

A SYSTEMATIC DESIGN APPROACH FOR BILKENT LIBRARY

Meltem Eranıl Demirli

Ph.D. Candidate, Instructor Yaşar University, Faculty of Architecture,
Department of Interior Architecture and Environmental Design, Izmir/Turkey

ABSTRACT

As the requisite of Graduate Studio course, students are asked to propose an interior design in order to enhance the existing conditions of a reading room in the library of Bilkent University in Ankara, Turkey. For this reason, a systematic design approach is developed starting initially with the analysis of the given project area. First, the physical conditions, like acoustics and daylight comfort of the room, are measured, as the awareness and contentedness of the users are evaluated by conducting survey. Secondly, behavioral mapping is prepared to understand the activities of the users. Thirdly, a detailed interview is held among the library users in order to seize their demands in social context. After the use of these multi data gathering techniques for analysis, an individual design proposal is given according to the some prominent outcomes of the study. As a library space needs to provide not only physical needs but also social demands of its users, the necessity of different levels of socializing areas, including separate individual study units, group study zones, and a snack area, is emphasized in the design proposal. Hence, students would be able to both study and also spend their leisure time in this attractive environment.

Key words: Library, design, socializing, leisure time.

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1. INTRODUCTION

As architectural spaces are designed for human activities, their characteristics affect human emotions and behavior. Therefore, the success of design depends on how well the space satisfies the range of human needs of the occupants. Design aims to create solutions to different human needs, which are based on social, physical, technical and functional constraints. A systematic approach including spatial identity, human well-being and inspiration is necessary to achieve a balance between these factors (Fisher, 2006). Since library spaces are parts of the architectural culture, the spaces should support the necessities and demands of their users as much as possible. In this case, the design process of a library can be regarded as a systematic approach that aims to satisfy the user with all physical and social conditions it creates.

In terms of designing a library, Noon takes attention to his statement;

“The vision of this library is to provide an exciting and highly effective center for information access study and learning, which will affirm the university’s commitment to the students learning experience and develop an exciting focal point for students which will attract and delight users and in which staff and students will find it a pleasure to work. In other words, we wanted a building that turned on its head the

conventional view of the library by creating a building where students chose to go because they like it” (Noon, 2008, p.131).

In this context, Bilkent Library is chosen as the case study and research project for the Graduate Studio II in 2012. As the course emphasizing the improvement of skills, analysis and discussion in the context of real-life problem, it is asked to develop sensitivity towards socio-cultural issues, spatial practices, and behaviors of users.

In this respect, a specific interior environment- a reading room at Bilkent Library, Ankara is taken as the core of the research. According to resources, Bilkent Library (13165 square meters) has two separate buildings with the conference hall and exhibition space (YÖK, 2008). The chosen project site, the reading room takes place on the second floor in A-Block, the new building on the west side where entrance is located. As the chosen room is reflected as the most popular part of the library, it maximizes the opportunity to study spatial practices and behavioral studies. Throughout the given limitations, the room is planned to be firstly analyzed on three different subjects while secondly redesigned by considering the lacking conditions and the user necessities and demands. During the both of the periods, reading given materials and creating discussions on them are conducted through the whole process.

2. LITERATURE REVIEW

A reading list is given to the graduates of Graduate Studio II which includes; Connah, R. (2005). Pulp architecture, *Perspecta*, Vol.36, 34-54., Balabanli, A. (2006). An examination and evaluation of YTU Library and documentation building in terms of building biology, *Building and Environment*, Vol.41, 1079-1098., Hanna, R. (2002). Environmental appraisal of historic building in Scotland: the case study of the Glasgow School Art, *Building and Environment*, Vol.37, 1-10., Graca, V.A.C. et all. (2007). An evaluation method for school building design at the preliminary phase with optimization of aspects of environmental comfort for the school system of the State Sao Paulo in Brazil, *Building and Environment*, Vol.42, 984-999., Hayden, D. (1995). *The Power of Place: Urban landscapes as public history*, Cambridge, Mass.: MIT Press.

