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Furniture design proposals for Syrian refugees

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Abstract

Due to civil war and conflict in Syria, Turkey has welcomed more than 3.6 million Syrian refugees since March 2011. Most Syrians living in Turkey are tenants, and they move frequently for numerous reasons. Thus, Syrians' attempts at remaking home are largely centered on furnishing. This study explores the crucial role of furniture in the process of remaking home and focuses on designing furniture for Syrian families' immediate eating, sitting, sleeping, and storage needs via a workshop with design students from different design disciplines and universities in Turkey. This study aims to design furniture for Syrians living in Turkey according to their needs and cultural and behavioral habits. The study method was based on the cultural probe technique blended with ethnographic methods and a human-centered design approach to understand the users' needs for designing. The findings showed that the students considered the cultural codes, beliefs, lifestyle, spatial needs, and tenant status of Syrian families to provide place attachment, sense of belonging, and familiarity and to develop adaptable, affordable, commemorative, customizable, mass-produced, and multifunctional, furniture and contemporary furniture and accessory design proposals. This study will contribute to developing user-friendly furniture and will promote further research based on users' involvement in designing furniture for immigrant and refugee populations, such as Syrians.

Keywords
Design, Furniture, Housing, Interiors, Syrian refugees.

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1. Introduction

After World War II, the biggest mass migration of the 21st century (Yenilmez, 2017) occurred due to the civil war and conflict in the Syrian Arab Republic. Many people have been affected by this crisis, which began in March 2011. Approximately 5.6 million people have been displaced and have migrated to neighboring countries, such as Lebanon, Turkey, and Jordan, and beyond (United Nations Refugee Agency [UNHCR], 2021). Turkey implemented an "open door policy" (Directorate General of Migration Management [DIGM], 2021) for Syrian refugees[1] in the first phase of this mass migration. According to current statistical data, Turkey, in which the largest Syrian immigrant population lives worldwide, hosts 3.6 million Syrian refugees (UNHCR, 2021).

The number of Syrian refugees living in Turkey drastically increased in 2014 due to the ongoing situation in Syria. During this period, 93% of Syrian refugees have dispersed throughout different urban areas and cities (Erdoğan, 2018) due to factors such as the living conditions in reception camps and refugee centers, education, health, and employment. In this process, one of the central problems for Syrians is sheltering. Most Syrians living in Turkey live slums or previous slum areas of big cities, such as Istanbul (Kılıçaslan, 2016) due mostly to their income status. Kinship relations, and cultural, religious, environmental, and psychological factors also affect the settlement choices of immigrant and refugee populations.

Most Syrians have suffered trauma due to the war in Syria: losing their homes, homeland, relationships, relatives, and sociocultural ties. In Turkey, the vast majority of Syrians consist of people with low- or middle-income status and require assistance. Syrians move frequently due to rent increases, their income status, unemployment, negative attitudes of neighbors and landlords, and crowded and large households. Renting versus being a homeowner and their legal status and rights affect immigrants' and refugees' emotional bonds and attachment to a particular place, sense of community, belonging, and familiarity. The living conditions during relocation also affect their residential satisfaction and well-being.

During the process of migration and the remaking of home, it is crucial to have a living environment that responds to the users' living habits, culture, lifestyle, needs, preferences, and desires for providing a sense of community, belonging, familiarity, and place attachment during relocation. Therefore, homemaking practices for immigrant and refugee populations cannot be considered detached from previous experiences, which shape the feelings of the present home (Brun & Fabos, 2015). In other words, the present home includes qualities of former home environments that were lost and left behind.

The fact that Syrians are mostly tenants in their new location makes it difficult to appropriate their present residential environment in remaking home. In this process, furniture and other goods and objects loaded with meaning (Brooker, 2004) have major roles in personalizing the space and reflecting people's identities and tastes. They also enable understanding of users and their needs. In this sense, developing design ideas and products from housing to a piece of furniture for immigrants and refugees is an important activity. Smart design ideas, such as the IKEA Foundation's Better Shelter project (Better Shelter, n.d.) and Rehome's furniture for refugees (Finnish Furniture for Refugees, n.d.), can help solve immediate housing needs of forcibly displaced populations.

This study explores the crucial role of furniture in the process of remaking home and focuses on designing furniture for Syrian refugees via a workshop that aimed to design furniture for Syrians based on their cultural and behavioral habits and needs. The study method used was the cultural probe technique blended with ethnographic methods. The human-centered design approach was also used to produce design proposals both for meeting users' needs and for developing furniture and complementary furniture and accessories in the workshop. The study will contribute to the design discipline by developing creative design ideas and need- and culture-based furniture proposals for Syrian families.

2. Theoretical background

Interior architecture and design is a discipline that focuses on human needs, actions, and inspirations (Attiwill, 2011) to design livable environments. The housing environment we live in constitutes a large part of the built environment and reflects the user's lifestyle, wishes, desires, needs, and cultures. In this sense, the housing environment has always been of crucial importance in the architecture and interior architecture and design fields (Brooker & Stone, 2010).

