %	100 %	87.5 %
Aesthetic	31.25 %	25 %	37.5 %
Others	18.75 %	0 %	37.5 %

Reasons of personalization base on gender differs

112
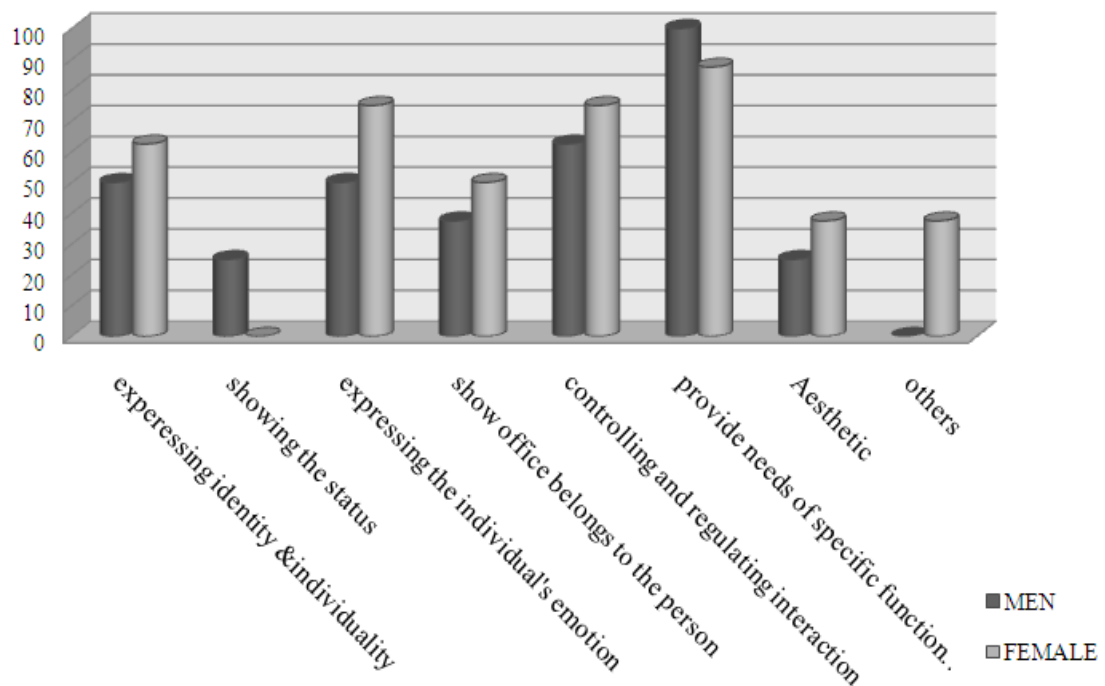
This chart (figure 45) shows the reasons for personalization in both genders; according to literature survey which prepared as questionnaires by author are same (the PIC point's changes by reasons are same in both charts). As it is visible expressing the individual's emotion and aesthetics which are linked together, are more important for females than males.
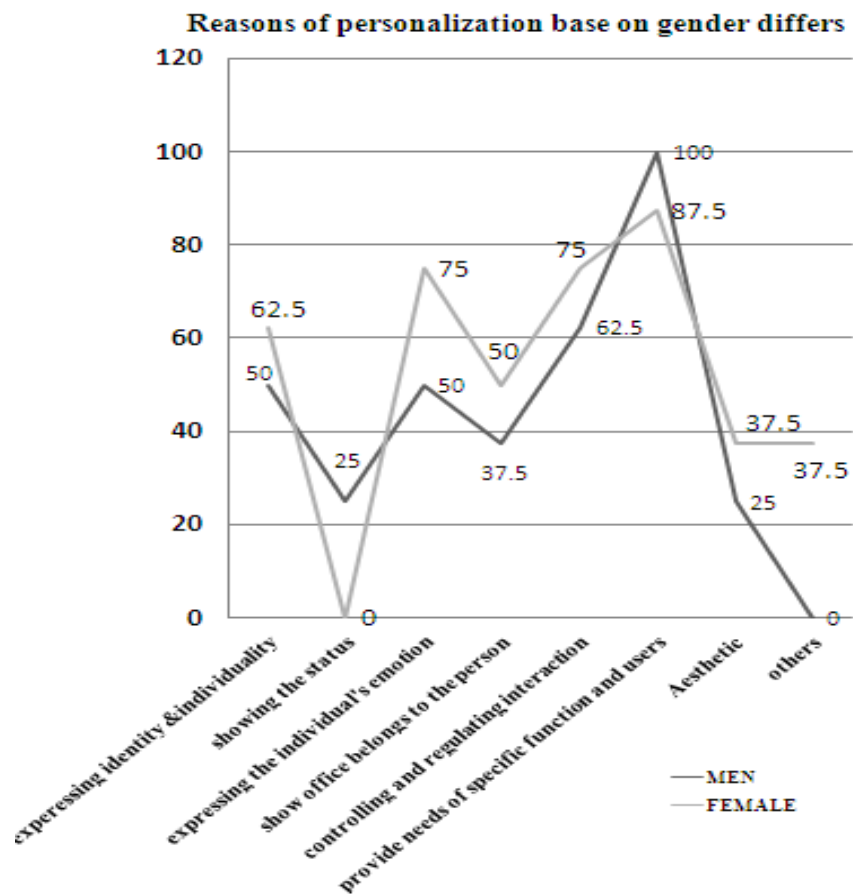
Figure 45: Reasons of personalization base on gender differs

And it can get in order according to percentage of significant as below:

1. Provide needs of specific function and users

2. Expressing the individual's emotions

3. Controlling and regulation interaction

4. Expressing identity and individuality

5. Show office belongs to them

6. Aesthetic

7. Showing status

8. And others such as using colors for walls as a expressing psychological emotions for women

According to observation personalization performs differently between men and women. Women use more intimated tools such as photos, plants, personal belongings and aesthetic items such as posters, for personalizing their offices than men do. However men personalize their offices with items which show their personal achievements or family attachments or things that shows their status and they more use items which support their functional needs. The meaning and reasons for personalization was not the same for all. Most of instructors mentioned that they care about personalizing their working environment because of their profession. Because all of them are designers they have a special care and sensitivity towards the space. One of the international instructors said that "personalization of space is like clothes for space, it gives meaning and identity. Without personalizing the space will be same as people in prison which are wearing same uniforms and just clarified by their numbers. So it is an important subject for designing a space".

Next page (Table 8) shows the reasons of personalization in cases which classified through interviews. They mentioned some other reasons for personalizing their offices such as: affect on job satisfaction, affect on well-being, having enough comfort and making an enjoyable space for working. (Details of case studies are available in appendix chapter)

Table 8: Reasons and ways of personalization in case

Personalization in cases	Arch106	Arch 104	Arch 114	Aarch 021	Arch 113	Arch 128	Arch103	Arch 121	Arch 008	Arch 002	Arch103	Arch108	Arch 111	Arch 112	Arch 118	Arch 116
Importance of personalization	√	–	√	√	√	√	–	–	–	–	√	√	√	√	–	√
Aesthetics	√	–	–	√	–	√	–	–	–	–	√	–	√	–	–	√
Provide functional needs	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Enjoyable atmosphere	N.M	N.M	N.M	N.M	N.M	N.M	N.M	–	N.M	–	–	√	√	–	–	√
Dependency	–	–	–	√	√	√	–	–	–	–	√	–	√	–	–	√
Job satisfaction	√	–	√	√	√	√	√	√	–	–	–	–	√	√	–	√
Well being	√	–	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Comfort	√	–	√	–	√	√	√	√	√	√	√	√	√	√	√	√
Home feel	–	–	–	–	–	√	–	–	–	–	–	–	–	–	–	√
Work feel	√	√	√	√	√	–	√	√	√	√	√	√	√	√	√	–
Status	–	–	–	–	√	–	–	√	–	–	–	–	–	–	–	–
Importance of flexibility	–	–	√	–	–	–	√	√	–	√	√	–	–	–	–	–
Individual's emotion	√	–	–	√	√	√	–	–	–	–	√	√	√	√	–	√
Result of job(student works)	N.M	N.M	N.M	N.M	√	√	–	N.M	–	√	–	√	√	N.M	N.M	√
Belonging	√	–	–	√	√	√	–	–	√	–	√	√	–	√	–	√

N.M = NOT MENTION   √ = AGREE   – = DISAGREE

6.3 Discussion

Personalizing working environment is an important issue, both for architects and employees. The findings of this study indicate that both men and women agree about importance of personalization but they personalize their offices in different manners. For example the type of items display by women for personalizing their space is more intimated manners such as photos, plants, personal belongings and aesthetic items such as posters. However men tended to personalize their space with symbols of their achievements or just objects which provides their needs. The reasons for personalization are nearly the same in both genders. They generally personalize to provide needs of specific function and users, expressing the individual's emotions and their individuality and identity and also for controlling and regulating interactions. However showing status in offices in university was not important for them. 87.5% of men agree that personalization will affect on satisfaction with work but only 37.5% of women have the same opinion. Also 87.5% of men and 100% f women said that personalization will affect on well-being of employee. The observation shows that women felt to improve the feel of workplace. For example they color their walls and add curtain or put plants and individual belongings. Women generally indicated that they need to make an enjoyable workplace. Also they tend to use symbols of their family and relations to express their identity ad individuality.

On the other hand during interviews and observations it was indicated that employees are much happier with their workspace when they have flexible furniture and moveable ones so that they can change the arrangement according to their needs in easier way.

Office designers should consider that employees are going to personalize their space, therefore they should think about flexible and moveable furniture and they should create spaces to allow employees to personalize their space such as shelves and extra tables to place personal belongings.

This study opens a wide area for further research such as: whether different profession, different ages, different culture… affects on the way people personalize their office environment or not.

