A Study on the Design Characteristics of Children’s Community Space in Apartment Housing

Eo Sung Sin*, Hwang Yeon Sook**

*Hanyang University
Seoul, Korea, eoss6@hotmail.com
**Hanyang University
Seoul, Korea, ysh@hanyang.ac.kr

Abstract: Since improvements in standard-of-living, labor-time decrease, and leisure-time increase are modifying their values and lifestyles, residents are increasingly requesting community space where they can be more interactive and enjoy an abundant quality of life. In particular, as children are most affected in terms of physical environment shaping their character formation, community space is upheld as an important space which can aid in their physical and social development, as well as significantly influence the establishment of their value systems. In this sense, the role of child community space in helping children have a more righteous and satisfying environment and growth experience is becoming more significant, community space for children should not remain as a space for fun but should change into a space for interaction. This study chose four apartments at Dongtan New Town, located in Hwaseong, Gyeonggi-do. This study focuses on the characteristics of design for children's community space and would like to make a proposal about future space planning for children's community space.

Key words: Children’s Community, Design Characteristics, Apartment Housing.

1. INTRODUCTION

1.1. Background and Purpose of the study

As the perception towards function and location of residences changed with industrialization, people began demanding residential environments that would improve their quality of life. Thereupon, residents increased their desire to utilize space for diverse community activities. As for apartment houses, efforts are being made to provide various distinct community spaces in newly forming communities.

Such a community space in apartment housing is, for children, an area for creative activities, an important environment that aids their mental growth, and even a way of promoting their intellectual growth. Moreover, since physical environment plays a key role in shaping the future characters of children, sufficient attention must be given to providing appropriate and new changes in space designed for them.

This study thus aims to research the design characteristics of children’s community space in apartment housing and ultimately to propose ones more suitable for children.
1.2. The method and the range of the study

This study classified apartment housing community spaces for children into those mainly used as outdoor playgrounds, indoor playrooms, and libraries, to study the design characteristics of the respective spaces.

Four apartment buildings inhabited after 2007 in Dongtan New Town, Hwaseong, Gyeonggi-do, were chosen as the study subject areas, and documentary survey and case study were the research methods.

2. THEORETICAL BACKGROUND

2.1. Concept of Children’s Community Space

Through substantial contact with their peers, children’s community space is the school of their socialization where they grow and learn to socialize. Children also obtain knowledge and experience through amusement and education, and unconsciously increase creativity and develop physical abilities.

Children’s community space is an important environment where children comprehend and achieve intellectual maturity through information exchange and interaction between infants, children and elementary students.

2.2. Design of Children's Community Space

Children’s community space should be carefully designed to encourage children to possess unlimited curiosity and interest in their surroundings, equip them with delightful experiences and provide them with a safe, intimate environment.

Colors which the children prefer should be used to induce positive activity, and safe materials should be used to create a proper environment where the children are not exposed to any threats of danger. Finally, the optimal child community space should be built in accordance with the physical scale regarding the development characteristics of the children, and should be designed to support healthy movement and postures of the children.

3. RESULT AND ANALYSIS OF THE STUDY

3.1. Summary on Survey Subject Area

The research subject of this study comprised four apartment housing that had opened in 2007 in the new city of Dong-Tan. The number of households occupying each complex varied from 484 to 727. The research was based on the outdoor playgrounds, indoor playrooms and libraries of these complexes.

Outdoor playgrounds were present in two complexes, thus displaying the highest rate of distribution. Indoor playrooms and libraries were only planned for one complex.

Table 1. Summary on Survey Subject Area

<table>
<thead>
<tr>
<th>Classification</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartment</td>
<td>KCC Switzen</td>
<td>Seohae Grand Bleu</td>
<td>Woonam FirstVill</td>
<td>Samsung Raemian</td>
</tr>
<tr>
<td>Location</td>
<td>2-6 Block, Dongtan, Hwaseong, Gyeonggi-do</td>
<td>3-5 Block, Dongtan, Hwaseong, Gyeonggi-do</td>
<td>4-4 Block, Dongtan, Hwaseong, Gyeonggi-do</td>
<td>5-2 Block, Dongtan, Hwaseong, Gyeonggi-do</td>
</tr>
<tr>
<td>Households</td>
<td>484</td>
<td>727</td>
<td>610</td>
<td>514</td>
</tr>
</tbody>
</table>
3.2. Design Characteristics of Children’s Community Space

1) Outdoor Playground
The outdoor playgrounds were planned in the centers and peripheries of the complexes. Although the primary users were toddlers, the facilities were designed for all children under the age of seven.

