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SHARED BEDROOM FURNITURE DESIGN FOR SIBLINGS OF OPPOSITE GENDERS

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ABSTRACT

The design of children's bedroom which would match their needs and preferences is an important element that helps provide a comfortable and functional environment for children's proper development. However, the design can be challenging for rooms that need to be shared between two siblings of opposite genders, considering the differences in their needs and personalities. For this reason, the focus of this study is to create a shared bedroom furniture design for two siblings of opposite genders, with a view to meeting the needs and activities performed by both siblings. The method used is examination of various publications, pieces of research and observations in order to determine the youngsters' needs, preferences, concerns and expectations. With the help of literature research, the criteria for the proposed bedroom furniture design were defined. Additionally, the study includes market analysis of shared bedroom designs and an evaluation matrix of their furniture. Based on the defined criteria, the final design concept was developed and presented in 3D models.

Keywords: Shared bedroom, furniture design, functional environment, flexible furniture, privacy, opposite genders.

1. INTRODUCTION

Studies show that particularly during early childhood, every stimulus of the physical and social environment becomes a discovery and learning experience which forms the fundamentals of intellectual, physical, social, emotional and perceptual development (M. Yalcin et al., 2015). Taking into consideration the great deal of time that children spend in their homes, we can say that this environment is crucial for children's development. It is also stated that one third of children's life is spent in their bedroom (Buyukpamukcu, 2004). With this in mind it is clear that the bedroom has an important role in a child's physical and psychological development. It is their own little corner where they can escape to behave as they want to, in a place that is only theirs.

Apart from being a room reserved for sleeping, it is also an area where different activities take place: playing, reading, having a conversation etc. Additionally, a bedroom is the place that consists of children's different requirements, the presence of which will shape a child's identity (Büyükpamukçu, 2004; Frost et al., 2001). For this reason, a child's bedroom has to be designed in a way that it will take into consideration the activities that will be performed in that room. These activities depend on the child's personality and traits. Considering the fact that every child is different, the bedroom designs also differ depending on children's preferences, age group and gender. This can be a challenge for families with budget constraints and limited number of rooms in their house, where siblings must share a room. Sometimes those siblings are a brother and a sister, which makes the situation even harder to deal with. Apart from some benefits that sharing a room may bring, such as bonding and learning to respect each other's personal items, there are many issues that may appear in those situations,

especially when children reach adolescence. Davis states that puberty can be challenging for both parents and children, but if we define some clear boundaries between siblings who room share, it may be a happier experience for everyone (Davis, 2020).

The aim of this study is to design a bedroom shared by siblings of opposite genders in order to create a better living environment for children, by satisfying the children's psychological and physiological needs.

2. PROBLEM STATEMENT

When it comes to a shared bedroom for kids of different genders, it can be quite thrilling to find a balance between what each one of them needs and wants. There are a number of things that we should consider while designing these kinds of rooms such as the optimal use of floor space, type of furniture, storage and private zones. One of the biggest issues that shared bedrooms face is the lack of privacy. Morelli states that by middle childhood, children are aware of themselves as individuals and social objects, and they need to have some area within their homes which they can expect to control. Consequently, the bedroom design that siblings must share should still provide some personal space they can control individually (Morelli, n.d). Another problem is the distinct tastes regarding items and colors the siblings have. In this context we have to choose designs that meet the requirements of both genders. The last challenge when room-sharing is the lack of enough storage space for the children's personal belongings. Apart from more than one sleeping space, sharing a room means double amount of toys, clothes, books etc. In this case it is essential to think of ways to maximize space even when the area of the room is quite small.

The goal of this study is to find a solution to the above mentioned problems and challenges through the design of proper and creative furniture that may positively affect the children's bedroom environment.

3. MATERIALS AND METHODOLOGY

This study was aimed to create the type of furniture used by siblings that share a room, and its suitability to their personal needs. This was done through literature research on the design criteria for children's bedroom, taking into account their psychology and development, as well as analysis of the bedroom furniture design in the Turkish market. Firstly, information about the children's preferences, tastes and needs based on their genders was gathered, from which we established the common bedroom features that would suit and satisfy both genders. The information collected formed an idea for the type of furniture that needed to be designed. After identifying the criteria for bedroom furniture design, we analyzed the existing products in the market and defined at which points they met these criteria. This was done by selecting 8 different shared bedroom models in the Turkish market and presenting their main characteristics on a table, after which a ranking from 1 to 5 was done based on the criteria defined for the bedroom design.

In this case of design, the building area for the children's room is considered to be 10 m² at its minimum. The proposed design is expected to be appropriate for children after preschool period - that is between 7 – 15 age group.