CHAPTER 7

CONCLUSION

By understanding the functions that should be provided by a specified space, architects can find out variety of plans likely to be used which strongly supports the functional needs and also users' needs. Present study describes offices as a daily work environment which employees spend more than half of the day in it. The physical setting of space influences people behaviors, emotions, well-being and also job satisfaction. All these show the importance of office interior design. During years with changes in technology and tasks the office designs changed to provide users' needs such as functional needs, physical needs and psychological needs. All these are important issues that should be considered by designers of offices.

In addition, physical environment influences on social interactions and communication between people. The space arrangement affect on social interactions, it helps group functioning, arrange the distance between people in a place in order to have easy reaching and communication and also provides aspects such as privacy, territoriality and also personal space that all affect on the level of social interactions in space and users' behaviors.

To control communication, accessibility and bring comfort for users in a workplace people should have enough privacy which can be achieved by defining their personal

boundaries. Personalizing the space with individual belongings and personal objects can define and mark people territories and assist to regulate the social interactions. Using some symbols in personal space as "Control-oriented" will show the boundaries of a territory and ownership over the space. These marking items are for controlling the "communication", "discourage accesses "and preventing unwanted interactions by others. However some other objects are used as "identity-oriented" marking which expressing self identity of user which supports psychological needs of them.

Generally psychological needs such as personal space, privacy, communication, controlling interaction, and personalization… are not considered carefully by designers and that is why usually offices are not enjoyable and satisfying places to work in.

The main aim of office designers should be to create a place both for living and working which tries to reduce stress which comes from work. To reach to this goal designers should think about users as individuals with different needs, personalities and identities.

While the workstation should satisfy the functional requirements of the task, it should also allow for self expression and personal comfort. Analyzing the social and cultural norms of the society and users will help to arrange workstations in work environments more satisfactorily. For this purpose a major way is personalization of space. By displaying personal items or using different arrangements of workspace employees personalize their spaces to distinguish themselves from others. Personalization affects on well-being of employee and also job satisfaction. The way

people do personalization changes from culture to culture, and from gender to gender. The type of office work also affect on how and where the employees can personalize their workplace so the designer should be aware of all of these issues.

Talking with employees and founding out how they like to personalize their space can help designers to understand how to provide the needs of occupants of a space. Therefore the design of office should be adjustable and flexible enough to answer to these varieties of different needs so that any person can feel comfortable in his/her own personal place.

The most important guideline for designers to encourage employees to personalize their workspace is to give them control over their personal space. Office designers should know that employees tend to personalize their space, therefore they should design spaces for personal items such as bookshelves, surfaces such as wall panels or bulletin boards to allow employee to display their personal belongings.

As an interior designer providing possibility of personalization for employees in their office environment is a goal which can be achieved by:

1. Furnishing the office environment with furniture and fixtures which can be changed, added, subtracted and refurnished easily by users.
2. Placing display screens, shelves, panels for placing the personal belongings of colleagues
3. Understanding of meanings of terms such as territory, proximitics, personal space and privacy is important to reach to the goal of personalization according to users' needs and behaviors.

The aim of this study was to understand the meaning of personalization for this purpose a literature survey has been done on terms such as territory, privacy, personal space which are linked to personalization. Also it tried to found out how personalization applied by employees in offices and try to find out the affects of it on the users. And also find the factors which influences on the personalizing of space. The case study which was carried on as a part of study shows that personalizing the space with individual belongings and personal objects can define and mark people's territories and assist to regulate the social interactions. According to observations the type of items used for personalization of space changes according to gender differences as below.
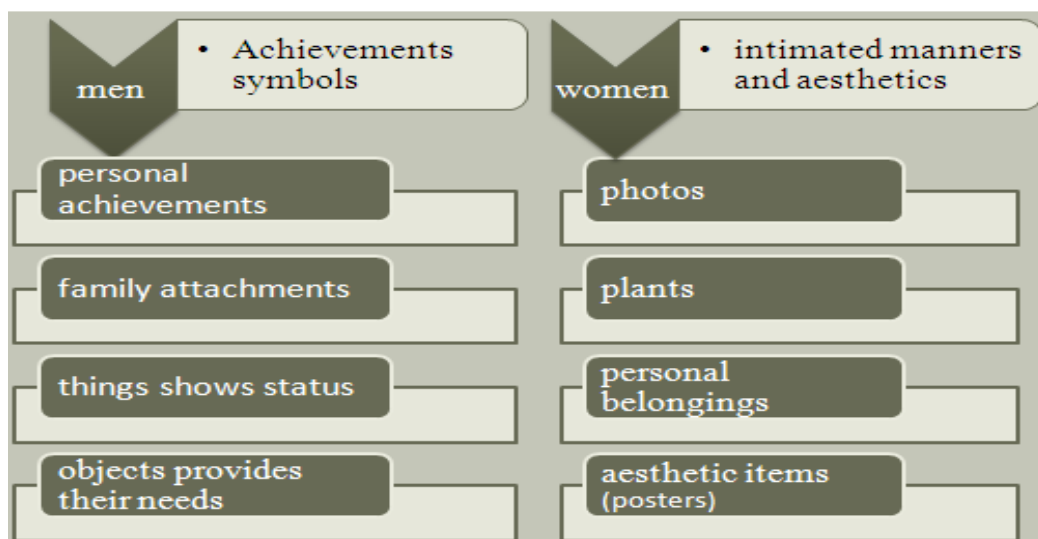
Figure 46: type of items used for personalization of space

The way people do personalization of space changes from culture to culture, and from gender to gender. It affects job satisfaction and well-being of employees. It also helps people to display their identity in the place. All this shows this importance of this subject.

Table 9. Summary of definitions

REFERENCES

Altman, I. (1975). *The environment and social behavior.* Monterey: Brooks cole publishing.

Altman, I., & Chemers, M. M. (1980). *Culture and Environment.* Belmont, California: Wadsworth, Inc.

Anderson, J. R. (1980). *Congnitive psychology and its implications.* San francisco: freeman.

ASID. (n.d.). *Workplace Values,How Employees Want to Work*. Retrieved march 28, 2009, from American Society of Interior Designers: www.asid.org

Becker, F. (1990). *The Total Workplace: Facilities Management and the Elastic Organization.* New York: Van Nostrand Reinhold.

Becker, F., & Sims, W. (2001, october). *Offices That Work Balancing Communication, Flexibility and Cost*. Retrieved 2008, from http://iwsp.human.cornell.edu/pubs/pdf/IWS_0002.PDF

Becker, F., & Steele, F. (1995). *Workplace by design: mapping the high-performance workspace.* san francisco: Jossey-Bass publisher.

Bell, Green, Thomas, Fisher, Jeffrey, Baum, et al. (1996). *Environmental Psychology* (4 th ed.). Harcourt Brace College Publisher,Fort Worth.

Bjerrum, E. &. (september 2003). Knowledge Sharing in the "New Office" possibility or problem. *eCSCW*. Helsinki,Finland.

Brown, B. B. (1987). Territoriality. In D. Stokols, I. Altman, D. Stokols, & I. Altman (Eds.), *Handbook of environmental psychology* (Vol. 2, pp. 505–531). New York: Wiley.

CABE/BCO. (2005, Apri 30). The impact of office design on business performance. London: Commission for Architecture & the Built Environment and the British

Council for Offices. Retrieved march 23, 2009, from The government's advisor on architecture, urban design and public space: http://www.cabe.org.uk/publications/the-impact-of-office-design-on-business-performance

CHING, F. D. (1996). *Architecture Form, Space, and Order*. New Yourk: John Wiley & sons, Inc.
Cohen, E., & Cohen, A. (1983). *Planning the electronic office*. New York: McGraw-Hill Book Company.

Danielsson, C. (2005). *Office Environment, Health &Job Satisfaction*. Retrieved 2008, from http://www.diva-portal.org/

DEASY, C. (1985). *Designing places for people*. New yourk: Whitney Library of design.

Donald, I. (1994). Management and change in environments. *Journal of Environmental Psychology* , 14,21-30.

Duffy. (1992). The changing workplace. london: Conran Octopus Limited.

Duffy, F., Laing, A., & Crisp, V. (1993). *The responsible workplace.* Oxford: Butterworth Architecture.

Farivarsadri, G. (1992). Furniture System for the Automated Office. Unpublished Master Thesis, Bilkent University.

Fischer, G. N., & Etienne, R. A. (1997). *Individuals and environment: a psychosocial approach to workspace.* (R. A. Etienne, Trans.) NY: Walter de Gruyter.

Goffman, E. (1971). *relations in public.* new york: basic books.

Goodrich, R. (1986). *"The percieved office: the office environment as experienced by its users."Behavioral issues in office design.* (J.D.Wineman, Ed.) N.Y: Van Nostrand Reinhold Co.

Goodrich, R. (1986). The perceived office: the office environment as experienced by its users. In J. D. Wineman (Ed.), *Behavioral Issues in office Design* (pp. 109-133). New York: Van Nostrand Reinhold.

Grech, C., & Walters, D. (2008). *Future Office:Design,Practice and Applied Research.* Great Britain: the Cromwell Press.

Hall, E. T. . (1966). *The hidden dimension.* Garden City: NY: Doubleday.

Harris, L., & Associates. (1978). *The Steelcase national study of office environments: Do they work?* Grand Rapids: MI: Steelcase.

Hedge, A. (1982). The open-plan office: A systematic investigation of employee reactions to their work environment. *Environment and Behavior , 14* (5), pp. 519-542.

Hellriegel, D. S., & Woodman, R. W. (1989). *Organizational behaviour* (4 ed.). st.paul:West Publishing Compony.

http://archrecord.construction.com. (n.d.). Retrieved 2008

http://home.telkomsa.net/deycor. (n.d.). Retrieved 2008

http://irc.nrc-cnrc.gc.ca. (n.d.). Retrieved 2008

http://www.architectureweek.com. (n.d.). Retrieved 2008

http://www.officemuseum.com. (n.d.). Retrieved 2008

Hudson, M. (2004). office design gets personal. *Office Solutions , 21* (1), 23.

