A study on perceptions of preschool Children's furniture design: Pictorial stimuli experiment

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Abstract. The preschool center there is a place for educational to preschool children before they begin compulsory education at primary school. The different of the preschool children's furniture will affect the different perceptions of preferences and behaviors of children in the classroom. The furniture that relating the satisfaction of children. It will become the part of stimulus that attracts and motivates children and also an appropriate physical elements to encourage a learning environment. The research found that the different elements of design on the preschool children's furniture affect the perceptions of children they prefer the follow: warm colors on children's desk and chair while cool colors on bookshelves, and non-pattern, natural (animal) form and natural (wood) material on children's desk, children's chair and bookshelves. The study results can help designers in their selection of elements of design on the preschool children's furniture, specially for classroom in the preschool center.

1 Introduction

Preschool center there is a place for an educational establishment or classrooms offering early childhood education to children. The children need to learn how to developmentally appropriate before they begin compulsory education at primary school. Preschool classrooms there is learning space; physical environment consists of preschool children's furniture and other. The different of preschool children's furniture affect the different of children's perceptions and behaviors within the classroom. The different of elements of design it will become a part of stimulus that attracts and motivates children and also an appropriate physical environment to encourage a learning space. The early study found that the difference of elements of design in color will make the children learn the form more easily, patterns will make children excited. In this survey found that preschool children's furniture; desk, chair and bookshelves in the classroom of the Preschool Center of Promrungsri Temple Donmuang District, Bangkok, Thailand it does not attracts and motivates children and also an appropriate physical environment to encourage a learning space.

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2 Research Objectives

This research aimed to study the design principles of preschool children’s furniture and the factors and perceptions affect preschool children’s furniture then to design the preschool children’s furniture of the Preschool Center of Promrungsri Temple Donmuang District, Bangkok, Thailand.

3 Scope of Research

The theoretical framework consists of elements of design and perceptions. The variable scope consists of 1) elements of design including colors, forms, patterns and materials; 2) perceptions consists of the like/ dislikes, using / non used. Population boundaries include student (children) and teacher in the Preschool Center of Promrungsri Temple Donmuang District, Bangkok, Thailand.

Fig. 1. Conceptual framework

4 Methodology

The methodology was done in 6 stages: 1) creations of simulated 3-D images of a pre-school desk, pre-school chair and self-book; 2) creation of a questionnaire for observations the student (pre-child) and perceptions the teacher ; 3) conducting the survey; 4) creation of three furniture design; 5) conducting the survey; and 6) analyzing the responses, as follows:

1. Creation of 3-D preschool children’s furniture images under 8 different elements of design: 1) warm color 2) cool color 3)non-pattern 4)patterned 5)geometry form 6)natural(animal) form 7)natural(wood) material and 8)artificial(Plastic) material. (see Figure 2);
2. Creation of a questionnaire was created for asking about the perceptions of preferences (which one do you like?) on pair comparison picture of the different elements of design on preschool children’s furniture (see Figure 3);
3. The survey, the respondents were asked after their sit in front of the laptop in the classroom. The pair comparison picture of a preschool children’s furniture on differed elements of design were projected on the monitor of laptop, and the respondents were asked to look at them and gave responses of their perception toward the preschool

children’s furniture. Questionnaires were operated respondents by the researcher (see Figure 4);

Fig. 2. One of the pictorial stimuli; preschool children’s furniture.

paired comparison picture

Picture	1	2
Perception(like)	✓	

Fig. 3. One of a questionnaire; pair comparison picture and respondent.

Fig. 4. One of the survey; projected on the monitor of laptop and respondents.

5 Results

Preliminary survey research have found the most of elements of design on preschool children’s furniture that affect to the perceptions of children. They prefer the follow:

Warm colors affect perceptions of like on children’s desk (69.23%) and bchildren’s chair(53.85%) while cool colors on bookshelves(73.08%).

Non-pattern, affect perception of like on all; children’s desk (65.38%), children’s chair(53.85%) and bookshelves(61.54%).

Natural (animal) form affect perception of like on all; children’s desk (88.46%), children’s chair (84.62%) and bookshelves (96.15%).

Natural (wood) material affect perception of like on all; children’s desk (57.69%), children’s chair (65.38%) and bookshelves (76.92%).

The analysis data shown that the factor of natural (animal) form more affect to perceptions of like on all; children’s furniture while the different elements of design factor of color, pattern and material semi-affect on perceptions(see table1).

Table 1. The data of survey

Elements of design		Preschool children’s furniture		
		Desk (%)	Chair (%)	Bookshelves (%)
Color	Warm color	69.23	53.85	26.92
	Cool color	30.77	46.15	73.08
Pattern	Non-pattern	65.38	53.85	61.54
	Patterned	34.62	46.15	38.46
Form	Geometry form	11.54	15.38	3.85
	Natural(animal) form	88.46	84.62	96.15
Material	Artificial material	42.31	34.62	23.08
	Natural(wood) material	57.69	65.38	76.92

6 Conclusion

This study used 24 simulated 3-D pictures of a preschool children’s furniture under with 4 different elements of design to find out the respondents’ perceptions of like toward the preschool children’s furniture. We found that changes in elements of design could change the perceptions of like toward the preschool children’s furniture. Our findings can help designers in their selection of the elements of design to design the preschool children’s furniture especially for in the Preschool Center. However, in this research still to finding out the respondents’ behavior of their selection of the real preschool children’s furniture on the real time.

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