

Chapter 2

Customized Housing Designs for Contemporary Users in Turkey from the Perspective of Architecture Students

Ali Berkay AVCI¹
Şefika Gülin BEYHAN²

¹ İzmir Institute of Technology, Department of Architecture, İzmir, Turkey, aliavci@iyte.edu.tr

² Prof. Dr., Süleyman Demirel University, Department of Architecture, Isparta, Turkey,
gulinbeyhan@sdu.edu.tr

1. INTRODUCTION

House is a building that provides people with life and helps them keep secure and continue their primary activities (Eruzun, 1980; Hasol, 2002). In other words, the house is the shelter of a family that is the smallest unit of society. It is the place where people maintain their existence in the natural and social environment. Since ancient times, people built houses to maintain their lives in various names, such as caves, tents, huts, and apartments. These housing types reflect the era's technical, cultural, and social specialties (Arcan & Evci, 1999).

The modernization process in architecture that started in the first half of the 20th century also showed its effects in Turkey. The modern houses were designed in Turkey according to the spatial needs of a medium family with children. They took the place of the traditional Turkish houses (Aksu Kocatürk, 2021; Burkut, 2014). However, after the 2000s, the dynamics of the changing contemporary lifestyle have brought about different housing user types than the conventional family with children of the modern era in Turkey (Ekenyazıcı Güney & Tulum, 2021; Koca, 2015). As the spatial needs of these new user types differ from the conventional families, they require different housing designs (Davis, 1997; Demirkan, 2007; Stevenson & Rijal, 2010). The present study focuses on these new housing designs for Turkey's new emerging contemporary occupants. According to that, the students were asked to design housing for a predefined specific type of contemporary occupant in the Building Information Course in the Department of Architecture of Suleyman Demirel University. The students were expected to acquire knowledge by transferring theoretical knowledge into practice.

Previously, the Building Information Course was a theoretical lesson, which the instructor ran through weekly presentations to the students. In this study, the course was improved with the application of the learned knowledge by the students, as in the learning method of the architectural design studios from various education models (Sharif et al., 2012). According to Cole, students' evolving learning in a theoretical course can reveal and stress further issues in a broader context while maintaining the knowingly synthesized issues of the course as in the design studios (Cole, 1980). According to Kolb, learning does not depend on the outcomes but on the experiential process the students are involved (Kolb, 2014). In the same context, the present study aims to make the students employ the knowledge of the housing design for the case of new emerging lifestyles in Turkey through an experiential process. The learning objectives are expected to be acquired by the trial-and-error method in addition to the instructor's guidance. The study results are presented by the analog models and the function diagrams of the housing designs of the student groups.

2. HOUSING TYPES AS A TEACHING MATERIAL

The study is based on the teaching material of the first-year architecture course Building Information 2, which contains general information about housing, housing types, components, and activity areas. After the lectures on these housing topics during the eight weeks, the students were asked to choose one of the given groups of contemporary housing user types and collect information about them. The occupants were “elderly couple and caregiver, couple with children and babysitter, couple without children, extended family, single-parent family, home office user, working roommates, and student.” They were given three weeks to define the users of the houses and specify their spatial needs accordingly to integrate them into their designs.

The study assesses the example housing designs from each group by extents of the scenario of the users’ reflection on the house, physical and social interpretation of the contemporary housing, and comparison with conventional Turkish housing on the detailed 1/20 analog models. The findings are listed in the form of function diagrams of the designs. Moreover, they were interpreted as the new trends in housing from the students’ point of view.

2.1. Emerging Contemporary House Users in Turkey

In the past decades before 2000, in the modern era of society, the housing concept was applied from the same perspective (Arslan, 2012; Tortop, 2001). It was based on the average identified needs of a medium Turkish family, consisting of a living area, kitchen and dining area, a WC in the public and semi-public part, a master bedroom and bedrooms, and a bathroom in the private part. The function diagram of a typical Turkish modern house that respects society's needs before the 2000s is given in Figure 1.