The study includes different hand drawn sketches of bedroom furniture which had led to the final model developed through 3D Max Student Version Software. The idea was generated in collaboration with Boytas Furniture company, Turkey.

4. RESULTS AND DISCUSSION

4.1. Literature Research

From a developmental perspective, supporting children's imaginations and giving them a place they like to live in is essential for the psychology and the development of a healthy individual (Kanbay, 1993). Therefore, a children's bedroom needs to be designed specifically for children in the housing environment (Egill, 2002, Do ramaci, 1994). The design of any children's space must be based upon the functions and activities of the room's occupants. Therefore, one should begin by listing

all the activities, materials, and events that must be accommodated. The needs and expectations of children change according to their physical and psychological development. Children have different pleasures, performances and characteristics in every developmental period. Therefore, while designing the shared room, we should consider each child individually and keep in mind that each child is different. Based on literature research done, there are some criteria listed below that should be taken into consideration in order to create a healthy environment for two siblings sharing a room.

4.2. Privacy

As children get older, they start to gain new physical and thinking skills and deal with some big challenges such as trying to find out what kind of personality he is. They also start to learn to handle these challenges in an independent and responsible way. As stated in Diana's article, Dr. Aaron Kipnis says that children approaching puberty are often preoccupied trying to figure out what's in store for them as adults. He adds that this is their time to dream, to grow from the child who must do what he is told, to the young adult who must reason for himself (D. Lynn, 2001). For this reason, they need some private and personal space where they can spend time independently from the rest of the family members in order to gain a strong sense of personal self. This can be difficult for children who must share a room within a small area, but one must find ways to make sure that each child still has some personal space they can control. One way of doing this is by placing some bookcases or another piece of furniture in a way that would divide the bedroom in two spaces. Some examples of how privacy can be achieved in a shared bedroom are presented in Figure 1.

4.3. Maximizing the space

One of the challenges of shared rooms is fitting everything the children need without making the space cluttered. This is when we have to be careful when choosing the furniture and place it creatively in a way that would maximize the space even in small areas. Some important tips to do this are listed below:

Sleeping units – bed is amongst largest furniture in the bedroom and that is why it is important to find creative solutions. Bunk beds are very popular for shared rooms and generally work well when they are placed properly in the corner against the wall.

Storage units – a good way to maximize the space in a small bedroom is by using vertical space. This will maximize floor and wall space in the bedroom area.

Study areas – having a separate studying area for each sibling is important so they won't have difficulties in studying and using it whenever they need to.

The drawings below show some examples of space maximization in a shared children's bedroom (Figure 2).

4.4. Flexibility

According to Leggett, flexibility is a necessity in a multipurpose space so that the design of the environment can be adapted to changing needs in shape, size and total configuration (Leggett et al., 1977). Heseltine and Holborn focus on the products in a multipurpose space that can be used to serve double-duty, which can spare space to provide children with much more free area in their bedroom. In addition, these authors underline "minimizing quantity" as an important fact in the flexible plan concept, since so much is on view in a given space (Heseltine and Holborn, 1987).

We already have mentioned that every child has his/her own tastes and preferences. Bedroom is the space where children have the opportunity to freely decorate it and use it in their own way. In shared bedrooms this becomes a little more difficult, as every child has different tastes and preferences. Moreover, these differences are more obvious between opposite gender siblings. Therefore it is important to make sure that each child can choose their own décor and colors for the items in the room. This becomes easier when the space is divided into two equal areas in such a way that each child has his/her own personal place where he/she can behave independently.