Campbell, D. & Schlechter, T. (1979). Library design influences on user behavior and satisfaction, *Library Quarterly*, Vol.49, 26-41., Clee, J. & Maguire, R. (1993). Library environment and library usage, *Library Management*, Vol.14, 6-9.

To start with, Connah (2005), shows the reader the role of computer based programs and how the product is presented differently by use of digital media although it is almost the same with the previous one. In the evaluation of YTU library by Balabanli (2006), the physical and social characteristics of internal and external environments of YTU Library Building are investigated. In the analysis of Glasgow School of Art by Hanna (2002), it is observed that the appraisal of a historic building is different from that of a non-historic building, as it deals with issues regarding the duality between “use” and “culture”. In this case, a mismatch between these two concepts is explored. In the study of Graca & et all. (2007), it is aimed to optimizing environmental comfort parameters of school buildings by considering its four aspects as thermal, acoustic, natural lighting and functionality. By the reading of Hayden (1995), cultural identity, social history and urban design issues are examined within the concept of built environment that is created by people. In the research of Campbell and Schlechter (1979), the object is chosen as evaluating a typical university library so as to highlight the influences of library design on student behavior and satisfaction. By Clee, J. & Maguire (1993), it is seen that although individual factors in the library environment do affect a user’s perception, it is the total environment that has the greatest effect.

All the way through the reading materials, it is possible to say that as they differ in their subject, they all serve for the different aspects of building culture whether in physical, social or cultural features. They aim to bring awareness of the importance of the social contexts in which buildings happen, and showing how those contexts affect the built result. Since buildings are recognized firstly by their physically existence, social context of them are generally analyzed separately as there is an understanding that space creates its social relations (Davis, 2006). In this respect, a building does not represent only an architectural

product but also its intense relation with time, space and culture plays a significant role. As libraries are ultimately the products of building culture, which is consist of people, relationships, rules, the designers should consider habits in which design and building are anchored in the complex system of building within both its physical and socio-cultural properties.

3. METHODOLOGY

The combination of different data gathering techniques would provide a more complete picture of library use than would any single technique. Agreement in the information yielded by the different method would add confidence to the conclusions drawn from this study.

In this sense, in order to obtain the information on library use, three-data gathering methods are used during the study. The first one is based on the measurement of acoustic and lighting features of the room. After the measurements, different groups in the class conduct evaluation and some sample surveys are handled with an amount of ten participants of Bilkent Library users. The second one is about analyzing the behaviors of the library users by making observation and recording their actions. In parallel to that, the activities of the users and the use of space are observed while the necessary additional facilities are predicted. Finally, the third method is focused on user survey of the Bilkent Library. Through the sample surveying, analyzing the responds of the users towards existing conditions of the room is intended while the demands and requests of the users are aimed to be understood.

4. RESEARCH FINDINGS

4.1. Acoustic and Lighting

According to the acoustic and lighting survey, which is held in Bilkent University Library, the majority of the users in the library are undergraduate Bilkent students who use the space for studying. Since this fact may be caused because of the selected survey day or its time during the day, various approaches and new methodologies in survey technique can be adapted. In this survey, a group of ten people is chosen randomly. While five of them are from the redesigned first floor, the rest is selected from the second floor, which is the project site and does not have any reflections of restoration. Moreover, the survey includes questions which can be grouped under three main issues; day lighting, artificial lighting and acoustics.

Firstly, in the part of day lighting, it is observed that the users consider many issues like the affect of day light on their environmental psychology or the motivations to choose a table near the window. Though there is a certain approach the use of day light in the library by the users, it is realized that they are not affected by the negative conditions as it is expected in the survey. For instance, the reflected day light on the computer screen or the insufficient distribution of the day light use in the whole library are not the major considerations for the users.