IRC , ISD. (2004). *Workstation Design for Organizational Productivity.* Retrieved march 25, 2009, from irc.nrc-cnrc.gc.ca: http://irc.nrc-cnrc.gc.ca/ie/productivity/index

Konar, E., & Sundstrom, E. (1986). *"Status demarcation and office design." Behavioral issues in office design .* (J.D.Wineman, Ed.) N.Y: Van Nostrand Reinhold Co.

Kossen, S., & Drafke, M. W. (1998). *The human side of organizations.* New Jersey: Pearson Education.

Lang, J. (1987). *Creating architectural theory : the role of the behavioral sciences in environmental design.* New YORK: Van Nostrand Reinhold Co.

Lang, J., & Moleski, W. (1982). organizational goals and human needs in office planning. In Winemann (Ed.), *Behavioral issues in office design* (pp. 3-21). new york: van nostrand reinhold company Inc.

Lawrence, T. B., & Robinson, S. (2005). TERRITORIALITY IN ORGANIZATIONS. *Academy of Management Review , 30* (3), 577-594.

Leino-Kilpi, H. V. (2001). Privacy: A review of the literature. *International Journal of Nursing , 38* (6), 663-671.

Madanipour, A. (2003). *Public and private spaces of the city.* New York and london: Routledge.

Marmot, a., & Eley, J. (2007). *Office space planning.* New Jersey: John Wiley & Son,Inc.

Marquardt, C., Veitch, J., & Charles, K. (September 2002). *Environmental Satisfaction with Open-Plan Office Furniture Design and Layout.* Institute for Research in Construction,National Research Council of Canada. Ottawa: http://irc.nrc-cnrc.gc.ca/ircpubs.

Meagher, M., Huang, J., & Gerber, D. (n.d.). *Revisiting the Open Plan: Ceilings and Furniture as Display Surfaces for Building Information*. Retrieved 2008, from http://ieeexplore.ieee.org

Moleski, W. H., & Lang, J. T. (1982). Organizational needs and human values in office planning. *Environment and Behavior , 14*, 319-332.

Navai, M., & Veitch, J. (2003, July 17). *Acoustic Satisfaction in Open-Plan Offices: Review and Recommendations*. Retrieved 01 28, 2009, from National Research Council Canada: http://www.speechprivacysystems.com/files/CRC_-_Acoustic_Satisfaction.pdf

Oldham, G. R., & Rotchford, N. L. (1983). Relationships between office characteristics and employee reactions: A study of the physical environment. *Administrative Science Quarterly* , 28, 542–556.

Piotrowski, C. M., & Rogers, E. A. (2007). *Designing commercial interiors.* (second, Ed.) New Jersey: John Wiley & Sons , Inc.

Rapoport, A. (1977). *Human aspects of urban form : towards a man-environment approach to urban form and design.* Oxford ; New York : Pergamon Press.

Rayfield, J. K. (1994). *The office interior design guide:An introduction for faculty and design professionals.* New york,toronto: John Wiley & Sons,Inc.

Robbins, P. S. (2005). *Essentials of organizational behavior* (8 ed.). New Jersey: Pearson Education International.

Ruback, R. B., Pape, K. D., & Doriot, P. (1989). Waiting for a phone call: Intrusions on callers leads to territorial de-fense. *Social Psychology Quarterly , 52*, 232–241.

RYBCZYNSKI, W. (1998, June 8). *time*. Retrieved 2008, from http://www.time.com/time/time100/artists/profile/lecorbusier.html

Schwartz, M. (1989). *Designing and building your professional office.* New jersey: Medical economics Co.Inc.

Sharkawy, E., & Hussein, M. (1979). *Territoriality :A model for architectural design.* University of Pennsylvania PH.D. Thesis.Ann Arbor,MI:University Microfilms International.

Smith, p., & kearny, l. (1994). *creating workplaces where pepole can think.* San Francisco: Jossey-Bass Publishers.

Smith, S. G. (1994). The essential qualities of a home. *journal of Environmental Psychology , 14*, 31-46.

Sommer, R. (1969). *Personal space; the behavioral basis of design.* Englewood Cliffs, N.J.: Prentice-Hall.

Speechprivacysystem. (2008, 1). Retrieved 2008, from office that work: http://www.speechprivacysystems.com/files/CRC_-_Acoustic_Satisfaction.pdf

Steele, F. (1986). *Making and Managing High Quality Workplaces: An Organizational Ecology.* New York: Teachers College Press.

Stokols, D., & Altman, I. (1987). *Handbook of environmental psychology* (Vol. 1). New York: John Wiley and Sons.

Sundstrom, E. (1986). Privacy in the office. In *Winemsnn behavioral issues in office design* (pp. 177-201). New York: Van nostrand reinhold company Inc.

Taylor, R. B., & Brooks, D. K. (1980). Temporary territories: Responses to intrusions in a public setting. *Environmental Psychology , 9*, 119–132.

Veitch, J. A., Charles, K. E., Farley, K. M., & Newsham, G. R. (2007). A model of satisfaction with open-plan office conditions:COPE field findings. *Environmental Psychology* (27), 177–189.

Veitch, J., & Gifford, R. (1996). Choice, perceived control, and performance decrements in the physical environment. *Environmental Psychology* , 16, 269–276.

Vische, c. j. (1996). *workspace strategies.* new york: chapman & hall.

Vischer, J. (2005). *Space Meets Status: Designing Workplace Performance.* NY: Taylor & Francis.
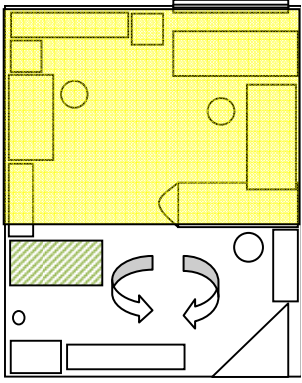
Watson, 0. M. (1970). *Proxemic behavior: A cross-cultural study.* The Hague: Mouton and Company Publishers.

Wells, M. M. (2000). OFFICE CLUTTER OR MEANINGFUL PERSONAL DISPLAYS:THE ROLE OF OFFICE PERSONALIZATION IN EMPLOYEE AND ORGANIZATIONALWELL-BEING. *Environmental Psychology , 20*, 239-255.

APPENDIX

Table 10: Observation No: 1

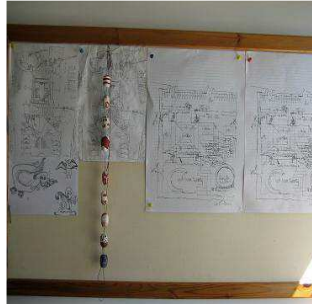| Room NO : ARCH 106	Profession : Architecture Department : Interior Architecture
Age : 30-40 40-50 √	Status : Instructor
Gender : m	Duration of stay in office : 5 Years
nationality : Turk	

Plan

Your reason for personalization of your office:	
Express identity and individuality	–
Showing the status	–
Expressing the individual's emotion	∫
Show office belongs to you	–
Controlling and regulating interaction	∫
Provide needs of specific function and users	∫
Aesthetics	∫
Others	–

Full view of office

Calendar, photo, pictures

Art works (paintings)

Use of transparent filter

Adding a fan for cooling

"C" shape table

Notes of the instructor opinion: Showing the office belongs to me and status is not important. But aesthetic as a designer is important for me. I can change the office easy and no matter where I stay and I work; office is just for doing the task. So if it provides needs of user and specific functional needs it will be enough. He mentioned during work, with listening to music and closing his door he feel more relaxed. Comfort is important it affect on well-being of user which will influence on job satisfaction too.

Table 11: Evaluaction of observation1
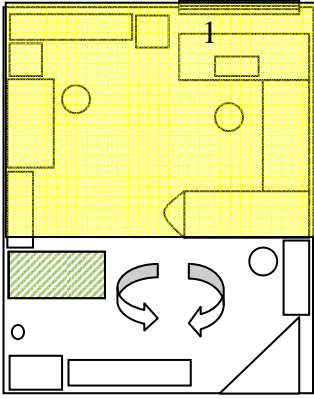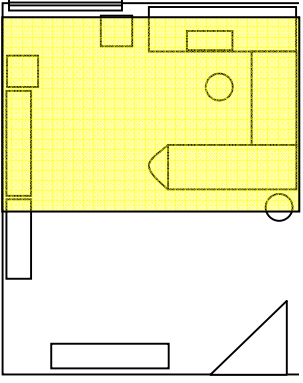
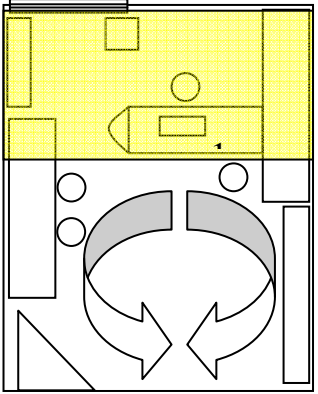| EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	1	Daughter
	posters	2	
	Personal belongings	−	Not at all
	hanging diplomas on walls	−	It is not necessary
	using titles before their names	−	It is not necessary
	plants	−	
	Radio, music	∫	
	Addition or deletions of physical objects in the personal space	∫	Add Fan for cooling Add more tables for functional use (helping students, collecting home works)
	Others	∫	Using transparent filter stickers on window to have less sunlight without blocking the out view
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk Plan		Explanations: More than half of room is divided with "U" shape table to provide the goal of personal working zone and discourage the accesses and controlling the interactions and communication. In the communication zone the addition table for checking the students work is visible which limits use of place for comers. -Communication and interaction is important but the user working zone is more than circulation and communication part .the reason was having more privacy and a relaxed environment during being in office. -Using a transparent filter on the window was mentioned in this office which assist to control the sunlight and to having less sunlight without blocking the outdoor view.
	Using signs:		Explanations: Using signs for informing when instructor will be back to the office but communication can happen without any appointment.