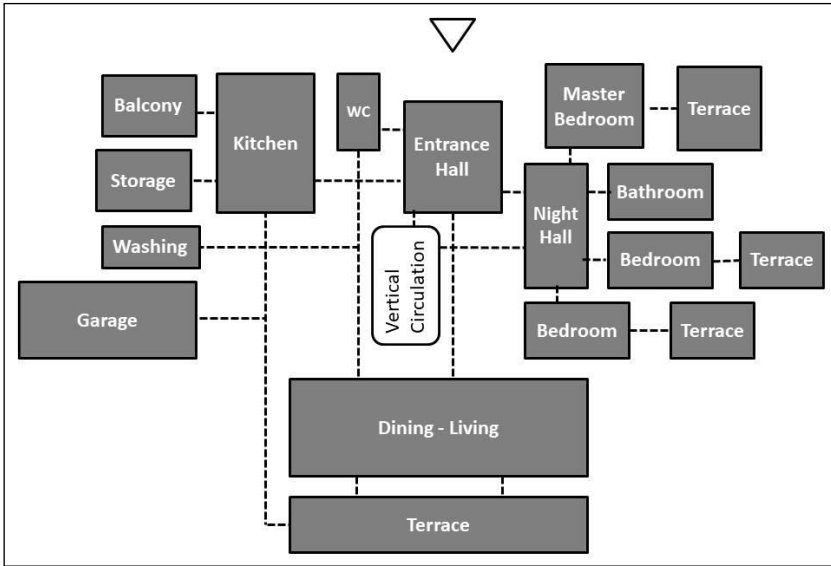


Figure 1 Function diagram of a typical contemporary house in Turkey (Kıran & Polatoğlu Baytin, 2006)

Later, with the emergence of new contemporary lifestyles in the society, this housing logic started to have become insufficient or dysfunctional for distinctive user types (Hesapçioğlu, 2010). For instance, the increase in housing rents in the cities has led working people to share their rents and stay in the same houses with roommates or university students to stay together (Nasreen & Ruming, 2021). These types of users often meet problems when living in this typical modern house, as they do not need a master bedroom or any room hierarchy (Thomsen, 2007). The changes in contemporary life in society revealed new kinds of house users. Therefore, new housing types with different function diagrams were produced compared to Turkey's former conventional housing.

2.1.1. Elderly couple and caregiver

The students that designed houses for this category paid extra attention to the accessibility in the house, as the users might be unable to operate their life routines as healthy people. In Figure 2, the example design of the Group 2 is given. The house was designed as a single-story to make it extra accessible for the old users of the house.



Figure 2 Top view of the example house for an elderly couple and caregiver

In the example house design for this category, the elderly couple living in the house is interested in music and piano. It includes an entrance hall, a total living area with piano playing space in the middle, and kitchen, bathroom, bedroom, and caregiver’s bedroom. A deductive design approach was employed together with rational forms by the students. The piano area was emphasized with black granite natural stone from the floor to the wall.

2.1.2. Couple with children and babysitter

This user types have at least one child and hire a babysitter who lives with them to take care of the child all day. The example design given in Figure 3 belongs to Group 13. As a difference from the other student groups of this category, Group 13 included home office functions in the house.

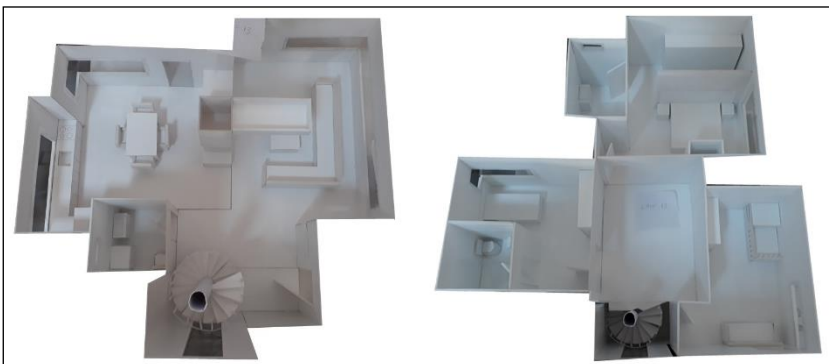


Figure 3 Top views of the example house for a couple with children and babysitter – Ground floor (left) and first floor (right)

The house's ground floor consists of an entrance with vertical circulation, a kitchen and dining area, a secretary desk, and an office used as a living room after working hours. The master bedroom, child's bedroom, and babysitter's room are on the second floor. The students of the Group 13 employed an inductive design approach together with rational forms for the house. The students highlighted the fireplace in the living area with black granite since this material has a high heat capacity to gain and preserve the heat in its body and emit it to the interior space in longer durations.