While the house is a physical unit (Lawrence, 1987), the home—which also has symbolic associations (Boccagni & Brighenti, 2017)—has physical, psychological, social, and cultural aspects. Home is "a place where every day is multiplied by all the days before it" (Tuan, 2011, 144) and a place where people come together under the same roof. Home is also a place for daily and social life that is substituted for both individual and collective and private and public zones. One of the most important emotional bonds, longed for and full of memories of the past, is the home. Therefore, the loss of the home is psychologically, economically, socially, and politically traumatic, especially if this loss is beyond one's control.

The meaning of home for forcibly migrated populations is related to home in their homeland and the memories and trauma they evoke. In this sense, home has negative and positive associations for those people. Previous experiences also affect immigrants' settling down during relocation. Home, where memories are transferred from past to present, is a place of existence (Pala, 2005) and is the physical expression of identity (Fadlalla, 2011) for immigrant and refugee populations. Thus, homemaking during relocation is quite crucial for displaced and forced migrated people and populations.

Homemaking is an ongoing process (Arefi, 2014; Taylor, 2015). Remaking home for immigrants and refugees in a new living environment means establishing a new life influenced by previous experiences and their former homes and homeland left behind (Jansen & Löfving, 2009; Kissoon, 2015). In this regard, the homemaking process is an attempt to remake domestic life blended with familiar cultural values (Kissoon, 2015) that allows people to feel at home, specifically amid a lack of familiarity (Kreuzer et al., 2017). It is also a process of simultaneously being "here" and "there" (Ralph & Staeheli, 2011).

The relationship between space and human who use the space is important in the homemaking process. The human or user needs define a general frame of a design (Dodsworth, 2009). Therefore, the housing environment and interior spaces have the adjustment capacity and flexibility appropriate to the user's needs. The flexible use of residential interiors requires spatial elements, furniture, and other belongings that allow flexible use (Cordan & Aktan Özcan, 2020). In other words, the movable walls and wall units that divide, separate, or combine indoor spaces; compact and movable furniture; fixtures; and other items increase the effective and efficient use of interiors. They also help meet users' changing needs and requirements.

One of the most important considerations for the interior architecture and design discipline is the selection and placement of furniture (Edwards, 2011). As Brooker and Stone (2004) stated, "furniture is an element that expresses human scale and use. It can be worn and used and barely noticeable or have beautiful sculptured qualities" (170). Besides form, material, color, and texture, furniture—whether fixed, semi-fixed, or mobile—has ergonomic, aesthetic, and functional aspects. It also has social and emotional purposes (Edwards, 2011). Furniture as a semi-fixed element (Rapoport, 2005) meets the physical, aesthetic, and belonging needs of the users in home decoration. It also gives information about a user's culture, beliefs, behaviors, lifestyle, taste, habits, and preferences and plays a major role in personalization and other ways of identification (Altman et al., 1980).

The use of objects (i.e., furniture, goods, and decorative items) are the most important elements for providing identity to a particular place, and they have physical and cultural connections with their environment (Brooker & Stone, 2004). Furniture and decorations carry special meanings (Ureta,

2007) and sentimental value, and they are indicators of the meaning of home shaped by the individual's homing experience (Neumark, 2013). In this sense, the migrants' feeling at home becomes possible with the help of the placement of familiar objects, such as furniture (Rottmann, 2020). The communication and interaction between man and space and humans and objects provides continuity between past, present, and future lives and cultural memory and turns a house into a home through the home (re)making process.

3. The study

Defining a space with furniture gives an opportunity for user appropriation of space. It also accelerates time-dependent processes such as belonging, familiarity, and attachment to a particular place. Since property ownership mostly disappears in the case of forced migration, the importance of furniture and other goods, such as accessories, for personalization and identification of space become clear. They also increase the effective and flexible use of space and meet users' changing needs in the short, medium, and long term. Even if the living space changes, it is possible to recall memories with the help of furniture. Due to the income status of most refugees and immigrants, it is quite crucial that the furniture have adaptable, affordable, durable, modular, multifunctional, and simple solutions.

The *furniture design workshop* was held February 27–29, 2020 with the theme of "[Re]-making home"[2], and domestic furniture and complementary furniture and accessories were designed based on the priority housing needs of Syrian families living in the district of Sultanbeyli, which host the largest Syrians living on the Anatolian side of İstabul in Turkey. Multiple design proposals were developed for Syrians appropriate to their culture, habits, and needs, and proposals were designed according to four categories: *sleeping, eating, sitting,* and *storage.*

3.1. Participants

Besides one professional design expert, eight academics and designers from Marmara University (MU), Mimar Sinan Fine Arts University (MSFAU), Altınbaş University (AU), and Istanbul Technical University (ITU) joined the workshop: two from the ITU product design department, one from the ITU interior architecture department, one from each of MU and MSFAU interior architecture departments, and three from the AU interior architecture and environmental design department attended the design workshop. Twenty undergraduate and graduate students from the aforementioned universities and departments, including one undergraduate student from the Department of Interior Architecture at Karadeniz Technical University (KTU), attended the workshop. There were two or three tutors and four to six students in each group.