Table 12: Observation No: 2

Room NO : ARCH 104	Profession : Architecture Department : Interior Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : m	Duration of stay in office : 1 Years
nationality : Turk	

|	**Your reason for personalization of your office:**	
Plan	Express identity and individuality	−
	Showing the status	−
	Expressing the individual's emotion	−
	Show office belongs to you	−
	Controlling and regulating interaction	−
	Provide needs of specific function and users	∫
	Aesthetics	−
	Others	−

Full view of office

Calendar, photo, pictures

Photo on desktop

Specific function needs

Addition shelves

"C" shape table

Notes of the instructor opinion:

Office is not like a home, it is not important to personalize it so much, to express self-identity or individual's emotions. Office should answer just to the needs of user and also support the functional needs of the task which is occur. Nothing else is that much important in office.

Table 13: Evaluation of observation 2
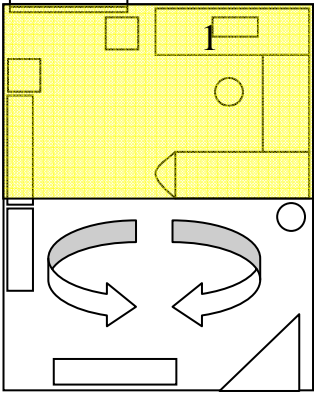
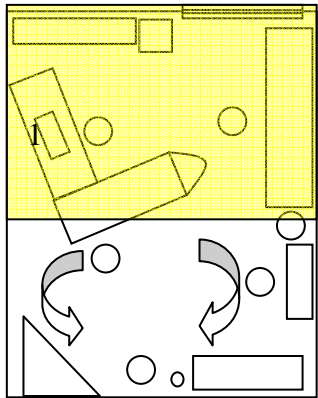| EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	–	On the desktop of computer
	posters	1	Calendar
	Personal belongings	–	Not at all
	hanging diplomas on walls	–	It is not necessary
	using titles before their names	–	It is not necessary
	plants	–	
	Radio, music	∫	Sometimes listening to music
	Addition or deletions of physical objects in the personal space	∫	Add one shelf and one drawer for functional use (collecting home works of students)
	Others	–	No
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: Office is divided with "U" shape table to two parts with same size. It provides the goal of personal working zone and discourages the accesses and controlling the interactions and communication. In the communication zone two shelves are located so students can put their works easily without entering to individual working zone of instructor. Communication and interaction is in control due to position of furniture. -The office is divided to two zones, one for individual working zone and the other is for communicating with students' .these two zones are same in size which means regulating communication is mentioned in the office. Because of sunlight and need heat the position of desk was chosen. He chooses the working and computer desk (number 1) to have the outdoor view too. The door is mostly closed to have more privacy.
	Using signs:		Explanations: No use of signs.

Table 14: Observation No: 3

Room NO : ARCH 114	Profession : Architecture Department : Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : m	Duration of stay in office : 1 Years
nationality : Turk	
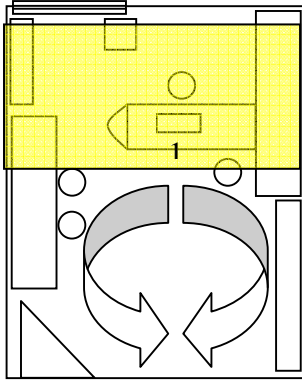
Plan

Your reason for personalization of your office:

Express identity and individuality	–
Showing the status	–
Expressing the individual's emotion	–
Show office belongs to you	–
Controlling and regulating interaction	∫
Provide needs of specific function and users	∫
Aesthetics	–
Others: make a comfortable atmosphere for work	–

Full view of office

Sketches by son and wife

Photo on desktop

Specific function needs

Addition tables

"T" shape table

Notes of the instructor opinion: Personalization of space is important and it affects on well-being of user and job satisfied, I was always sick in my previous office. In answer why he did not put his family photos, he answered in our culture we believe on "Devil eye" so I just put them on my desktop, showing the individuality is not necessary in office personalization. Office should provide functional need, it is not a home. Also policies of university limits personalization in the way we want. It should have flexible furniture so rearrangement it.

Table 15: Evaluation of observation 3
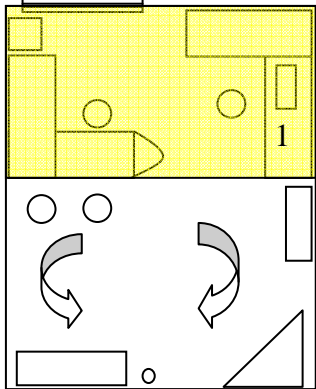
| EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	–	On the desktop of computer
	posters	–	No
	Personal belongings	∫	books
	hanging diplomas on walls	–	It is not necessary
	using titles before their names	_	It is not necessary
	plants	–	Maybe later
	Radio, music	–	No
	Addition or deletions of physical objects in the personal space	∫	Add two tables for checking students drawings
	Others	4	Some Sketches which has done by his son and wife.
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: Office is divided with "T" shape table to two parts. The working zone is 1/3 and communication is 2/3 of total space of office which shows the important of communication. "T" shape table discourages the accesses and controlling the interactions and communication. In the communication zone, Communication and interaction is in control due to position of furniture. Addition tables are for having discussion with students about their work. -The office is divided to two zones, one for individual working zone and the other is for communicating with students'. Because of sunlight and need heat the position of desk was chosen. He chooses the working and computer desk in front of door to have control over comers. The door is mostly closed to have more privacy.
	Using signs:		Explanations: No use of signs. It is not necessary.

Table 16:. Observation No: 4

Room NO : ARCH 021	Profession : Architecture Department : Interior Architecture
Age : 30-40√ 40-50	Status : Instructor
Gender : m	Duration of stay in office : 5 Years
nationality : Turk	
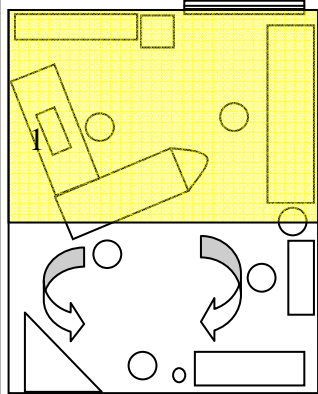
Plan

Your reason for personalization of your office:

Express identity and individuality	√
Showing the status	−
Expressing the individual's emotion	√
Show office belongs to you	√
Controlling and regulating interaction	√
Provide needs of specific function and users	√
Aesthetics	−
Others: make a comfortable atmosphere for work	−

Full view of office

Wife's art works
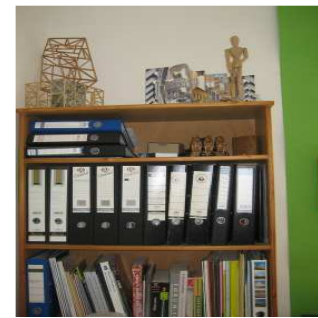
Belongings

Specific function needs

Addition chairs

"L" shape table

Notes of the instructor opinion: Personalization affects on well-being of user, Office should provide functional need, and it is not a home. It affects of job satisfaction too. Beauty is not important but harmony is important is space design. Putting family belongings and their art works brings love and relaxation. Using the student's work is shows outcome of our job.

Table 17: Evaluation of observation 4

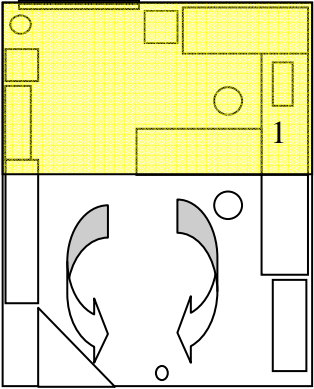| EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	–	It is a personal thing
	posters	2	
	Personal belongings	∫	Wife art works
	hanging diplomas on walls	–	It is show off
	using titles before their names	∫	It is an achievement so it is important
	plants	1	Bring life
	Radio, music	∫	For relaxing
	Addition or deletions of physical objects in the personal space	∫	Add two chairs of student works
	Others	∫	Using color paper on the wall to bring color in space
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk Plan	Explanations: The room is divided with "L" shape table to provide the goal of personal working zone and discourage the accesses and controlling the interactions and communication. In the communication zone the addition chairs shows limits use of place for comers. -The office is divided to two zones, one for individual working zone and the other is for communicating with students' .these two zones are same in size which means regulating communication is mentioned in the office. Because of sunlight and need heat the position of desk was chosen. He chooses the working and computer desk (number 1) to have the control over comers. The door is mostly closed to have more privacy	
	Using signs:	Explanations: Using signs for informing when instructor will be back to the office but communication can happen without any appointment.	

Table 18: observation No:5

Room NO : ARCH 113	Profession : Architecture Department : Interior Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : m	Duration of stay in office : 6 Years
nationality : Turk	
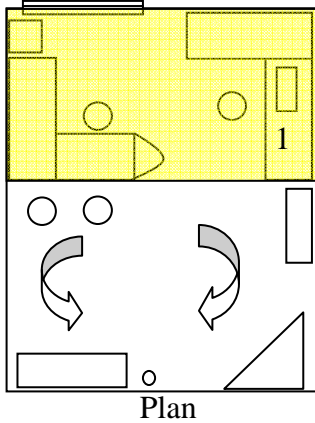
Plan

Your reason for personalization of your office:

Express identity and individuality	∫
Showing the status	∫
Expressing the individual's emotion	–
Show office belongs to you	∫
Controlling and regulating interaction	–
Provide needs of specific function and users	∫
Aesthetics	–
Others: make a comfortable atmosphere for work	–

Full view of office

Awards

Belongings

Specific function needs

Student's works

"L" shape table

Notes of the instructor opinion: Personalization shows our identity and individuality and our achievements and status it also affects on well-being of user, Office should provide functional need, and it is not a home. Also comfort affects of job satisfaction too. Beauty is not important. Putting family photos brings love and relaxation. Using the student's work is shows the result of our job.