2.1.3. Couple without children

This type of user does not need extra bedrooms apart from the one they use. Therefore, most student groups included a living room, kitchen, a bedroom, and hobby areas in their designs. In Figure 4, the design of Group 8 is given as an example of a house for a couple without children.



Figure 4 Top views of the example house for a couple without children – Ground floor (left) and first floor (right)

The ground floor of the house design of the Group 8 consists of an open space that includes an entrance hall, vertical circulation, sitting area, dining area and kitchen, storage room, WC, and a garage. The bedroom, bathroom, dressing room, sports room, and reading room are located on the second floor. The students of the Group 8 employed an inductive design approach together with rational forms for the house. The students highlighted the house's bathroom using black granite and white marble, as the house users are predicted to be at work all day and need relaxation after arrival at the house.

2.1.4. Extended family

Extended family users consist of a core family and at least a grand family member. This type of user requires more expansive areas and more rooms than the other types. In Figure 5, the example design of Group 25 is given. The

extended family that Group 25 defined includes a couple with a child and a grandparent.

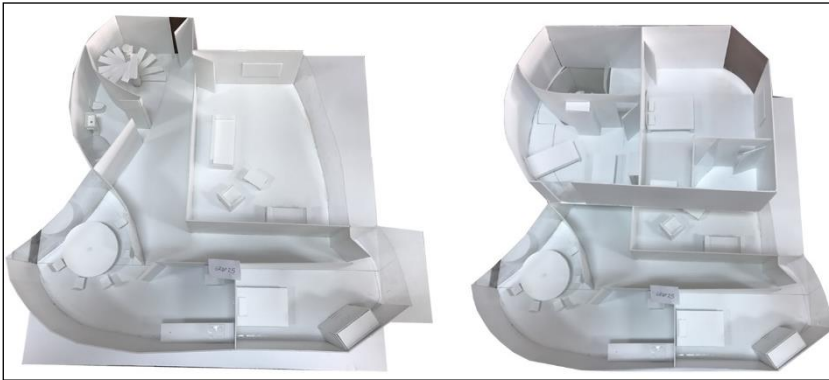


Figure 5 Top views of the example house for an extended family– Ground floor (left) and first floor (right)

The ground floor of the house design of the Group 25 consists of an entrance, vertical circulation, toilet, living room, kitchen and dining room, and bedroom of the grandparent. The master bedroom, child's bedroom, and terrace area are on the second floor. The students of the Group 25 employed a deductive design approach together with organic forms.

2.1.5. Single-parent family

This group of contemporary Turkish house users contains one of the divorced parents and at least one child living with them. In Figure 7, the house design of Group 3 is given as an example of this single-parent category. In this example, the occupant was defined as a single mother with two children interested in watching movies at home.