3.2. Method

The method had two stages. First, *ethnographic methods* and the *cultural probe technique* were used to obtain information from Syrian families living in Sultanbeyli in Istanbul. Ethnographic methods require the researcher to spend time with a particular group for collecting data (Morgan-Trimmer & Wood, 2016) and for learning the culture of a particular setting or environment (Curry et al., 2009). The *observation technique* was used to obtain information regarding Syrian families' activities, behaviors, roles, and needs in their home environment. The *cultural probe technique*, which creates a dialogue between the designer and the user (Gaver et al., 1999) and is a useful method to get inspiration for housing (Mattelmäki, 2006), provided an idea of the Syrian family's lifestyle, habits, and needs. However, the cultural probe method—which involves user participation in the design process, and requires self-documenting— was used in combination with ethnographic method due to a language barrier with Syrians. The cultural probe method also requires participants to be literate, to communicate to fulfill the assigned tasks, and to be competent to take photos. Thus, the field photography was carried out by the researcher with the guidance of the Syrian participants. All collected data from the field study was shared through

a seminar during the workshop, and all photographs taken in the home environments of the Syrian families were shared digitally on Google Drive with the workshop participants. Second, *human-centered design approach*, which requires a deep understanding of the people to be served, to dream up the ideas, and to create innovative solutions rooted in actual needs (IDEO, 2015), were used for developing design proposals to meet the users' needs in the design process. The design proposals were analyzed using tables, which included categorizations according to function, given names, used material, and design concepts.

3.3. Field study results

The findings obtained through the cultural probe and observation techniques revealed that family relationships, roles, and hierarchy; gender; privacy; and religious beliefs influence spatial use and organization. Syrians, who mostly belong to lower- and middle-income groups, have an extended or nuclear family structure and a crowded, sex-segregated family life. Although Syrians have large and crowded families, they live in limited spaces (i.e., small apartment flats in Sultanbeyli). The living room is the heart of the house and a common zone where many activities take place. For example, meals are eaten in the living room on a low table. Seating in the living room mainly consists of cushions on the ground, and mattresses, mostly in the bedrooms, are used for sleeping on the floor. Apart from property ownership, a family's income status affects spatial interventions. Semi-fixed or mobile furniture appropriate for frequent moving is vital in the space. Accordingly, space was organized by the placement of furniture, complementary furniture, and accessories. Multi-functional and adaptable furniture and accessories were common for limited spaces to increase their efficient and effective use, and they also served as storage, which was necessary for large households. The use of excess objects acquired in Turkey or brought from Syria can be read as indicators of self-expression or as identifying with the homeland left behind.

3.4. Process

The furniture design workshop was conducted in a studio environment. In addition to seminar regarding field findings on Syrian's culture, lifestyle, habits, and needs, two seminars[3] were given by invited speakers on the first day of the workshop. The first seminar, entitled "Design and Entrepreneurship," was about designing furniture using inspiration from culture and tradition, and the second seminar, entitled "A Method for Ethnographic Approaches: Cultural Probe," was regarding the workshop method.

All digital and hard copies of the workshop materials were shared with the participants. Considering the cultural and behavioral habits, lifestyle, preferences, needs, and demands of Syrian families, the students were asked to develop a design idea; give a name to their design proposal; support their design with sketches, axonometric perspectives, detailed drawings, and 3D renderings; and make a physical model. The working scale was determined as 1/10, the model scale was 1/10 or 1/5, and the detail scale was 1/5 (1/1 if necessary). All proposals were individually designed and detailed according to the *idea/concept development, designing, visualization,* and *production stages* of the design process. On the last day of the workshop, the students presented their furniture design proposals in front of the jury, which consisted of the workshop tutors. The design workshop consisted of daily studies:

The first day of the design workshop started with group studies to understand the given task and to discuss the different aspects of the design problem depending on the purpose of the workshop. With the leadership of the workshop tutors, each group questioned the specific issues related to forced migration, such as migration, displacement, belonging, identity, culture, housing, and furniture. Thus, on the basis of the consensus, the factors that guided the design studies were revealed by the group members, and the defined factors were hung on the board using Post-It notes (Figure 1). At this stage, the tutors gave constructive criticism to enable students to

develop their initial design ideas using human-centered design approach based on their initial needs via face-to-face communication. On the first day of the workshop, the individual design proposals were begun using sketches, schematic diagrams and note taking.