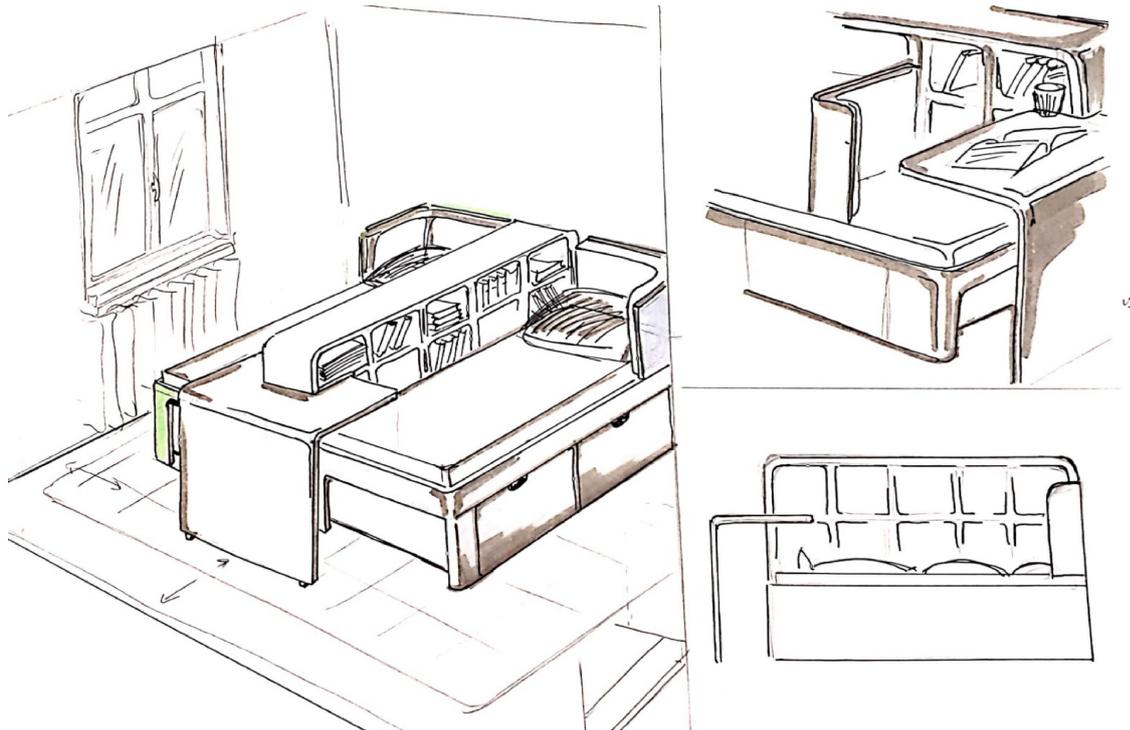


Figure 1. Increasing privacy in a shared bedroom

4.5. Personalization

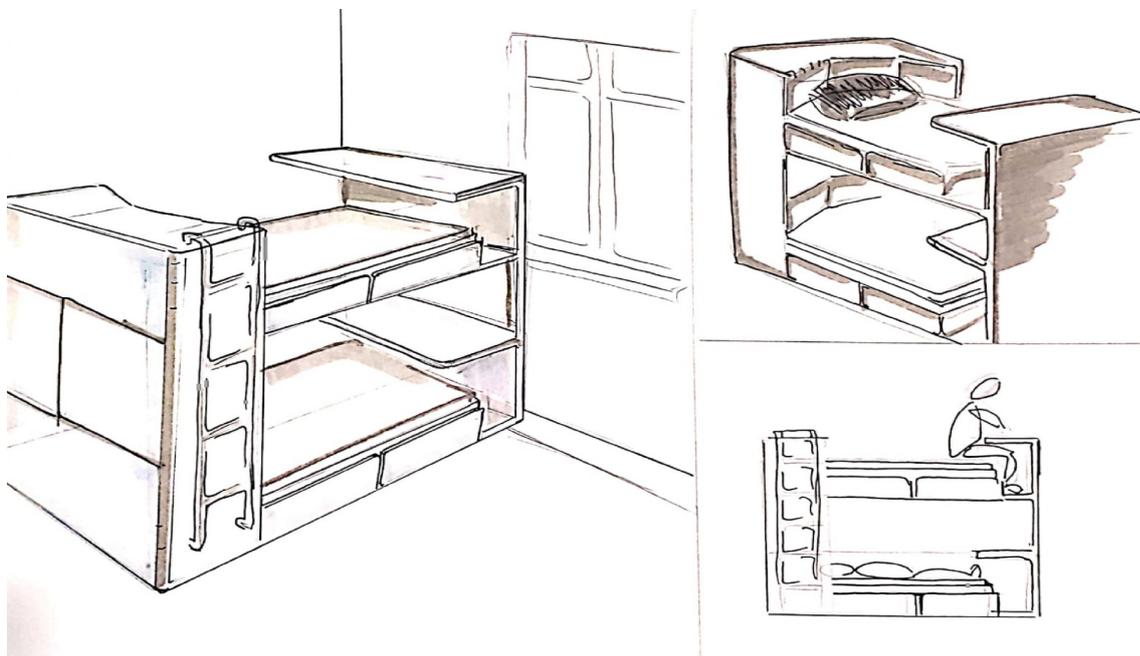


Figure 2. Space maximizing furniture ideas for a shared bedroom design

4.6. Market Analysis

After identifying the criteria for a shared bedroom design for two siblings, an evaluation of shared bedroom designs was done in order to see to which extent these models meet the defined criteria. First, the physical characteristics of each model were defined and they are presented in a table (Table 1). Then an evaluation matrix table was created where each selected bedroom model was rated with a note out of five for each criteria (Table 2). The selection of bedroom models was done based on the Turkish market.