Table 19: Evaluation of observation 5
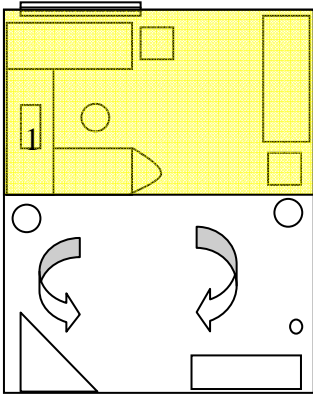
| EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	4	For remembering them
	posters	1	Bring color to space
	Personal belongings	∫	Awards
	hanging diplomas on walls	–	It is show off
	using titles before their names	∫	It is an achievement so it is important
	plants	1	Bring life
	Radio, music	–	no
	Addition or deletions of physical objects in the personal space	–	no
	Others	∫	Use student's work
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk Plan		Explanations: The room is divided with "L" shape table to provide the goal of personal working zone and discourage the accesses and controlling the interactions and communication. Also he mentioned that students can feel free to use my working zone when they need to work with computer. -The office is divided to two zones, one for individual working zone and the other is for communicating with students' .The communication zone is more than personal zone which means regulating communication is mentioned in the office. Because of sunlight and need heat the position of desk was chosen. He chooses the working and computer desk (number 1) to have less reflection of sun on monitor. The door is mostly closed to have more privacy
	Using signs:		Explanations: Just some times for announcements.

Table 20: Observation No:6

Room NO : ARCH 128	Profession : Industrial design Department : industrial design
Age : 30-40 40-50 ∫	Status : Instructor
Gender : m	Duration of stay in office : 1 Years
nationality : Turk	

Plan
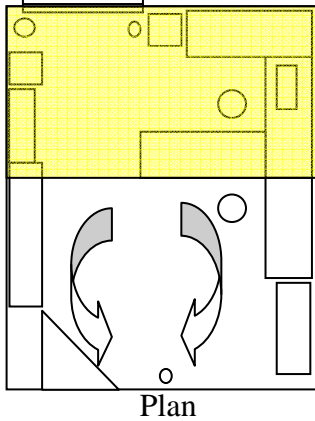
Your reason for personalization of your office:

Express identity and individuality	∫
Showing the status	−
Expressing the individual's emotion	∫
Show office belongs to you	−
Controlling and regulating interaction	−
Provide needs of specific function and users	∫
Aesthetics	∫
Others: personalization is related to profession	−

Full view of office

Awards
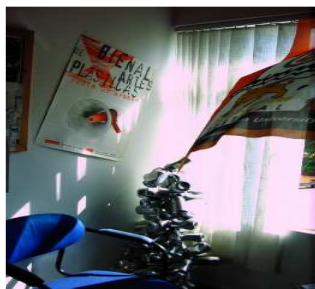
Belongings

Ornaments and controlling sunlight
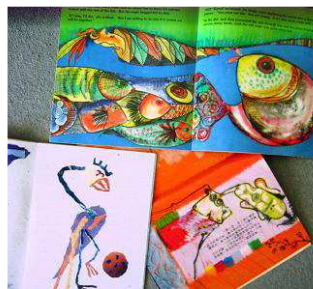
His art works

Open layout

Notes of the instructor opinion: working in space without personalizing it is impossible. The office should belongs to us so that we feel comfortable in it .it's just like our home .Personalization shows our identity and individuality it also affects on well-being of user, Office should provide functional needs and comfort too. It also affects of job satisfaction. Beauty is important. Putting family photos brings love and relaxation when we are far from each other. Using the student's work is shows the result of our job.

Table 21: Evaluation of observation 6

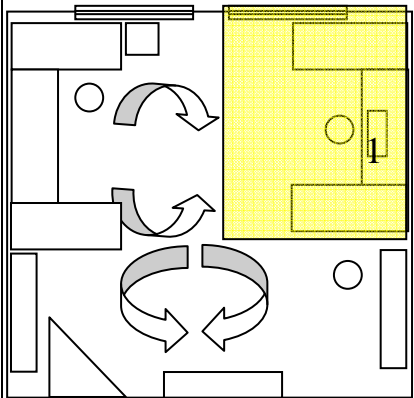| EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	∫	Feel we are together/ love
	posters	∫	Bring color to space
	Personal belongings	∫	Awards ,pipes, lighters, books
	hanging diplomas on walls	–	It is show off
	using titles before their names	–	
	plants	–	Because of no sun light
	Radio, music	∫	sometimes
	Addition or deletions of physical objects in the personal space	∫	Shelves that remind his best friend, some ornaments
	Others	∫	Grandfather and grandmother presents
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk Plan	Explanations: The room is divided with "U" shape table to provide the goal of personal working zone and discourage the accesses and controlling the interactions and communication. But also he mentioned that students can feel free to use my working zone too and it is a friendly atmosphere for communications. -The office is divided to two zones, one for individual working zone and the other is for communicating with students' .The communication zone is more than personal zone which means regulating communication is more important in the office. Because of sunlight and need heat the position of desk was chosen. He chooses the working and computer desk (number 1) to have less reflection of sun on monitor. The door is mostly closed to have more privacy	
	Using signs:	Explanations: no	

Table 22: Observation No:7

Room NO : ARCH 103	Profession : Architecture Department : Architecture
Age : 30-40 √ 40-50	Status : Instructor
Gender : m	Duration of stay in office : 7 Years
nationality : Turk	
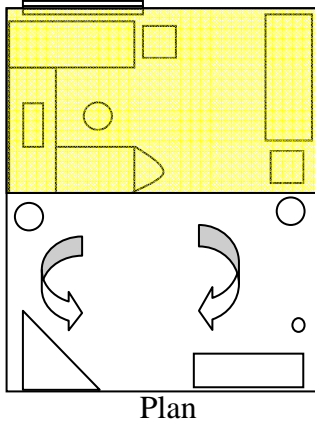
Plan

Your reason for personalization of your office:

Express identity and individuality	–
Showing the status	–
Expressing the individual's emotion	–
Show office belongs to you	–
Controlling and regulating interaction	√
Provide needs of specific function and users	√
Aesthetics	–
Others:	–

Full view of office

Daughter drawing

Belongings

Specific function needs

Interest

"U" shape table

Notes of the instructor opinion: Personalization is according to needs of user and needs depends on function and type of work. It gives comfort to user. It also affects on well-being of user, Office is not home it is just for working. It affects of job satisfaction too. Beauty is not important. Putting family photos in a working space will mix our privacy with other relations. For having better personalization the furniture should be more flexible. He believes that status will give trust to comers but it is not necessary in university offices.

Table 23: Evaluation of observation 7
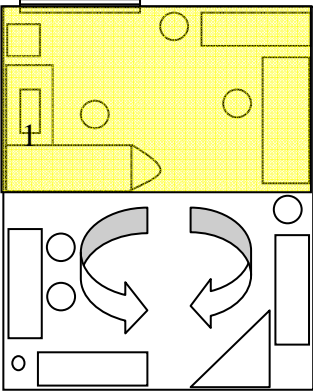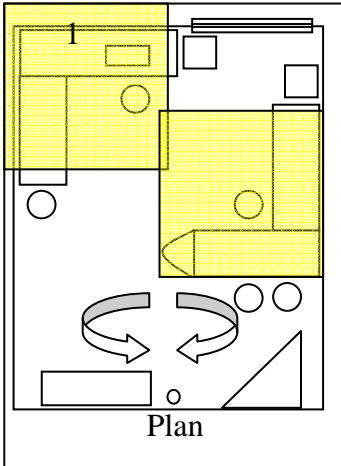
EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	–	Not necessary
	posters	1	Map
	Personal belongings	∫	Bag, computer ,boxes
	hanging diplomas on walls	–	It is not necessary
	using titles before their names	∫	On door is enough
	plants	–	no
	Radio, music	∫	Sometimes just news
	Addition or deletions of physical objects in the personal space	–	No
	Others	–	No
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: Office is divided with "U" shape table to two parts with same size. It provides the goal of personal working zone and discourages the accesses and controlling the interactions and communication. Communication and interaction is in control due to position of furniture. -The office is divided to two zones, one for individual working zone and the other is for communicating with students' .these two zones are same in size which means regulating communication is mentioned in the office. The position of desk was chosen according to door and window position. He chooses the working and computer desk (number 1) to have the outdoor view too. The door is mostly closed to have more privacy.
	Using signs: 		Explanations: Some times.

Table 24: Observation No:8

Room NO : ARCH 121	Profession : Architecture Department : Interior Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : m	Duration of stay in office : 4 Years
nationality : Turk	

Plan
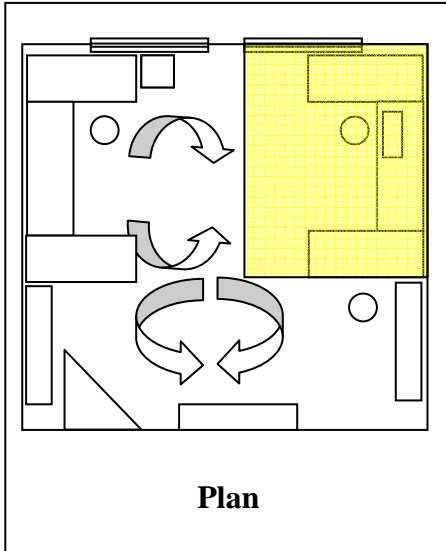
Your reason for personalization of your office:

Express identity and individuality	∫
Showing the status	∫
Expressing the individual's emotion	∫
Show office belongs to you	∫
Controlling and regulating interaction	∫
Provide needs of specific function and users	∫
Aesthetics	−
Others:	−

Full view of office

Awards

Student's gifts

Individual's emotions

Addition shelves

Open-layout organized

Notes of the instructor opinion: office does not belong to the employee; it should just support functional needs. He mentioned that he did not personalize his room because he was always thinking of moving from the university to other place. Also need of flexible furniture for personalizing was mentioned. He believes personalization affects on job satisfaction and wellbeing of user. Also awards are achievements so it he used them in personalization of work environment.