The second day continued with the development of the design proposals. While the studies were ongoing, the group tutors examined each student's design individually and ensured the development of design proposals. In this process, the designs progressed: an emphasis was placed on sketching; the functions were clearly defined; and material, texture, and color decisions were made. The transfer of two- and three-dimension proposals to the computer environment began. In addition to detailing, the physical models began constructing at the end of the day, and the proposals continued to be developed (Figure 2).

On the morning of the third day, the students made preparations for the final jury (Figure 3). All students prepared design posters using computer and conventional visualization techniques and completed their physical models, and wrote their design statements. The students presented their work in front of the jury that afternoon (Figure 4).

Figure 1. *Workshop: Day one.*

Figure 2. *Workshop: Day two.*

Figure 3. *Workshop: Day three.*

3.5. Products

During the three-day furniture design workshop, 20 different furniture proposals were designed in four categories. Six proposals were developed in the *sleeping* category (Table 1). Based on the student's own opinion, the first proposal was designed to be easy to pack and suitable for Syrian refugees' frequent moving. The basic idea of the design proposal, called "*compact*", is to build anytime, anywhere. Designed by combining storage, bedside tables, and sleeping units in a single product, the proposal meets the Syrians' personalization needs. The second proposal, called "*intricate,*" was designed considering the Syrians' lower income status, cultural characteristics, and large, crowded family life. The basic idea that guides the design is a puzzle. The design consists of modules that can be combined and separated and allow large families to store their belongings and to sleep. The third proposal, called "*intersection*," was designed to satisfy sitting and sleeping activities considering the large, crowded family life of Syrians and their cultural needs. Suitable for day and night use, the idea behind

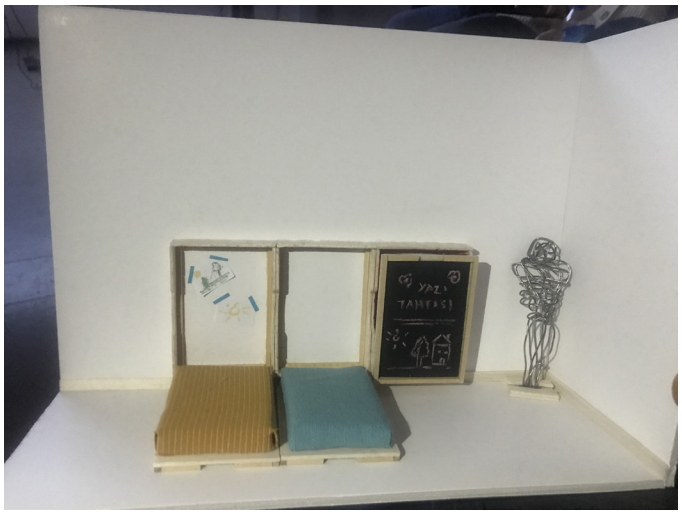
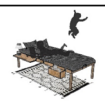
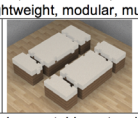
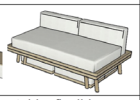


Figure 4. *Workshop: Final jury.*

Table 1. *Sleeping design proposals.*

Category		University	Name	Function	Images		Material
Sleeping	1	ITU	Compact	Single/ Double Bed+ Bedside table+ Storage			Osb
	Design concepts		adaptable, affordable, compact, customizable, demountable, extensible, flexible, foldable, layered, lightweight, modular, multifunctional				
	2	ITU	Intricate	Single/ Double Bed+ Storage			Foam Wood
	Design concepts		adaptable, commemorative, demountable, extensile, flexible, modular, multifunctional, seperable and combined				
	3	KTU	Intersection	Double Bed+ Bedside table+ Sofa+			Foam Wood
	Design concepts		adaptable, common, compact, customizable, demountable, flexible, foldable, intersect, lightweight, multifunctional, transformable				
	4	MU	Accord	Double bed+ Pull-out bed+ Headboard+ Storage			Foam Wood
	Design concepts		adaptable, compact, customizable, flexible, extensible, multifunctional				
	5	MSFAU	Kidzone	Floor matress+ Desk+ Wall-mounted board			Plywood
	Design concepts		adaptable, affordable, commemorative, compact, customizable, demountable, flexible, foldable, layered, multifunctional, seperable and combined, transformable				
	6	AU	Pull-out	Bunk bed+ Pull-out bed			Chipboard Steel profile
	Design concepts		compact, demountable, extensile, flexible, layering, modular				

the design was that each intersection creates a common story. The fourth proposal, called "*accord*," is designed to increase the sense of belonging and to facilitate the adaptation process for Syrian families. Thus, a bed unit was designed with a headboard for personalization. The furniture also provided storage and additional pull-out bed units. The fifth proposal, called "*kidzone*," was designed considering children's different needs amid large, crowded families. Creating a personalized space for three children is the main idea of the design. Multifunctional products were developed with consideration for the floor mattress and for users' personalization needs and effective use. The sixth proposal, called "*pull-out,*" was designed for children living in large and crowded families. The intertwining of private space and occupying little space in limited spaces constitutes the main idea of the design. Thus, a bunk bed suitable for user personalization and privacy needs was designed to serve a maximum of four children.