Secondly, in the part of artificial lighting, it may be claimed that the majority of the participators do not have any negative opinion on the general artificial light use in the library. As the problematic artificial lighting issues are asked in the survey, such as; dark points on the bookshelves or the necessity for using extra lighting sources on the desks, the participators give their answers on the positive path as if they are not aware of these potential negativities.

Thirdly, in the part of acoustics, there is a certain critique from the participators. This is the part where the expected answers of the survey mostly match with given answers. For instance, the noise, which causes distraction, gets the attention of the users who prefer studying on the desks or the participators easily relate their concentration with the sound level in the library environment.

To sum up, it may be claimed that since the survey is held among ten participators and it includes three sets of questions on day lighting, artificial lighting and acoustics, it is aimed to analyze whether the users in the library get effected by the negative interior environmental conditions as much as they are realized by the present calculations and tests. Although there are expected answers to be gained from the participators, it is observed that the participators do not produce any distinctive negative reaction to the general

conditions. Although they have some complains on day lighting, they consider the use of artificial lighting is sufficient and healthy inside the library. The point which attracts notice that the users considers the acoustical problems more than lighting issues and they declare each time their intense relation to the sound level in the library.

4.2. Behavioral Mapping

As the users' activity or the way they convert the space according to their needs and demands play important role, it is aimed to observe the constant actions taking place inside the project floor in Bilkent Library. In this context, the results are analyzed in order to find out what lacking points are in interior design and predict the physical and psychological necessities of the users in terms of using library.

For this reason, behavioral mapping is chosen as an appropriate method to obtain information on Bilkent Library use and provide a relatively unobtrusive measure of the different behaviors occurring. Since the date is chosen randomly, it is especially held on a weekday as Bilkent Library is used intensively by the users on weekdays. The time period of observation is between 17.30 and 19.30 and it is settled for every fifteen minutes. Moreover, the instructions are provided on the use of the diary forms in order to obtain following information: (1)the beginning and ending times for each activity, (2)the area and floor used during the time period, (3)the activity engaged in during that time period. Throughout the research, activity can be described by any of the facilities, such as; reading, writing, using computer, walking or standing.

In this context, as behavioral mapping is used for getting information on how behavior is distributed in a given space, how many people are present or what facilities they are using, the plans of the B Block second floor is used in recording the data. A set of symbols is used to record each observed person's behavior while the place of the each symbol describes the location of that person or object. As triangle is used to show the direction of the facility, circle and square are used to define the person's posture like standing or sitting.



Figure 1 An example drawing of the behavioral mapping technique used in the Bilkent Library Research.

According to results, it is observed that reading is clearly the predominant activity among users in the library, though there is a constant circulation on the corridors, between study desks. Moreover, it is observed that each student prefer to sit alone or chose farthest point at the table during his/her study if not s/he is not working quietly with a friend. Another striking point is although bringing any food or beverage is strictly forbidden in that floor of the library, most of the students have water bottles, or snacks on their desks. This information shows that while the tables for six or eight people do not work properly in order to serve each user or the limitations do not accepted by the majority, the necessities of the users should be carefully examined through the redesign process.

4.3. User Survey

Conducting survey may be one way to learn about people’s use and attitudes towards the library. By means of a questionnaire given to people as they enter or leave the library, the users’ responses are recorded in much detail as possible. A total of sixty library users are asked while open ended questions and Likert-scale questions are both the elements of the sample survey. Since the balance between the male and female genders is aimed to be constant, the majority of the focus group is undergraduate students of Bilkent University and their age average is around twenty-two.