Table 25: Evaluation of observation 8
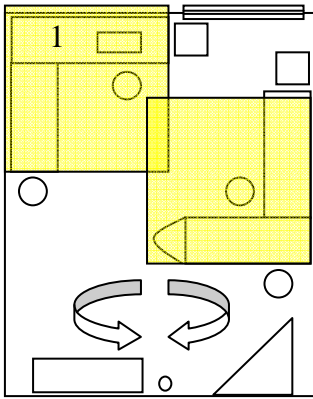
EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	−	Do not like to share with others
	posters	√	To give color to walls
	Personal belongings	√	Towel ,T-shirt printer, hitter
	hanging diplomas on walls	−	It is not necessary
	using titles before their names	√	It is achievement of us
	plants	√	sometimes
	Radio, music	−	no
	Addition or deletions of physical objects in the personal space	√	Add shelves
	Others	√	Student gifts
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: The room is divided with "U" shape table to provide the goal of personal working zone and discourage the accesses and controlling the interactions and communication. But also he mentioned that students can feel free to use my working zone too and it is a friendly atmosphere for communications. The office is divided to three zones, one for individual working zone one for communicating with students' and the other for circulation and gathering. The communication zone is more than personal zone which means regulating communication is more important in the office. Because of the outdoor view and the position of desk was chosen. He chooses the working and computer desk (number 1) to have less reflection of sun on monitor. The door is mostly closed to have more privacy.
	Using signs:		Explanations: Yes, it is necessary. (please do not enter)

Table 26: Observation No: 9

Room NO : ARCH 008	Profession : Architecture Department : Architecture
Age : 30-40 √ 40-50	Status : Instructor
Gender : f	Duration of stay in office : 9 Years
nationality : Turkish	

Plan
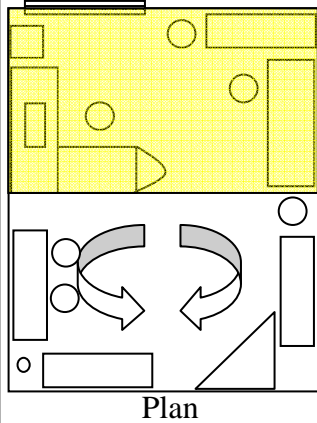
Your reason for personalization of your office:

Express identity and individuality	−
Showing the status	−
Expressing the individual's emotion	√
Show office belongs to you	−
Controlling and regulating interaction	−
Provide needs of specific function and users	−
Aesthetics	−
Others:	−

Full view of office

Family photos

Belongings

Specific function needs

Addition

"U" shape table

Notes of the instructor opinion: the office does not belong to the employer, it is just a temporary place that employee used for doing task. So it does not need so much change to personalize it, just with hanging some posters and photos or changing the curtain and some orientations user can personalize the place according to his/her emotions . She mentioned that personalization affect on well-being of occupier of office. So it should be comfortable.

Table 27: Evaluation of observation 9

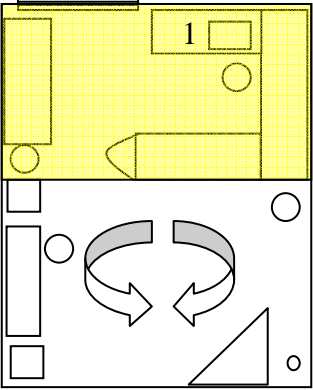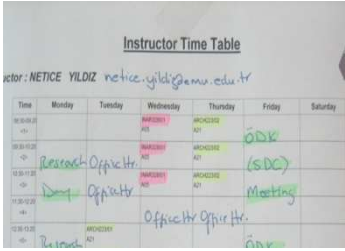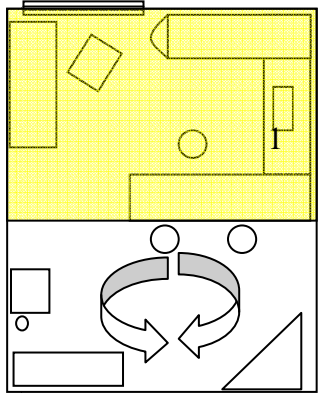| EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	−	Do not like to share with others
	posters	√	To give color to walls
	Personal belongings	√	Towel ,T-shirt printer, hitter
	hanging diplomas on walls	−	It is not necessary
	using titles before their names	√	It is achievement of us
	plants	√	sometimes
	Radio, music	−	no
	Addition or deletions of physical objects in the personal space	√	Add shelves
	Others	√	Student gifts
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: The room is divided with "L" shape table to provide the goal of personal working zone. She mentioned controlling communication and interaction is not important and students can feel free to use my working zone too and it is a friendly atmosphere for communications. The office is divided to two zones, one for individual working zone one for communicating with students. The addition chairs shows that communication is important in the office. Because of the outdoor view and the position of desk was chosen. She chooses the working and computer desk (number 1) to have sunlight and outdoor view. The door is mostly closed to have more privacy.
	Using signs:		Explanations: Do not disturb or I will be in office in few minutes

Table 28: Observation No:10

Room NO : ARCH 002	Profession : Architecture Department : Interior Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : f	Duration of stay in office : 3 Years
nationality : Turkish	

Plan

Your reason for personalization of your office:

Express identity and individuality	∫
Showing the status	−
Expressing the individual's emotion	−
Show office belongs to you	−
Controlling and regulating interaction	∫
Provide needs of specific function and users	∫
Aesthetics	−
Others:	−

Full view of office

Family photos

Students' work

Specific function needs

Addition

"L" shape table

Notes of the instructor opinion: Office is just a working place and she mention that she does not like to share private things there. Just one photo to remember family members is enough. Also aesthetics is not that much important. The office should provide functional needs of the job and give user enough comfort. She believes having flexible furniture will help to personalize the space easier. She also it thinks personalization will affect on well-being of employee.

Table 29: Evaluation of observation 10

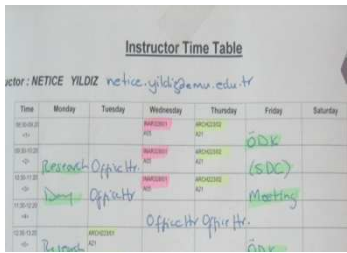| EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	√	Just one to remember them
	posters	√	To give color to walls & beauty
	Personal belongings	√	Watch, cups, books
	hanging diplomas on walls	−	No
	using titles before their names	−	No
	plants	−	sometimes
	Radio, music	−	No
	Addition or deletions of physical objects in the personal space	−	No
	Others	−	No
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: The room is divided with "L" shape table to provide the goal of personal working zone. She mentioned controlling interaction and communication is important but also students should feel free to use my working zone too and it is a friendly atmosphere for communications. The office is divided to three zones, one for individual working zone one for communicating with students and the other for circulation. The addition chairs shows that communication is important in the office. Because of the outdoor view the position of working desk was chosen. She chooses the working and computer desk (number 1) to have sunlight and outdoor view. The door is mostly closed to have more privacy.
	Using signs:		Explanations: Sometimes " I will be in office in few minutes "

Table 30: Observation No: 11

Room NO : ARCH 103	Profession : Architecture Department : Architecture
Age : 30-40 40-50 ✓	Status : Instructor
Gender : f	Duration of stay in office : 9 Years
nationality : Turkish	

Plan
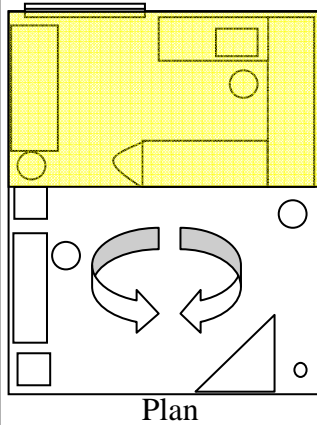
Your reason for personalization of your office:

Express identity and individuality	✓
Showing the status	–
Expressing the individual's emotion	✓
Show office belongs to you	✓
Controlling and regulating interaction	✓
Provide needs of specific function and users	✓
Aesthetics	–
Others:	–

Full view of office

Interest

Belongings

Specific function needs

Addition

"U" shape table

Notes of the instructor opinion: all furnishing is so old and that gives the sense that the organization does not care about employees and their well-being and their feelings. Office should show a responsible atmosphere so people and employee feel comfortable in it. She also mentions that because office belongs to university so personalization can occur just by small aesthetics and posters but not by so many orientations and different furniture.

Table 31: Evaluation of observation 11
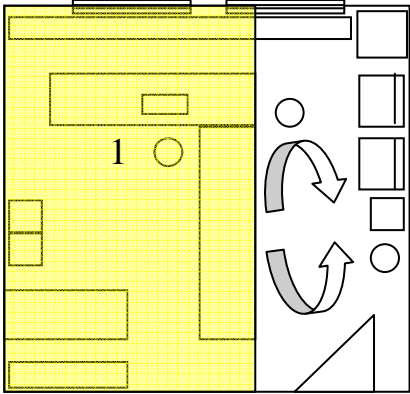
EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	−	No
	posters	√	To give color to walls & beauty
	Personal belongings	√	Hand writes, sculpture, books
	hanging diplomas on walls	−	No
	using titles before their names	√	Just professional use
	plants	−	No
	Radio, music	√	Relaxing
	Addition or deletions of physical objects in the personal space	√	shelves
	Others	−	No
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: The room is divided with "U" shape table to provide the goal of personal working zone. Controlling interaction and communication is important. The office is divided to two zones, one for individual working zone one for communicating with students. The addition shelves show that employee need more space for her belongings and books. Because of the outdoor view the position of working desk was chosen. She chooses the working and computer desk (number 1) to have sunlight. The door is mostly half open so students feel free to enter.
	Using signs: 		Explanations: Just timetable of office hours.

Table 32:Observation No: 12

Room NO : ARCH 108	Profession : Architecture Department : Interior Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : f	Duration of stay in office : 10 Years
nationality : Turkish	
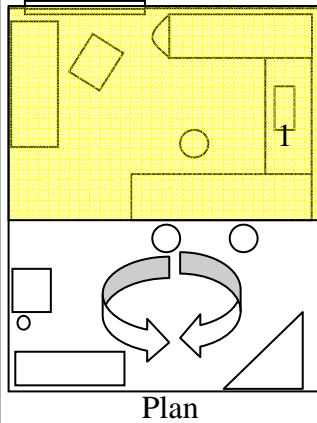
Plan

Your reason for personalization of your office:

Express identity and individuality	∫
Showing the status	−
Expressing the individual's emotion	∫
Show office belongs to you	−
Controlling and regulating interaction	−
Provide needs of specific function and users	∫
Aesthetics	−
Others:	−

Full view of office

Family photos

student works

Specific function needs

Addition and awards

"U" shape table

Notes of the instructor opinion:

The office is just a working space but with some belongings and orientation it can be personalized in the way that user feels comfortable enough in it to work. It also affect on well-being of users.