Five proposals were developed in the eating category (Table 2). The first proposal, called "*non-boundry*," was designed considering the new way of life that Syrians try to adapt in Turkey. Designed with reference to the state of being on the road and not belonging anywhere, the product was developed according to the user's needs. The second proposal, called "*spacious*," is designed according to the Syrians' culture and lifestyle. Designed with the shelf unit fixed to the wall, the product produces a compact solution for limited spaces with a drop-down table top that allows use at different heights to accommodate Syrian habits of eating on a low table. The third proposal, called "*cloth*," was designed in reference to the tablecloth used for eating on the floor. The designed product allows users to eat both on the ground and at different heights according to their preferences and cultural habits. Flexibility and lightweightness were the basic ideas and concepts that guide the design proposal as well. The idea that guided the fourth proposal, called "*harmony*," was to adapt to the newly settled environment by preserving Syrians' cultural habits and requirements for modern life. The product was designed to allow eating at different heights and maintaining the diverse needs of users, such as coffee tables. The fifth proposal, called "*charm*," was designed according to Syrians' cultural habits and large, crowded family life. The design idea, which is based on reinterpreting and modernizing the low table, is to design a transformable

modular piece of furniture consisting of three identical modules.

Five proposals were developed in the sitting category (Table 3). The first proposal, called "daybed," was designed considering Syrians' culture and large, crowded family life. The concept that guides the design is stackability. The product was designed to meet various needs, such as sofabed and daybed in one single product. The second proposal, called "*transform*," was designed for large and crowded Syrian families. The product was designed as an L-shaped sofa, which transforms to a double bed and is combined with a coffee table to meet Syrian families' various needs. The third proposal, called "*belonging*," took its strongest reference from the mother and child/baby relationship, which is one of the most intense forms of belonging and loyalty. A sofa, which can also be used as baby carry bag and pouf, was developed to strengthen this relationship and meet Syrians' belonging needs. The fourth proposal, called "*unity*," was based on designing compact furniture for small areas by considering Syrians' different needs. The design allows users to perform sleeping, eating, working, and sitting activities using a single module and can be used as a table, bed, sofa, and storage. The fifth proposal called "*fixing*" developed sitting furniture based on the concepts of moving (physical and mental), adapting (from here and previous home), and embellishing (for beautification and customization). The design can easily be transformed to support Syrians' living habits, such as lying, sitting, and sleeping on the ground. The furniture also allows users to personalize the product with their own covercloth.

Four proposals were developed in the storage category (Table 4). The first proposal, called "portage," was designed for children to carry their belongings easily, considering Syrian families' frequent moving. The main idea of the design was to keep memory and belonging alive. The product is a backpack when closed and can be used as cabinet, table, shelf, or storage when opened. The second proposal, called "belt," was designed by considering Syrians' living habits to strengthen their sense of belonging. The main idea that guided the design was Marwa Al-Sabouni's (2016) statement that architecture makes people feel like they belong to a particular place. This furniture was developed with references to Syria's rich architecture, the multi-layeredness of

Table 2. *Eating design proposals.*

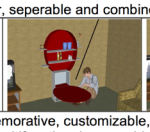
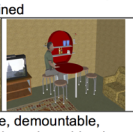
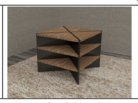
Category		University	Name	Function	Images		Material
Eating	1	MSFAU	Non-boundary	Dinning table			Osb Steel structure
	Design concepts		adaptable, affordable, commemorative, customizable, demountable, flexible, lightweight, modular, seperable and combined				
	2	ITU	Spacious	Dinning table + Low table+ Shelf			Acrylic sheet Acrylic profile
	Design concepts		adaptable, compact, commemorative, customizable, demountable, flexible, foldable, modular, multifunctional, seperable and combined				
	3	ITU	Cloth	Dinning table + Low table			Wood Balsa stick
	Design concepts		adaptable, affordable, commemorative, customizable, demountable, flexible, foldable, lightweight, modular, seperable and combined				
	4	AU	Harmony	Dinning table + Low table+ Coffee table			Chipboard Steel
	Design concepts		adaptable, commemorative, customizable, demountable, flexible, modular, multifunctional, seperable and combined, transformable				
	5	MU	Charm	Low table+ Nesting table			Mdf
	Design concepts		adaptable, commemorative, customizable, demountable, flexible, modular, multifunctional, seperable and combined, stackable, transformable				