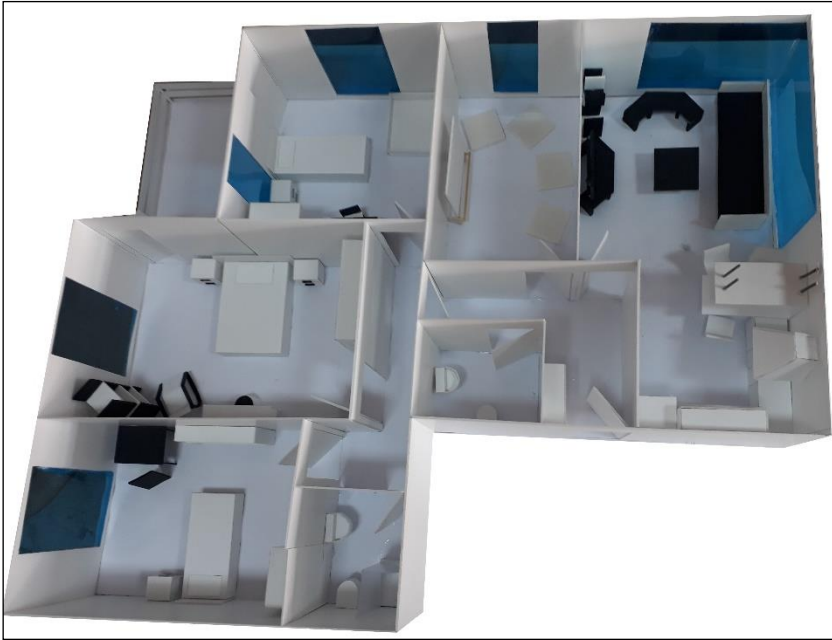


Figure 6 Top view of the example house for a single-parent family

The example house includes an open kitchen with a living room, home-cinema room, WC, two bedrooms, and a master bedroom. Group 11 employed an inductive design approach together with rational walls. The students chose to emphasize the bar eating area of the kitchen by using natural stone.

2.1.6. Home office user

In this housing category, all the student groups assumed the users to be a single person with a job that he can run from his home as the expenses for separated office places are high. The example for a home office design is given in Figure 7, which belongs to Group 11. The students determined the occupation of the user as a dentist.

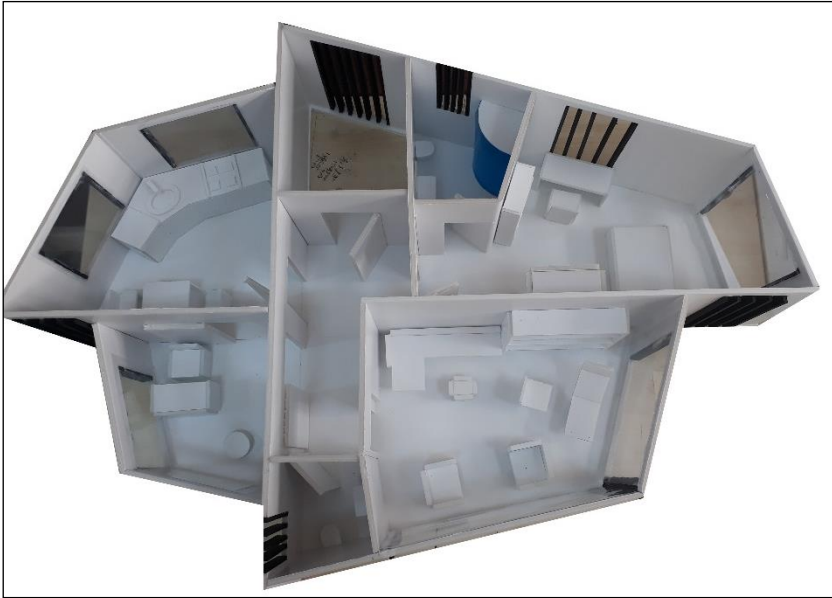


Figure 7 Top views of the example house for a home office user

Example home office is a single-story house with an entrance hall, secretary desk and waiting area for the customers, kitchen, dental clinic space, storage, WC, bedroom, and bathroom. The students of the Group 11 employed an inductive design approach together with angled walls. The students emphasized the dental clinic using natural stone travertine in some detail for the relaxation effect for the patients.

2.1.7. Working roommates

The students designed for this group of users were expected to define the number of people who would share the house. In Figure 8, the example design is for three single working roommates that share the rent. They designed the house to be used separately as the roommates go to their own rooms and separate bathrooms and also included common living space, study area, and dining room. The given example design employs an inductive design approach with rational forms. The students emphasized the dining area with natural stone travertine.