In the evaluation of the survey findings, it is found that most of the users explain the purpose for visiting the library as studying and they prefer table and chair combination as the seating unit. Since other options are armchair with coffee table and individual unit (carrel), beyond the expectations, there is a lack of interest to carrel as there can be a misunderstanding about its layout and concept. This prediction is crosschecked with the question of desired study condition and most of the users support individuality. Apart from that, it is seen that the quietness, cleanness and plug-in get the highest scores in the evaluation of the existing room conditions while the use of color/ material and existence of books researched. At the rest of the evaluation, it is seen that sufficiency of personal study area on table surface gets lower scores and the appropriate number of people occupying a table at the same time is stated as two while tables are minimum for six people. Finally, in case of seating preference with a stranger, users prefer to sit crosswise to that person or do not prefer to have a seat at that table mostly.

In short, since the survey is focused on analyzing the existing conditions of the room, it also aims to guide the lacking points or the necessities of the users. For that reason, it serves as a beneficial technique to guide the designer in accordance with user needs and demands.

5. PROJECT PROPOSAL

“The library is at any one time a meeting place, a learning resource and a comfortable and relaxing public space. The buildings that are well designed and managed offer an array of resources that enable people and groups to establish relationships, carry on conversations, exchange ideas and engage the life of the mind” (Bundy, 2004, p.4).

If library space is redefined as a design and function, users can use it more for different reasons not just for their studies, and it can turn to be meeting point of the users, and not a place of dissatisfaction. In this sense a variety of activities are predicted in the process of brain storming and sketching. These facilities can be listed as lecture room, computer room, individual study area, multiple study area, snack area, group working area and audio-visual rooms (See Figure 2 and 3).

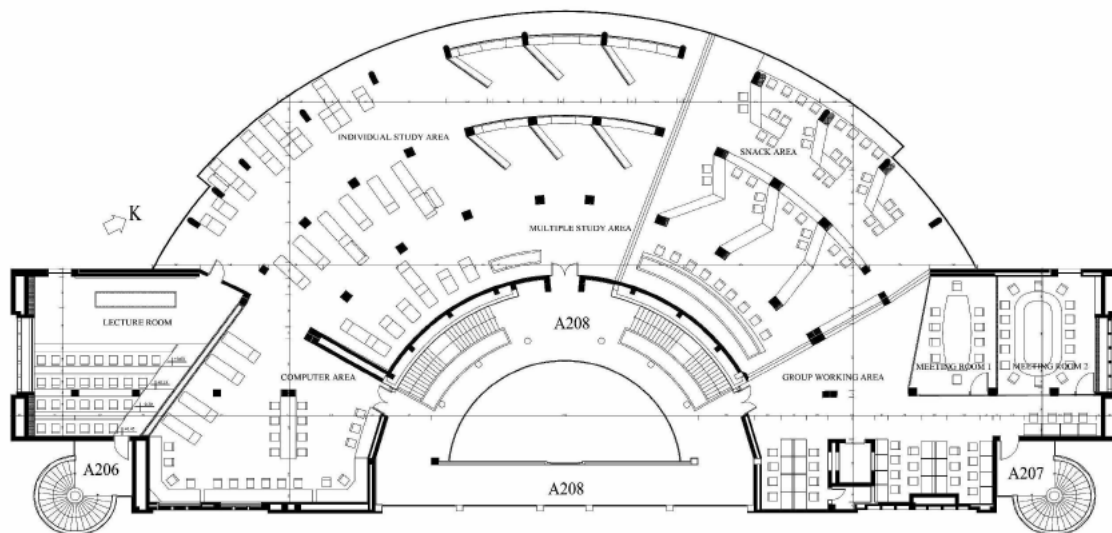


Figure 2 The technical drawing (plan) of project site with its interior design elements.