Table 33: Evaluation of observation 12
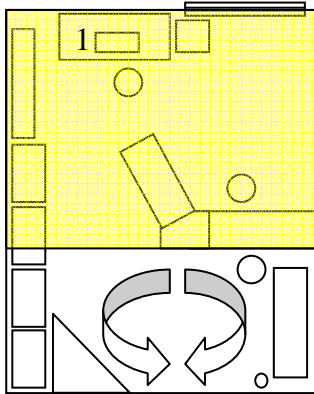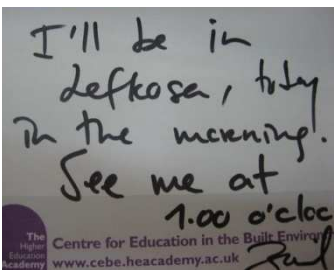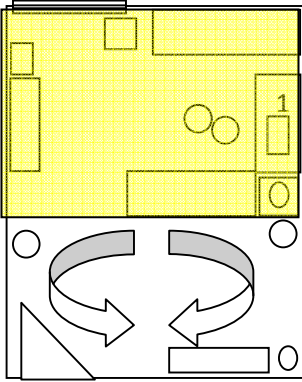
EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	√	Just one to remember them
	posters	√	To give color to walls & beauty
	Personal belongings	√	cups, books, photos , awards
	hanging diplomas on walls	−	No
	using titles before their names	−	No
	plants	−	sometimes
	Radio, music	−	No
	Addition or deletions of physical objects in the personal space	√	Table and hitter
	Others	−	No
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: The room is divided with "U" shape table to provide the goal of personal working zone. Controlling interaction and communication is important. The office is divided to two zones, one for individual working zone one for communicating with students. The addition table is used for photos and awards. Because of having control over communication and also reflection of sun the position of working and computer desk was chosen. The door is mostly half close to have more privacy.
	Using signs:		Explanations: Just timetable of office hours.

Table 34: Observation No:13

Room NO : ARCH 111	Profession : Architecture Department : Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : f	Duration of stay in office : 16 Years
nationality : Turk	
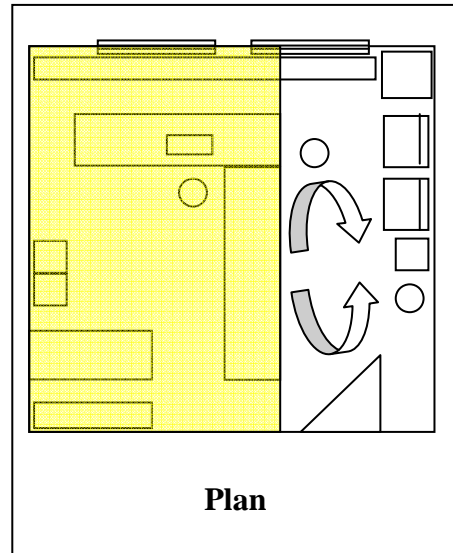
Plan

Your reason for personalization of your office:

Express identity and individuality	∫
Showing the status	−
Expressing the individual's emotion	∫
Show office belongs to you	∫
Controlling and regulating interaction	∫
Provide needs of specific function and users	∫
Aesthetics	∫
Others: Blue wall (relaxing)	∫

Full view of office

Awards

Student's work

Individual's emotions

Addition & belongings

Open-layout organized
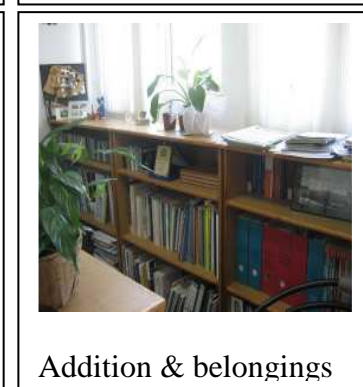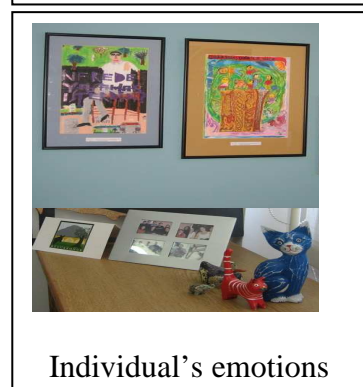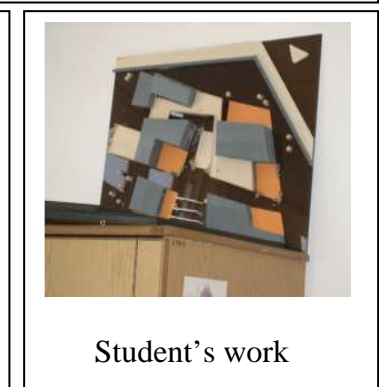
Notes of the instructor opinion: creating colorful atmosphere make the office enjoyable and lovely. The office should be comfortable for user because it affects on well-being of employee which influences on the result of job. Office is a work area not a place that totally belongs to employees so having family picture and so personal things is avoided in offices. Personalization is showing our identity, so it is an important issue.

Table 35: Evaluation of observation 13

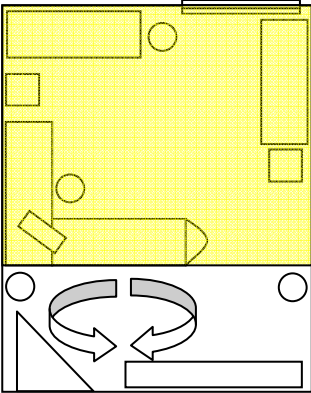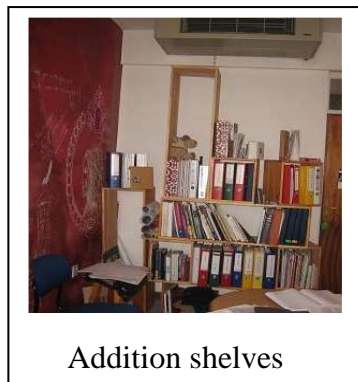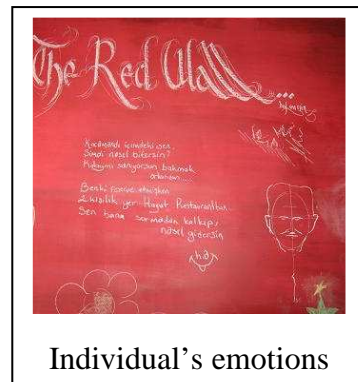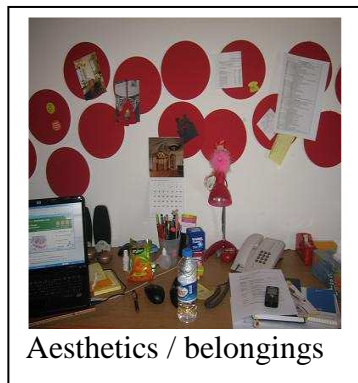| EVALUATION :		
Displaying personal items at workspace according to gender		
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	− No
	posters	√ Reminders of organizing of a Competition.
	Personal belongings	√ CD, Catalogs , books, orientations
	hanging diplomas on walls	− It is show off
	using titles before their names	√ It is achievement of us
	plants	√ It brings life in environment
	Radio, music	√ Shelves, hitter ,kettle
	Addition or deletions of physical objects in the personal space	√ Add shelves
	Others	√ Student & competition works
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan	Explanations: The room is divided with "L" shape table to provide the goal of personal working zone and discourage the accesses and controlling the interactions and communication. The office is divided to two zones, one for individual working zone one for communicating with students'. The working zone in almost 2/3 of space that shows The personal zone is more important for the occupier of office. Because of the outdoor view the position of desk was chosen. She chooses the working and computer desk (number 1) to have less reflection of sun on monitor and also having the outdoor view. The door is mostly closed to have more privacy.
	Using signs:	Explanations: Just timetable is enough.

Table 36: Observation No: 14

Room NO : ARCH 112	Profession : Architecture Department : Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : f	Duration of stay in office : 3 Years
nationality : Turkish	

Plan
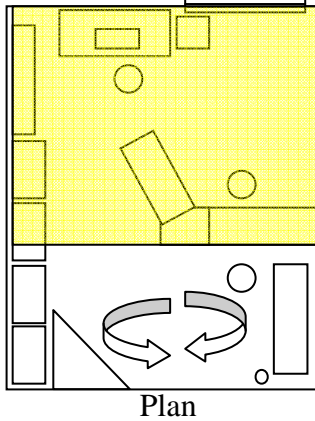
Your reason for personalization of your office:

Express identity and individuality	–
Showing the status	–
Expressing the individual's emotion	∫
Show office belongs to you	∫
Controlling and regulating interaction	∫
Provide needs of specific function and users	∫
Aesthetics	∫
Others:	–

Full view of office

Belongings

Students' work

Specific function needs

Addition

"V" shape table

Notes of the instructor opinion: the user personalizes the space with her belongings, text from books, students work and addition shelves. She mentioned that some objects like his grandfather radio as a nostalgic memory can show her emotions. In personalizing the space functional needs are so important it will bring comfort during work. She notices that personalization influence on well-being and job satisfaction. She believes that space and the arrangement for her is important because of her profession. She mentions that office is just a work place not a home.