Table 3. *Sitting design proposals.*

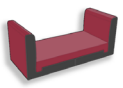
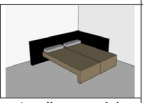
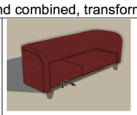
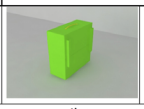
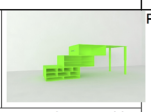
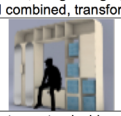
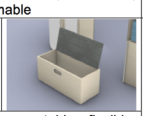
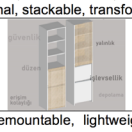
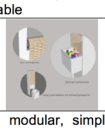
Category		University	Name	Function	Images		Material
Sitting	1	AU	Day-bed	Sofabed+ Daybed			Plywood, MDF, Polyester Fiber filling, Polyurethane Foam
	Design concepts		adaptable, customizable, compact, demountable, flexible, extensile, modular, multifunctional, seperable and combined, stackable, transformable				
	2	MU	Transform	Sofabed+ Coffee table			Plywood, MDF, Polyurethane Foam
	Design concepts		adaptable, compact, demountable, flexible, extensile, modular, multifunctional, seperable and combined, transformable				
	3	MSFAU	Belonging	Sofa + Baby carry bed + Pouffe			Plywood, MDF, Polyurethane Foam
	Design concepts		adaptable, commemorative, compact, demountable, flexible, extensile, modular, multifunctional, transformable				
	4	ITU	Unity	Sofa + Storage + Bed + Table			Osb Steel
	Design concepts		adaptable, affordable, compact, customizable, demountable, flexible, extensile, layered, lightweight, modular, multifunctional, seperable and combined, transformable				
	5	ITU	Fixing	Ground cushion+ Floor mattress			Foam
	Design concepts		adaptable, affordable, commemorative, customizable, flexible, lightweight, mobile, modular, multifunctional, stackable, transformable				

Table 4. *Storage design proposals.*

Category		University	Name	Function	Images		Material
Storage	1	AU	Portage	Cabinet + Table + Shelf+ Seat			Plexy
	Design concepts		adaptable, affordable, commemorative, compact, demountable, extensile, flexible, interwined, lightweight, mobile, modular, multifunctional, seperable and combined, transformable				
	2	ITU	Belt	Wardrobe+ Cabinet + Shelf + Chest			Mdf Fabric
	Design concepts		adaptable, common, compact, customizable, demountable, flexible, layered, modular, multifuctional, stackable, transformable				
	3	ITU	Wicker	Cabinet			Mdf Wicher
	Design concepts		affordable, customizable, demountable, lightweight, modular, simple, stackable				
	4	MU	Lego	Shelf unit+ Pouffe+ Table+ Divider			Mdf Profile steel
	Design concepts		adaptable, common, compact, customizable, demountable, flexible, layered, mobile, modular, multifuctional, seperable and combined, stackable, transformable				

Syrian cities, and commemorative aspects of the home left behind. It was designed as a storage unit combined with a pouf, cupboard, open shelving system, and textile storage boxes. The third proposal, called "wicker," was an open cabinet design that can be customized according to the Syrians' needs. Based on the principles of simplicity, a design was targeted to ensure children's safety around chemical substance storage. The fourth proposal, called "lego," aimed to design entertaining, multifunctional furniture for Syrian children personalization needs. The design consisted of four different and double-sided storage components with a combination of tables, poufs, and storage boxes in different colors that can also be used as room dividers.

4. Findings

The study findings based on the graduate and undergraduate student's design proposals were analyzed in three steps.

The findings regarding design decisions supported the literature that the homemaking practices of immigrant and refugee populations needed familiar ties to the values of their previous lives for familiarity, belonging, and aesthetic and emotional needs. In this scope, the furniture proposals were analyzed holistically according to main design decisions in four categories. The *sleeping* furniture proposals emphasize identity and belonging by respecting the Syrians' lifestyle, using cultural codes and behaviors as references. The eating furniture proposals sought accommodation for individual and collective needs of the Syrians through the cultural/modern dialectic, reinterpret references taken from the lifestyle with a contemporary understanding. The *sitting* furniture proposals took their references from Syrian culture, lifestyle, and their migration stories. The students considered the different usage scenarios according to individual and collective and day and night use. The *storage* furniture proposals that searched for the meaning of storage for meeting the needs of Syrian families, which have large and crowded lifestyles (see Table 1-4).

The findings also validated the literature that the designs met users' needs. The students designed their proposals according to the design concepts to meet Syrians' different needs and requirements in relocation (see Table 1-4). The proposals were mainly clustered around the following concepts: *flexible, adaptable, customizable, compact, demountable, modular*, and *multifunctional.* It was necessary to develop furniture proposals using these concepts considering the income of Syrians and to effectively meet users' different needs in limited areas. The concept of *compactness* was linked to multifunctionality and was present in all categories. The concept of *adaptability* overlapped the concepts of *flexibility* and *transformability* and was seen in all categories. Other prominent concepts used in design proposals were *affordable, commemorative, seperable, and combined, foldable, extensile, layered, lightweight,* and *stackable*. The concepts of *affordance* and *lightweightness* were also used in all categories, *stacking* was mainly used in the storage and seating categories, and *layering* was seen in all categories except eating. This situation can be explained by the increase in storage needs in the case of frequent moving and living in limited spaces, which require *mobile* and *multifunctional* furniture to meet users' various needs. The concepts of *extensile, foldable*, and *separable and combined* found their correlations in terms of developing furniture for limited living spaces in

all categories. *Commemorative* and *customizable* concepts emphasized the aesthetic, emotional, and symbolic value of furniture rather than its functional aspects. This need has been prioritized in all furniture categories. Thus, it is possible to strengthen the emotional bonds that help people belong to their housing environment, recall memories, and meet the personalization and identification needs of the users. The design concepts used in the proposals are shown in Table 5.