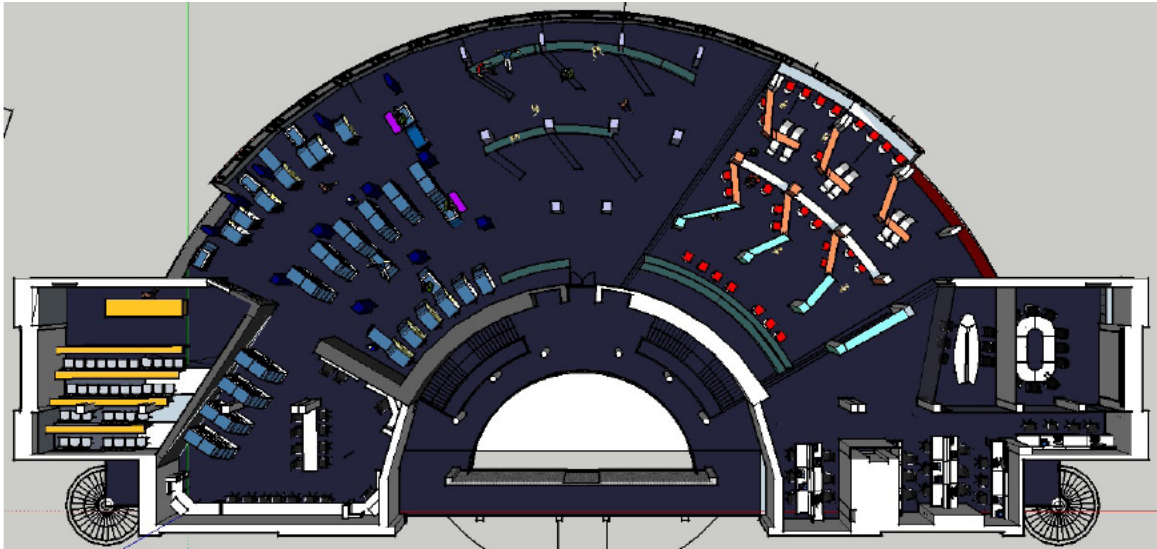


Figure 3 The rendered top view of project site with its interior design elements.

As it is stated by most of the participants in the survey, the users of Bilkent Library use the space for studying activities. In addition to that, according to the findings of behavioral maps, it is observed that the users of the library tend to sit alone at a table of six or eight. Although they are forced to sit together because of the lack of individual study area, they declare in the survey that they prefer to sit crosswise to that person at the best conditions. Throughout research, one of the problems identified is use of spaces. Users tend to occupy more than one sitting place at the tables, reducing the available space in the study areas. This may be due to changes in the working behavior of students, such as; using laptops as well as books or working in small groups. In the design process, the need for privacy and the demand for having an individual study area are considered and a special individual study unit is designed. Since the study unit can be used alone by itself, it can be transformed into many forms. It may be combined with a counter, a single stool, a stool with the desk, a stool with the back part, or it may be used as an opened or closed form (See Figure4). In addition to that, the units can be pulled up together and users may enjoy studying together with their colleagues. As a result, different socializing opportunities occur (See Figure 5).

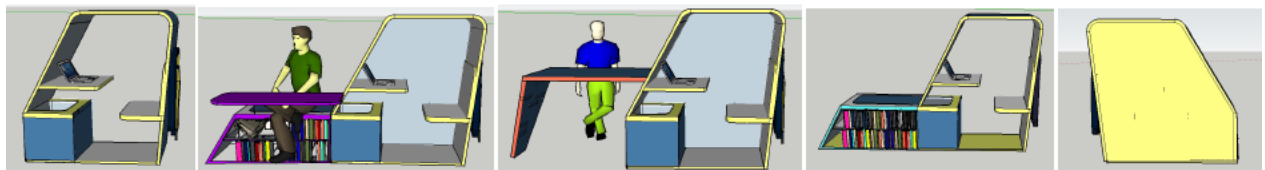


Figure 4 The various forms of individual studying unit.