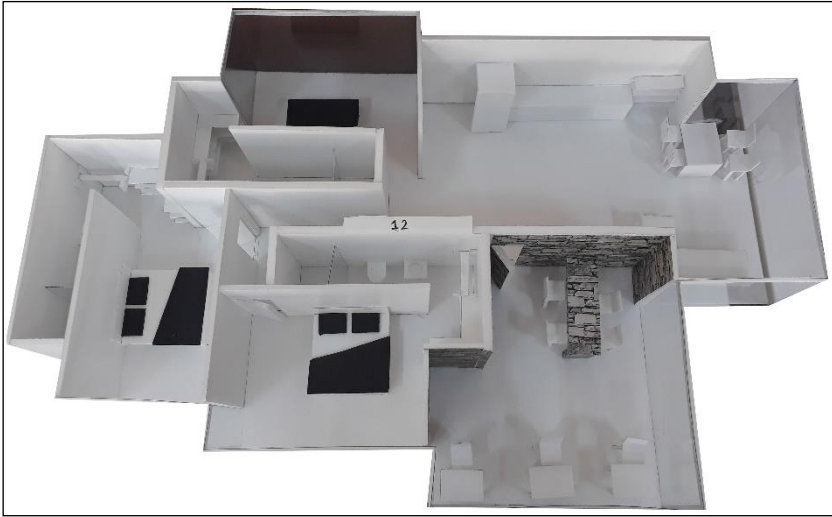


Figure 8 Top view of the example house for working roommates

2.1.8. Student

The students designed for this group of users were expected to define the number of university students that would share the house. In Figure 9, the example design is for two university students. They included a total space that contains an entrance, kitchen, and living area for common usage of the users and two bedrooms. The given example design employs a deductive design approach with curved forms.



Figure 9 Top view of the example house for students

2.2. Overview of the Housing Designs

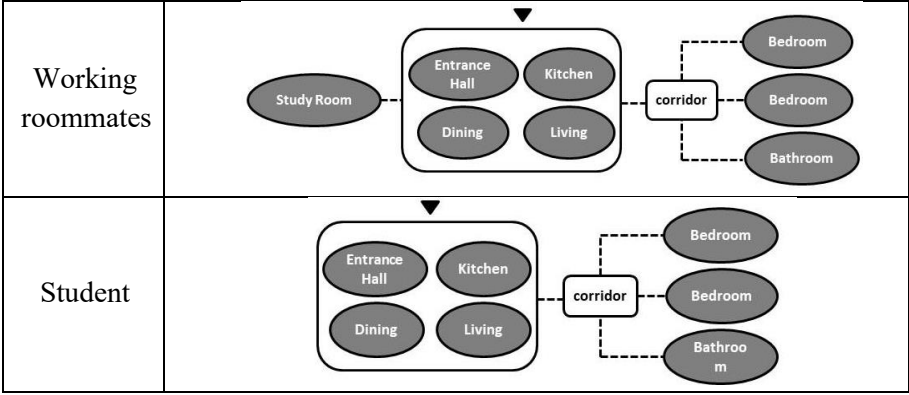
The new emerging contemporary housing users were presented in the previous section elaborately with the example designs selected from the student groups. According to the examples, the need for new functional spaces appeared in the housing designs as the new user types emerged. The differences from the conventional housing needs in Turkey were shown by the students as follows:

- In the house for an elderly couple and caregiver, living, dining, kitchen, and hobby functions were kept in a single holistic space. It contains two bedrooms and a bathroom. Accessibility and safety were critical concepts in shaping the physical arrangement, as remarked by Bigonnesse et al. (2014)
- The house for a “Couple with children and babysitter” slightly differs from the conventional housing in Turkey. In addition to the conventional function schema, there are babysitter’s room and holistic entrance space.
- For the couple without children, extra spaces were elaborated with the hobby areas of the couple. This decision was in line with the other studies that show the preferences of couples without children in the societies (Marcus & Sarkissian, 1986; Ozaki, 2017; Živković & Jovanović, 2012).
- Extended family housing needs resemble the conventional one, except for the grandparent’s bedroom.
- In the single-parent family type, the bedrooms are equal in terms of area compared to the conventional housing. Living and kitchen functions are in a single space, next to the hobby room. The functional schema presented by the students accords to the study of Anthony (2015).
- The home office is flexible in terms of using scenarios. So, the functions of the rooms change during the day from office to living, as the studies indicate that adaptable housing is compatible with home office use (Nadim, 2016; Till & Schneider, 2016).
- Working single roommates’ bedrooms are designed equally in terms of area and functions, as the users equally share the apartment. The living, dining, kitchen, and entrance functions were designed as a total space connecting the corridor and study room.
- In the student housing type, the rooms are preferred to be available to study. The common area contains all the living, dining, kitchen, and entrance functions the students require in their daily life (Amole, 2011; Thomsen, 2007).