The findings also confirmed that the designs' adjustment capacity enabled the flexible and effective use of spaces to meet the changing needs of users. In other words, the design proposals supported the Syrians living in limited areas and with mobile lifestyles. The furniture proposals were also analyzed according to their main and secondary function, and complementary furniture and accessories. In twenty proposals developed in four categories, the main function was detailed. The proposals under the *sleeping* category included functions, including *single/double bed* (1-2), *double bed* (3-4), *floor mattress* (5), and *bunk bed* (6) furniture. The proposals under the *eating* category included functions, including *dinning table* (1), *dinning/low table* (2-4), and *low table* (2-5) furniture. The proposals under the *sitting* category included functions, including *sofa-bed* (1-2), *sofa* (3-4), and *ground cushion* (5). The proposals under the *storage* category included *functions*, including *cabinet* (1-3), *wardrobe* (2), and *shelf uni*t (4) furniture. In the four proposals consisted of two *eating* proposals (1 and 3), one *sitting* proposal (3), and one *storage* proposal (3), the main functions were not supported by secondary functions. In the remaining sixteen proposals that have the secondary functions consisted of six *sleeping* proposals (1-6), three *eating* proposals (2, 4-5), three *sitting* proposals (1, 4-5), and three *storage* proposals (1-2, 4), including *storage* (*sleeping* proposals number 1-2, 4 and *eating* proposal number 2, and *sitting* proposal number 4), *sofa* (*sleeping* proposal number 3), *pull-out bed* (*sleeping* proposals number 4 and 6), *desk* (*sleeping* proposal number 5), *shelf* (*eating* proposal number 2 and *storage* proposals number 1-2), *coffe table* (*eating* proposal number 4 and *sitting* proposal number 2), *nesting table* (*eating* proposal number 5), *daybed* (*sitting* proposal number 1), *bed* (*sitting* proposal number 4), *floor matress* (*sitting* proposal number 5), *table* (*storage* proposals number 1 and 4), *cabinet* (*storage* proposal number 2), and *divider* (*storage* proposal number 4) furniture. Except for the *eating* category, eight proposals that included main and/or secondary functions combined complementary furniture and accessories, including *bedside table* (*sleeping* proposals number 1 and 3), *headboard* (*sleeping* proposal number 4), *wall-mounted board* (*sleeping* proposal number 5), *baby carry bed* (*sitting* proposal number 3), *pouf* (*sitting* proposal number 3 and *storage* proposal number 4), *chest* (*storage* proposal number 2), and *storing box* (*storage* proposal number 2) for accessory (Table 6).

Overall, the student's furniture proposals for Syrians using a contemporary design approach and considered that Syrian families are mostly tenants and frequently move from one place to another. They also considered the income status of Syrian families, which

Table 5. *Conceptual categorization of design proposals .*

Categorization	Proposals	Design Concepts																						
		Adaptable	Affordable	Commemorative	Common	Compact	Customizable	Demountable	Extensile	Flexible	Foldable	Intersect	Interwined	Layered	Lightweight	Modular	Multifunctional	Portable	Seperable & combined	Simple	Stackable	Transformable
Sleeping	1	•	•			•	•	•	•	•	•			•	•	•	•					
	2	•		•			•	•	•	•						•	•		•			
	3	•			•	•	•	•		•	•	•			•		•					•
	4	•				•	•		•	•							•					
	5	•	•	•		•	•	•		•				•		•	•		•			•
	6					•	•	•	•	•				•		•						
Eating	1	•	•	•			•	•		•					•	•			•			
	2	•		•		•	•	•		•	•					•	•		•			
	3	•	•	•			•	•		•	•				•	•			•			
	4	•		•			•	•		•						•	•		•			•
	5	•		•			•	•		•						•	•		•		•	•
Sitting	1	•				•	•	•	•	•						•	•		•		•	•
	2	•				•		•	•	•						•	•		•			•
	3	•		•		•		•	•	•						•	•					•
	4	•	•			•	•	•	•	•				•	•	•	•		•			•
	5	•	•	•			•			•					•	•	•	•			•	•
Storage	1	•	•	•		•		•	•	•			•		•	•	•	•	•			•
	2	•			•	•		•		•				•		•	•	•	•		•	•
	3		•				•	•							•	•				•	•	
	4	•			•	•	•	•		•				•		•	•	•	•		•	•