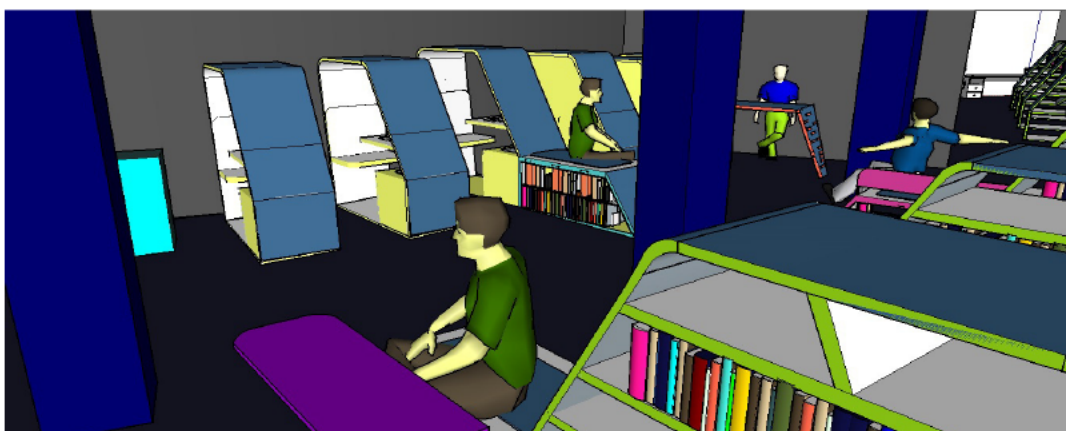


Figure 5 The variety in socializing form by the help of modular individual study units.

Apart from individual study activity, it should be considered that there are other types of study form; studying quietly with friends and group working. In regards to sustain physical conditions, separate zones as if multiple study area (semi-public area) and group working area are designed (See Figure 6). In this respect, the variety of socializing options and the potential for multiple purposes are proposed to the user by comfortable sofa units.

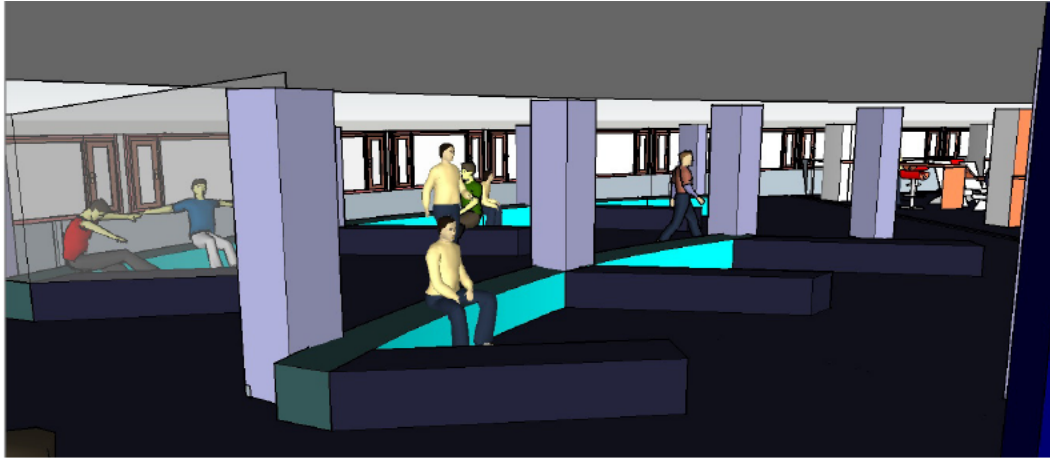


Figure 6 The study area for multiple purposes.

Alternatively, since the libraries are generally designed as dull spaces, a new perspective is generated within the project. In this context, the arrangement of space allocation and furniture layout are aimed to attract the user without compromising from its functionality (See Figure 7).