In Table 1, the results and the function diagrams of these housing design examples that were done for the specific user groups have been given in comparison with the conventional housings in Turkey.

Table 1 Function diagrams of the housing designs

Housing Users	Function Diagram
Elderly couple and caregiver	
Couple with children and babysitter	
Couple without children	
Extended family	
Single-parent family	
Home office user	



4. CONCLUSION

The residential building designs reflect the needs of society. As these needs change in time, the properties, functions, and action areas of the design of the houses change accordingly. This relation of impulse-response between society and housing is a crucial concern for architects. Therefore, the present study focused on architectural students' awareness of the changing dynamics of social life and the effect on the housing designs.

The study aimed to adopt the changing contemporary lifestyles in Turkey into the Building Information 2 Course in the Architecture Department of Suleyman Demirel University, which introduces the architectural specialties of the standard modern Turkish housing of the late 1990s. In doing so, the students were asked to design houses for specific contemporary user types that were emerged after the 2000s, which are “elderly couple and caregiver, a couple with children and babysitter, a couple without children, an extended family, single-parent family, home office user, working roommates, and student.”

The research results were presented in the study by interpreting the analog models and the function diagrams of the student groups' housing designs compared with the typical conventional housing designs in Turkey. It was observed that the spatial needs of the contemporary housing users differ from the former housing in the following points:

- While the entrance, living, kitchen, dining, and hobby functions are strictly separated into different rooms in the conventional Turkish housing, in the contemporary housing types, it is preferred to be in a total space without boundaries between the most of the user types.
- Some contemporary housing users like “working roommates and students” do not need a hierarchy between the bedrooms, as they do not require a master bedroom or children’s bedroom.

- In the home office type of contemporary housing, the living area/office area is expected to be flexible regarding the functional change during the day.
- The contemporary house users tend to prefer larger spaces for hobby activities.
- Some contemporary housing design types might resemble conventional housing in Turkey, such as “extended family, couple with children and babysitter, and single-parent family.” However, they differ in the number of additional bedrooms.

In conclusion, the study revealed the particular needs of the contemporary housing users in Turkey that emerged after the 2000s compared with the former modern Turkish housing from architecture students' perspective. The students' participation in the teaching process of the course led them to conceive the learning target thoroughly. The students acquired the ability to adapt the learned knowledge of the former housing to the new designs for the contemporary new housing users in the course.