Table 1. Physical characteristics of shared bedroom models

	Sleeping units	Storage units	Study area	Color	Materials
Model 1	Bunk	Common	Common	Neutral	Polywood
Model 2	Bunk	Common	Common	Gender biased	Polywood
Model 3	Bunk	Common	Not available	Neutral	MDF
Model 4	Trundle	Common	Common	Gender biased	Polywood
Model 5	Trundle	Common	Common	Neutral	Polywood
Model 6	Individual	Not available	Common	Neutral	MDF
Model 7	Individual	Common	Not available	Neutral	MDF
Model 8	Individual	Individual	Individual	Neutral	Polywood

Table 2. Evaluation matrix for shared bedroom models

Evaluation criteria	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Privacy	3	3	2	2	3	3	4	5
Maximizing space	4	4	4	3	3	2	2	1
Flexibility	3	2	2	3	3	3	3	2
Personalization	2	1	2	2	3	4	4	5
Total Score	12	10	10	10	12	12	13	13

Scale	1	2	3	4	5
	Poor	Below average	Average	Above Average	Excellent

As we can see from the tables, none of the models fully meet the criteria for shared bedroom design. If we compare both tables, we can deduce that bedrooms with bunk and trundle beds have greater possibility for maximizing space and flexibility, but they lack privacy and the possibility of personalization. In addition, bedrooms with common units also maximize space and flexibility but they are not ideal for privacy and personalization. On the other hand, bedrooms with individual units show greater level of privacy and personalization, but in this case space maximization and flexibility is decreased. So, based on this analysis, the biggest score achieved is 13 out of 20 and by this we can conclude that none of the common models of shared bedroom found on Turkish market fully meets the defined criteria for the ideal bedroom design.

4.7. Proposed Bedroom Furniture Design

Based on the observations made on design criteria of bedroom furniture and the analysis of shared bedrooms for young children on Turkish market, the creation for a new design for a 10m²-

shared bedroom for siblings of opposite genders evolved. The basic idea of the design comes from the need to separate the bedroom into two equal areas so that a greater level of privacy is achieved for both genders. This was done by placing a vertical cabinet shelving in the middle of the bedroom in a way that would provide equal storage spaces for each sibling and block the view for each side of the room. The cabinet would have the same number of openings from each side, while the closed parts would be in printed textures based on individual tastes. The next step was to identify the furniture type and its arrangement in the room. Since two separate areas are created, we need separate items for each sibling. Therefore two individual beds were placed near the cabinet on both sides and two individual wardrobes with sliding doors on top of each bed. This kind of arrangement makes it possible for the siblings to sleep, get dressed and invite friends without being disturbed. Dividing the room and providing separate furniture for each child gives them an opportunity to use the space according to their own tastes and preferences including, colors and wall decoration. In addition, the individual wardrobes and the possibility of storing stuff under each bed give each child enough storage space where they can keep their personal things, making thus the space look uncluttered. The only part that the siblings can share is the study area. The desk is long enough to accommodate stuff for each child separately when they study, but at the same time it creates an opportunity for the siblings to communicate and collaborate whenever they need help from each other. Below are presented the 3D renderings for the proposed bedroom design pieces of furniture (Fig. 3&4) together with the proposed dimensions for the designed pieces of furniture (Table 3).

Table 3. Proposed dimensions for shared bedroom furniture design

Furniture	Proposed Dimensions (mm)		
	Width	Depth	Height
Wardrobe	1050	550	1800
Bed	1900	900	300
Shelves	2400	300	1800
Desk	2100	500	750



Figure 3. 3D rendering of proposed shared bedroom furniture design



Figure 4. 1/10 scale model of shared bedroom furniture design

The name for the proposed model was chosen to be “Peace”. Peace provides siblings with different personalities, a chance to personalize their living space and to use the same shared space more effectively. It helps children express themselves better by using the color of their choice. After being used for a period of time, some parts can be repainted and reused.

5. CONCLUSION

This paper talks about a shared children room design that meets both children’s psychological and physiological needs. After an analysis of the children’s needs, the design considered the following aspects: privacy, maximizing space, flexibility and personalization. For each criterion, different hand sketches that would lead us to the final concept were created.

Market analysis showed that there are no shared room designs for siblings that would fully meet the above mentioned criteria, which is essential in creating a child’s room that belongs to both of them, but separately. With the use of numerous hand drawn sketches and by considering the missing parts in the market, a final design was drafted and modeled in 3D Max software.

The conclusion that can be drawn is that when designing a shared room for siblings of opposite genders, the differences in personalities and needs should be considered and evenly included in the design. By giving an example design, when comes to the above aspects, we can give both siblings private environment in a shared room, which is important in shaping a child’s identity.

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