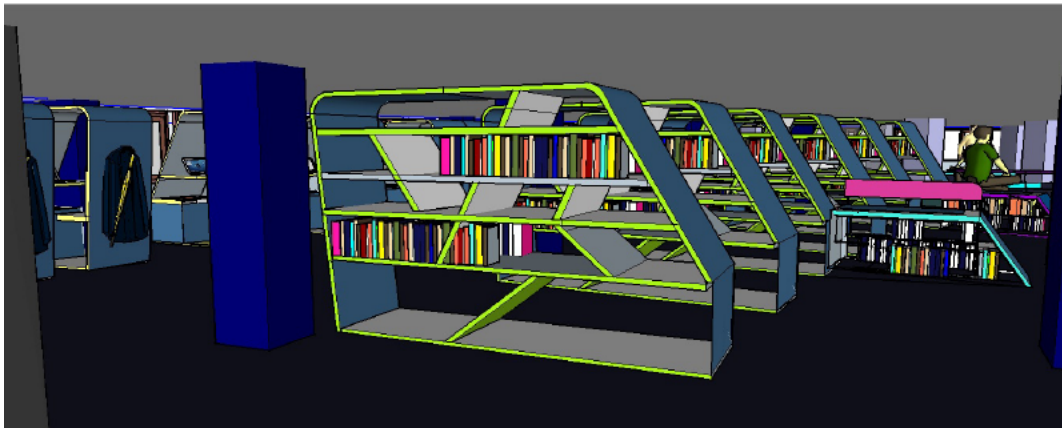


Figure 7 Scenery focusing on the design of book shelves in the project.

As libraries should include many facilities together in order to sustain all the needs and demands of today's users, it brings a hard issue to solve it all at once. In this regard, the locations of facilities are adapted according to varying quietness levels. Since lecture room and individual studying area require the quietest level, the multiple study area occupies a transition space. After that, the snack area and group working areas are placed at the other side as the users may create some noise. On the other hand, the emergence for a snack area is observed during the behavioral mapping studies as users bring their beverages and snacks to their study units though it is forbidden. By the design of the snack area, while a basic need of human being is supported, a different type of socializing activity is added into its value (See Figure 8). Additionally, it promotes attention to that floor of Bilkent Library by including different type of seating elements.



Figure 8 Scenery from the snack area in the project.

6. CONCLUSION

As the building culture includes all type of architectural elements whether they are vernacular or done by professionals, library buildings are the important elements of this culture. Although they are considered as places where people only barrow books and study in the traditional manner, according to today's conditions they need to fulfill the new requires and demands of the users. Accordingly, the library spatial atmosphere becomes important for satisfying the users and it can encourage them to work in libraries as well as, borrowing more books and using the library space more effectively.

In this respect, reinvention of some parts of Bilkent Library is taken as the core of the course, Graduate Studio II. As the reading room on the second floor in A Block is taken as the project site, there are some stages in research before start designing the room. Firstly, existing acoustic and lighting conditions are measured whether they are in appropriate level or not. In line with that, by the user sample survey, it is aimed to evaluate how the user is affected by the interior environment of the library. Secondly, behavioral mapping method is applied in order to understand the use of the library room. In this sense, in two hours period, notes are taking in each fifteen minutes in order to see the changing activities. Finally, a survey is held in terms of analyzing the expectations of the user from the future oriented design proposals. This method helps the designer to have initial ideas before start brainstorming and sketching periods of design process.

At the end, each graduate of the course is asked to redesign the room on the second floor in accordance with the findings of measurements, surveys and observations. Some prominent factors come out the findings. As, the users need individual study area although the other types of study forms such as studying quietly with friends or working in groups should not be avoided in the library design. Moreover, by adding more facilities into design, the interest of the user is promoted as s/he may prefer to visit library not only study but also spend his/her leisure time, too. Additionally, acoustics and daylight comfort should be strongly provided in order to keep the user stay for longer periods in the library.

Though the library is represented as having good shape for its users, it is an inevitable fact that the space needs to be revised according to the changing needs and demands of the users. For this reason, the individual project is prepared including design proposal in detail of facilities, study units and attractive environment that promotes the attention.

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