The composition of these playgrounds consisted of one central play area augmented by various individual play facilities. Except for case A, the playgrounds had an architectural design centering on boats or castles. In addition, they all used rubber mats on the ground surface and none of them contained sand.

Table 2. Outdoor Playground Design

<table>
<thead>
<tr>
<th>Classification</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td>![Picture A]</td>
<td>![Picture B]</td>
<td>![Picture C]</td>
<td>![Picture D]</td>
</tr>
<tr>
<td>Color</td>
<td>natural colors, violet</td>
<td>natural colors</td>
<td>natural colors, red and blue</td>
<td>natural colors, red</td>
</tr>
<tr>
<td>Material</td>
<td>rubber, wood, iron</td>
<td>rubber, wood</td>
<td>rubber, wood, iron</td>
<td>rubber, wood, iron</td>
</tr>
</tbody>
</table>

2) Indoor Playroom
The indoor playrooms were designed only for infants and were located in the community centers within the apartment housing.

Most playrooms were confined areas, thus impeding the installation of a wide range of facilities and structures. The structures allowed for both collective play and a sense of individual space. Despite having few functions, the limited spaces induced diverse activities with their combined playing facilities, thus stimulating creativity and dynamic play behavior.

Table 3. Indoor Playroom Design

<table>
<thead>
<tr>
<th>Classification</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td>![Picture A]</td>
<td>![Picture B]</td>
<td>![Picture C]</td>
<td>![Picture D]</td>
</tr>
<tr>
<td>Color</td>
<td>various primary colors, white ceiling</td>
<td>various primary colors, white ceiling</td>
<td>various primary colors, white and green ceiling</td>
<td>various primary colors, ivory and blue ceiling</td>
</tr>
<tr>
<td>Material</td>
<td>Rubber mat, paint</td>
<td>wood flooring, paint, rubber mat</td>
<td>mat, paint</td>
<td>Rubber mat, paint</td>
</tr>
</tbody>
</table>

3) Library
Libraries were also located within the community centers, along with the playrooms, and research revealed that post-elementary students were their primary users.
Most of the libraries had been built with structures and furniture and were deemed uncomfortable since they neglected the needs of various age groups. Only case B chose furniture in consideration of the physical size of children. The libraries all used ceiling lighting rather than general lighting and the lack of windows resulted in less natural lighting and ventilation.

Table 4. Library Design

<table>
<thead>
<tr>
<th>Classification</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td>![Image](436x570 to 531x641)</td>
<td>![Image](335x570 to 430x641)</td>
<td>![Image](236x570 to 331x641)</td>
<td>![Image](137x570 to 232x641)</td>
</tr>
<tr>
<td>Color</td>
<td>brown, blue, ivory</td>
<td>brown, pastel colors</td>
<td>brown, grey, black</td>
<td>brown, blue, ivory</td>
</tr>
<tr>
<td>Material</td>
<td>wood flooring, paint</td>
<td>laminated floor, wood flooring, paint</td>
<td>PVC, paint, sound absorption tex</td>
<td>wood flooring, paint</td>
</tr>
</tbody>
</table>

4. CONCLUSIONS

Our research on the design characteristics of children’s community space in apartment housing allowed us to draw the following conclusions.

First, children’s community spaces were limited to outdoor playgrounds, indoor playrooms and libraries, used by age ranges from infants up to elementary school students.

Secondly, although outdoor playgrounds offered secure play areas for children, they failed to use natural materials such as sand that would have given children closer contact with nature.

Thirdly, indoor playrooms were quite limited in size, impeding them from installing various play facilities. Most of them also neglected to account for the diverse age range of children, thereby underscoring a future need to do so. All but one of the complexes' libraries inconvenienced children by choosing inappropriately sized furniture. Therefore, furniture of various forms and sizes should be used in the future to address the different physical sizes of children.

Although this research categorized and examined the uses of diverse children's community space within apartment housing, the details have not been analyzed. Therefore, to plan the details for the spaces, further research that would evaluate user satisfaction and demands through surveys and interviews is proposed.

5. REFERENCES