Table 37: Evaluation of observation 14

EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	−	No
	posters	√	To give color to walls & beauty
	Personal belongings	√	cups, books, phone , artworks
	hanging diplomas on walls	−	No
	using titles before their names	√	It is an achievement
	plants	−	sometimes
	Radio, music	√	sometimes
	Addition or deletions of physical objects in the personal space	√	Table ,hitter, shelves , drawers
	Others	√	Adding curtain for controlling sunlight
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: The room is divided with "V" shape table to provide the goal of personal working zone. Controlling interaction and communication is important. The office is divided to three zones, one for individual working zone one for communicating with students and the other as circulation part. Because of having the outdoor view and also reflection of sun on monitor the position of working and computer desk was chosen. The door is mostly half close to have more privacy.
	Using signs: 		Explanations: For giving information to students and announcements.

Table 38: Observation No: 15

Room NO : ARCH 118	Profession : Architecture Department : Architecture
Age : 30-40 40-50 ∫	Status : Instructor
Gender : m /f	Duration of stay in office : 11 Years
nationality : Turk	

Plan

Your reason for personalization of your office:

Express identity and individuality	–
Showing the status	–
Expressing the individual's emotion	–
Show office belongs to you	–
Controlling and regulating interaction	∫
Provide needs of specific function and users	∫
Aesthetics	–
Others : using my belongings for my self not for expressing my identity to others	∫

Specific function needs

Addition table for plant

"L" shape table

Notes of the instructor opinion: Office should have the minimum equipments which give the comfort for user and support the needs of specific task. There is no need to show and express your individuality and identity in an office which so many students are coming there every day. Emotions and the identity is something private and office is not the private place for showing these issues. Ornamentals are mostly student's gifts and not my chosen things. She mentions that it will affect on well-being off employees.

Table 39: Evaluation of observation 15
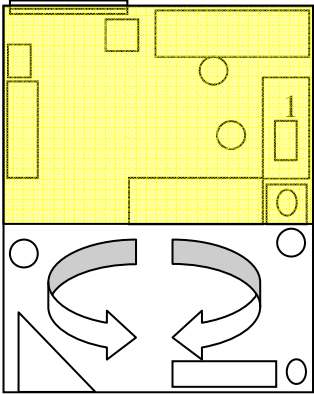
EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	−	It is so personal
	posters	1	
	Personal belongings	∫	Flower photos which I love them
	hanging diplomas on walls	−	It is not necessary
	using titles before their names	−	It is not necessary
	plants	1	
	Radio, music	−	It may disturb others
	Addition or deletions of physical objects in the personal space	∫	Adding a table for putting plant
	Others	−	No
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: Office is divided with "L" shape table to two parts with same size. It provides the goal of personal working zone and discourages the accesses and controlling the interactions and communication. The user tried to make an open working square as it has shown in plan. All functional equipments that are needed such as telephone, computer, and student homework are in this area. In communication area there is just a wardrobe with some files that is used often. The office is divided to two zones, one for individual working zone and the other is for communicating with students' .these two zones are same in size which means regulating communication is mentioned in the office. Because of sunlight and heat the position of desk was chosen, to have more privacy. The user prefers to choose table "1" for computer and work to have control over entering people.

Table 40: Observation No:16
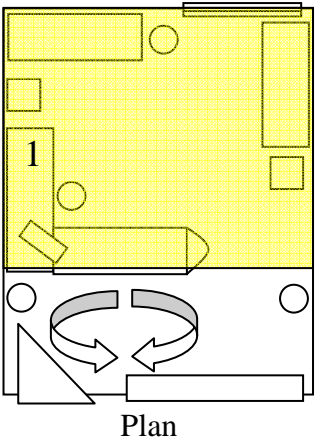
Room NO : ARCH 116	Profession : Architecture Department : Interior Architecture
Age : 30-40 ∫ 40-50	Status : Instructor
Gender : m	Duration of stay in office : 4 Years
nationality : Turk	

<table>
<tr><td rowspan="9">
Plan</td><td colspan="2">Your reason for personalization of your office:</td></tr>
<tr><td>Express identity and individuality</td><td>∫</td></tr>
<tr><td>Showing the status</td><td>−</td></tr>
<tr><td>Expressing the individual's emotion</td><td>∫</td></tr>
<tr><td>Show office belongs to you</td><td>∫</td></tr>
<tr><td>Controlling and regulating interaction</td><td>∫</td></tr>
<tr><td>Provide needs of specific function and users</td><td>∫</td></tr>
<tr><td>Aesthetics</td><td>∫</td></tr>
<tr><td>Others: give the feeling that I am in my home</td><td>∫</td></tr>
</table>

Full view of office

Aesthetics / belongings

Student's works

Individual's emotions

Addition shelves

"L" shape table

Notes of the instructor opinion: Personalization in office is so important because we spend more than half of the day in our office .personalization and applying aesthetics to office gives happiness to user and shows that office belongs to us. She believes that satisfaction with physical environment influence on job satisfaction and well-being of users. Also personalization should provide functional need and comfort.

Table 41: Evaluation of observation 16

EVALUATION :			
Displaying personal items at workspace according to gender			
Intimated manners and Aesthetic "identity-oriented" for express self identity	family pictures	–	Do not like to share with others
	posters	2	To give color to walls
	Personal belongings	∫	Curtain, cups, dull, pencils…
	hanging diplomas on walls	–	It is not necessary
	using titles before their names	_	Just for official used, in papers, letters…
	plants	1	The light is not enough
	Radio, music	–	Sometimes
	Addition or deletions of physical objects in the personal space	7	Add moveable shelves that can get apart from each other
	Others	∫	Student works to see the result of job, table lamp for more light
"Control-oriented" marking controlling the "communication", "discourage accesses " controlling access or use of place	Position of desk… Plan		Explanations: Office is divided with "L" shape table to two parts. The working zone is 2/3 and communication is 1/3 of total space of office which shows the important of individual working space. "L" shape table discourages the accesses and controlling the interactions and communication. The office is divided to two zones, one for individual working zone and the other is for communicating with students'. Communication and interaction is in control due to position of furniture Because of sunlight and need heat the position of desk was chosen. She chooses the working and computer desk in front of door to have control over comers. The door is mostly closed to have more privacy.
	Using signs:		Explanations: No use of signs. It is not necessary.

Office categorizing according to layout design	Office categorizing according to Patterns of work	Space organization and user performance needs: If a Work environment applies work behavior needs, then it will support user's performance. So understanding of what people need due to their work type will help to achieve this goal.	
Closed plan office: Defining by Four full height walls and known as private offices that are mostly used by one individual.	Cell office: Individual works that needs more concentrate will be done in cell offices. In cell offices, an enclose cell or a high screened workstation in an open plan office will be occupy by one employee.	These needs can be describe in four main factors that helps people manage their performance: 1- Participation (influence and control) 2- Physical factors (furnishings, equipment, and lighting) 3- Sensory factors (privacy, stimulation, and sensory functioning) 4- Interaction with co-workers (access and ease).	**RELATIONSHIP OF SPACE ON HUMAN BEHAVIOR:** Employee satisfaction: Achieving to a healthy and comfortable environment will motivate staff satisfaction .two main factors which discussed in this thesis is privacy and personalization of personal space in a work environment. **PERSONAL SPACE :** A fundamental mechanism which helps to achieve privacy and regulate interpersonal interaction is known as person space. The concept of personal space verifies how people respond to their surrounding social and physical environment.
Open plan office: The open plan offices are located in one open space with out full height walls for defining the space; for this purpose they used movable partitions and/or furniture items. 1-landscape office: Landscape office was an approach of open plan offices that used movable furniture, screens or even plants as dividers instead of walls, partitions, grid or cellular layout system for placing the furniture in an office. 2- furniture system: desk, screens, dividers and storage fit together with rules to create individual workstations for employees	Club office : Mostly knowledge works will take place in this kind of office. High autonomous and high interactive is visible in this organization. This office is useful for sharing knowledge and having discussions for solving problems.		**PRIVACY**	**PERSONALIZATION**
	Hive office: The work type that is occupied in the offices is individual works that have a routine process. These tasks need low interaction and also low autonomy. Workplace is usually open plan, screened and they are impersonal.	mental work is classified in two types : 1- Routine work: Routine work is repetitive procedures task. It can easily continue if it interrupted by any cause because it don not need so a much attention and privacy to reach to the clear goal. 2-Complex work: They need more attention; mostly they do not have a clear goal so it needs more attention and privacy to concentrate on task.	Control over interaction, communication and physical factors of environment will provide privacy for individuals. In a workplace to reach optimum privacy employees should be able to get either solitude or companionship easily. Physical environment has a main role in making privacy in space. It influence on social interactions therefore the pattern of movement and also the location of facilities and services that are common to use in space will affect on the degree of interactions. physical factors which influence the privacy in workplace in main factors as below: 1-Location and floor spacing and windows which symbolizes of status and control the access and interactions and help for self-identity 2-Control over Auditory stimulation and noises 3-Control over Visual stimulation and light and color 4-Air quality ,temperature and humidity There are different ways for examining the privacy issue in the work place: 1-Accessibility which refer to social interaction and communication between employees in a workplace. 2- Number of enclosure in open layout office	One expresses one's individuality by personalizing of personal space. Personalization can be done by an individual, or by a group to express self-identity or group-identity. Personalization of space serves many different purposes such as: marking territory, regulate interaction and privacy, psychological security, aesthetic of space, adaptation to environment, providing needs of specific functions and users. The personalization can be classified in following manners: 1-Displaying personal objects in the environment: adding artworks, family pictures, diploma, flower and plants to personal space. 2-Changing the furnishing of the occupied space or rearrangement of it: changing the position of desk and seats to have more comfort. 3-Addition or deletions of physical objects in the personal space: adding a table lamp for better lighting or taking out a cabinet for reaching to more open space in the office. Some Factors that influence on personalization is as follow: 1- status: higher status and ranking employee have more freedom to personalize their office with expression that they like. 2-gender: for personalizing the space women use more intimated manners such as using photos of their friends and family, plants, personal belongings than men do. So quantity and quality of personalization varies by gender, age and type of job. 3-culture: The culture of people who occupied the space will affect on individual design of the surrounding environment, but the function of the objects as significant objects will not change from culture to culture.
	Den office: It refers to interactive and busy workplaces that team works can take place in them easily. It is mostly in open plan office or in a share rooms.			