Table 6. *Design proposals: Main and secondary functions and complementary furniture and accessories.*

Category		Function		Complementary Furniture	Accessories
		Main function	Secondary function		
Sleeping	1	Single/Double Bed	Storage	Bedside table	
	2	Single/Double Bed	Storage		
	3	Double Bed	Sofa	Bedside table	
	4	Double Bed	Pull-out bed, storage	Headboard	
	5	Floor matress	Desk	Wall-mounted board	
	6	Bunk bed	Pull-out bed		
Eating	1	Dinning table			
	2	Dinning table/Low table	Storage, shelf		
	3	Dinning table/Low table			
	4	Dinning table/Low table	Coffee table		
	5	Low table	Nesting table		
Sitting	1	Sofabed	Day bed		
	2	Sofabed	Coffee table		
	3	Sofa		Stroller, pouf	
	4	Sofa	Storage, bed, table		
	5	Ground cushion	Floor mattress		
Storage	1	Cabinet	Table, shelf, seat		
	2	Wardrobe	Cabinet, shelf	Chest	Storing box
	3	Cabinet			
	4	Shelf unit	Divider, table	Pouf	

were mostly low and middle income. In this sense, most furniture proposals were designed with inexpensive and easily found materials and focused on multifunctionality. They tried to use the space effectively and affordably using compact and adaptable furniture for meeting Syrian families' changing needs and mobile lifestyles. The furniture proposals also allowed for day and night multifunctionality in different scenarios. The flexible storage capacity also finds a place in almost all design proposals, both for supporting the effective use of the space and for meeting the needs of large, crowded Syrian families. Another important design decision for furniture design proposals is to design furniture to strengthen Syrians' residential satisfaction and well-being by providing place attachment, a sense of belonging, and familiarity. To do so, the students took their references for developing design concepts and ideas from Syrian culture to transmit the cultural memory needed for feeling at home. Thus, the living habits of Syrians related to eating, sleeping, and sitting on the ground were met as a cultural reference. Another important design decision proposed in all categories was to meet the personalization, beautification, and identification needs of the Syrians. The design proposals were appropriately designed to reconstruct a sense of belonging and identity, recall memories, and display objects and items obtained here or brought from Syria. Thus, the design proposals were developed considering the following design concepts: adaptable, affordable, commemorative, compact, customizable, demountable, flexible, lightweight, multifunctional, modular, portable, separable and combined, and stackable and transformable.

5. Discussion and conclusion

Furniture meets physical and emotional needs (Proto et al., 2019) and enables users to connect with their own culture and origins. Furniture also helps meet users' personalization, identification, and belonging needs by conveying messages, displaying of self, and reflecting preferences, desires, and taste. Furniture also provides a familiar place and a homey atmosphere to users, specifically immigrant and refugee populations, such as Syrians.

At the three-day furniture design workshop themed "[Re]-making home", twenty furniture design proposals were developed by graduate and undergraduate design students from design departments of various universities in Turkey under the *sleeping, eating, sitting,* and *storage* categories with the cultural probe technique combined with ethnographic methods. Thus, new creative ideas and furniture and complementary furniture and accessories design proposals have been developed according to a human-centered design approach for Syrian refugees appropriate to their culture and needs.

The students considered the following design decisions for developing furniture proposals in the workshop:

- Respecting lifestyle, beliefs, and habits for emphasizing identity, belonging, and familiarity
- Responding to individual and collective needs of users by learning and interpreting from culture through contemporary design solutions
- Adapting to different usage scenarios and users
- Designing furniture and complementary furniture and accessories for more than one function and suitable for day and night use, frequent moving, and income status of users

- Designing adaptable, affordable, commemorative, customizable, and multifunctional furniture and complementary furniture and accessories
- Designing with inexpensive and easily found materials.

Culture, habits, beliefs, needs, crowded living style (whether extended or nuclear), income status, effective use of space, and frequent moving were the main factors considered in developing the furniture design proposals using a contemporary design approach for Syrians. This study promotes learning from users' experiences to develop need-based products with the help of ethnographic methods. This study will give insight and contribute to interior architecture, furniture design, development, and production to cultivate design ideas respectful to users' needs for furniture and complementary furniture and accessories. It will also assist immigrant/refugee and low-income populations in making their homes with furniture for meeting their personalization, beautification, and identification (i.e., appropriation) needs. The study will also help for further research for developing design proposals regarding housing furniture prioritizing user involvement in the design process for immigrant and refugee populations such as Syrians.

Endnotes

[1] Turkey do not consider Syrians refugees. This term was used to emphasize the sociological meaning in this study.

[2] The workshop conducted at the ITU Taşkışla Campus in İstanbul.

[3] The guest presenters for the furniture design workshop seminar were Muhammet Taşçı, the interior architect and founder of HAMM Design, and Özge Çelikoğlu, an assistant professor in ITU's industrial design department.

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