REFERENCES

1. Aksu Kocatürk, G. (2021). Eski ile Yeni'nin Çelişkili Birlikteliği: Muhafazakârin Modern Evi. *Journal of International Management Educational and Economics Perspectives*, 9(2), 109–124.
2. Amole, D. (2011). Students' Housing Preferences in Southwestern Nigeria. *Journal of Architectural and Planning Research*, 28(1), 44–57. <http://www.jstor.org/stable/43030926>
3. Anthony, K. H. (2015). Housing the single-parent family. *Design Intervention: Toward a More Humane Architecture*; Preiser, WFE, Vischer, JC, White, ET, Eds, 11–36.
4. Arcan, E. F., & Evci, F. (1999). *Mimari tasarıma yaklaşım: bina bilgisi çalışmaları*. Tasarım Yayın Grubu.
5. Arslan, M. E. (2012). *Türkiyedeki geleneksel konut tipoloji ve bileşenlerinin sürekliliği*. Fen Bilimleri Enstitüsü.
6. Bigonnesse, C., Beaulieu, M., & Garon, S. (2014). Meaning of Home in Later Life as a Concept to Understand Older Adults' Housing Needs: Results from the 7 Age-Friendly Cities Pilot Project in Québec. *Journal of Housing For the Elderly*, 28(4), 357–382. <https://doi.org/10.1080/02763893.2014.930367>
7. Burkut, E. B. (2014). *Osmanlı/Türk evi mekan kurgusunu modern konut mimarisinde okumak:(Wright, Corbusier, Eldem ve Cansever'in konutları)*. FSM Vakıf Üniversitesi.
8. Cole, R. J. (1980). Teaching experiments integrating theory and design. *Journal of Architectural Education*, 34(2), 10–14.
9. Davis, S. (1997). *The architecture of affordable housing*. Univ of California Press.
10. Demirkan, H. (2007). Housing for the aging population. *European Review of Aging and Physical Activity*, 4(1), 33–38.
11. Ekenyazıcı Güney, E., & Tulum, H. (2021). The Notion of Home from 19th Century to 2020: A Reading on the Effects of Covid-19 Period. *Türk İslâm Medeniyeti Akademik Araştırmalar Dergisi*, 16(32 SE-Articles), 337–360. <https://doi.org/10.5281/zenodo.6527690>
12. Eruzun, C. (1980). Konutlarda mekan özelleşme düzeyinin saptanmasına ilişkin bir yöntem. *Yayımlanmamış Doktora Tezi, İstanbul: İ. DGS AM. Mim. Fak. Yayınları*.
13. Hasol, D. (2002). *Mimarlık Sözlüğü, İstanbul: Yem Yayıncılık*.
14. Hesapçıoğlu, B. (2010). *Toplu konutlarda kullanıcı ihtiyaçlarına bağlı planlama ve tasarımı etkileyen faktörler*. Trakya Üniversitesi Fen Bilimleri Enstitüsü.

15. Kıran, A., & Polatođlu Baytin, . (2006). Bina Bilgisi'ne giriş. In *Yıldız Teknik Üniversitesi Basım-Yayın Merkezi, İstanbul*.
16. Koca, D. (2015). Türkiye'de çağdaş konut üretiminin yeniden okunması. *Tasarım+ Kuram*, 11(19), 19–36. <https://doi.org/10.23835/tasarimkuram.239591>
17. Kolb, D. (2014). *Experiential Learning: Experience as the Source of Learning and Development*. FT Press.
18. Marcus, C. C., & Sarkissian, W. (1986). *Housing as if people mattered: Site design guidelines for the planning of medium-density family housing* (Vol. 4). Univ of California Press.
19. Nadim, W. (2016). Live-work and adaptable housing in Egypt: A zero commuting concept, lessons learnt from informal developments. *Smart and Sustainable Built Environment*.
20. Nasreen, Z., & Ruming, K. J. (2021). Shared Room Housing and Home: Unpacking the Home-making Practices of Shared Room Tenants in Sydney, Australia. *Housing, Theory and Society*, 38(2), 152–172. <https://doi.org/10.1080/14036096.2020.1717597>
21. Ozaki, R. (2017). House design as a representation of values and lifestyles: The meaning of use of domestic space. In *Housing, space and quality of life* (pp. 97–111). Routledge.
22. Sharif, R., Maarof, S., & Meor Razali, M. (2012). Project oriented problem based learning in architecture design studio in bachelor of architecture program, UPM. *The Proceedings of Malaysian Architectural Education Conference 2012*, 65–75.
23. Stevenson, F., & Rijal, H. B. (2010). Developing occupancy feedback from a prototype to improve housing production. *Building Research & Information*, 38(5), 549–563.
24. Thomsen, J. (2007). Home Experiences in Student Housing: About Institutional Character and Temporary Homes. *Journal of Youth Studies*, 10(5), 577–596. <https://doi.org/10.1080/13676260701582062>
25. Till, J., & Schneider, T. (2016). *Flexible housing*. Routledge.
26. Tortop, H. (2001). *Toplu Konut Planlamasında Esneklik Sorununa Ön Üretim Doğrultusunda Bir Yaklaşım Araştırması*. Fen Bilimleri Enstitüsü.
27. Živković, M., & Jovanović, G. (2012). A method for evaluating the degree of housing unit flexibility in multi-family housing. *Facta Universitatis-Series: Architecture and Civil Engineering*, 10(1), 17–32.