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Furniture Design as a Means to Support Children's Learning Interest and Motivation

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ABSTRACTS

This study aims to analyze the effect of furniture design on children's motivation and interest in learning. The type of research method was comparative descriptive, where fact-finding was conducted, as well as cause and effect relationships, are sought. The subjects of this study were 10 kindergarten schools in Coblong, Bandung. Random sampling was also conducted with a sample size of 50 students. The research analysis used statistics to determine whether there is an influence of predetermined variables, and the research instrument used was a questionnaire for these variables. This study discusses several variables, which are the indicators of assessment to determine the relationship between furniture design and interest in learning, including two variables, namely furniture design (X) and interest, and children's learning motivation (Y). Furniture design variables include color combinations, imaginative furniture, and product quality. Meanwhile, the variables of interest and motivation to learn include children's attitudes in learning activities, persistence in learning, children's learning interests, and children's independence in doing assignments. The variables that we analyzed are the furniture design variable. This variable is intended to find out the influence of the shape of the furniture product and the interest variable. Children's learning motivation is intended to find out how the response or the final result of the product's influence on interest and motivation of children learning.

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1. INTRODUCTION

School is a safe and comfortable place for a child to gain knowledge. Meanwhile, kindergarten becomes the initial phase of a child learning at school. As parents want their children to be successful in their learning productivity, facilities that can support the learning process must be considered. One of these facilities is the furniture used, such as study desks and bookshelves. Students during their lifetime roughly spend the majority of the day at school. 80% sit in the classroom doing their schoolwork, for example, reading, drawing, writing, and other activities, which lead students to long continuous periods of sitting on the seat. With that amount of time of sitting, students need appropriate school furniture, especially for sitting (Sutoro, S., and Kurdi, K., 2020). The learning activity can be affected because the wrong posture of sitting can negatively impact the students' interest in learning, even during stimulating and interesting lessons. Students' sitting posture is generally influenced by the characteristics of furniture design, activities in class, and anthropometric measurements of students in school (Odunaiya, N., et al, 2014).

Adequate learning facilities are essential for both national and inclusive schools at any level. The process of designing and developing the facility includes several stages, such as identifying student learning process needs, analyzing design development, synthesizing processes that produce programmed concepts, designing concepts, and implementing the design into technical drawings (Asif, S., Qutubuddin S, M, and Hebbal, S, S., 2012). Furniture plays an important role

in the environment and the learning experience/process. It is just as important as equipment, buildings, and other learning resources (Abdullah, R, N., and Ahmad, A N., 2020). Improper design of classroom furniture can result in a lack of concentration which leads to decreased efficiency and can lead to MSD in the future. This study is therefore taken to show the importance of anthropometric considerations in designing classroom furniture (Parvez, M, S., et al, 2018). Living design elements in furniture are very influential in creating the atmosphere of a study space according to its function. In addition, another study found that middle-aged students who sat with suitable furniture performed substantially better on hand-manipulation tests as compared to the furniture that sat too big for (Castellucci, H, I., et al, 2016). Students receiving ergonomically designed furniture reported greater comfort and fewer musculoskeletal symptoms (Gilavand, A., et al, 2016). The 'system' in schools contains many different 'elements,' some macro (environment and organization) and some micro (school furniture, activities, and school bags) (Huault, I., Perret, V., and Spicer, A., 2014).

In the preparation of this study, researchers were inspired and referred to previous studies related to the background problems in this study. Henceforth, the design of ergonomic is essential to fit furniture classrooms, reduce mismatch while delivering an enhanced learning environment (McLaverly, P., 2017). This study examines if primary schools' furniture dimensions match students' anthropometric measures for first to sixth graders because there is not ergonomically designed chair in a

classroom environment. The results demonstrate an abnormality in postures. This causes generate muscular back, neck, and head pains, enhanced physical strain, loss of restlessness, and concentration in an attempt to find a better position to get an active learning environment (Al-Hinai, N., Al-Kindi, M., and Shamsuzzoha, A., 2018) . The research related to this research shows that this multifunctional furniture design can be a solution in overcoming spatial problems, which include the lack of ideal space facilities. The result of multifunctional furniture design applies a minimalist form that emphasizes functional aspects. The difference with this research is that Husein's research is more about applying a minimalist form that emphasizes functional aspects (Husein, H, A., et al., 2020). Lumakso et al. from Petra Christian University, with a research entitled *Designing a Multifunctional Desk for Interior Design Students in a Studio Type Apartment*, found that this table has a function as a mockup table whose base is made of cutting mats, and the cutting mats can be replaced or updated for maintenance. It aims to be used as a portable table on light loads such as a dinner table or computer desk. The difference with current research is that the research of Lumakso et al. focuses more on several functions of works for work (Lumakso, C, A., and Setiawan, A, P., 2016). Meanwhile, this research is more on a function in terms of helping and making it easier for learning. The design is oriented towards the function of the furniture, which includes the main needs: facilities, working facilities, and storage containers. Considering the limited space for users to move, furniture must be able to meet user activities in terms of functional effectiveness and space efficiency. The difference with current

research is that Burhan LP's research focuses more on the function of limited living spaces where the design is oriented towards the function of furniture that includes the main needs (Poetra, B, L., 2016). Meanwhile, this research emphasizes the functions that can be used in the learning space.

Many of the other studies that have become a reference for us in writing, one of which we have used as a reference, is research on the effect of class interior design on student's learning interests. The difference from the research we made with previous research is that we do a deeper exploration of the effect of this design because we must know that there is an influence from small parts in a design. For this reason, researchers conducted a study to discuss whether there is an effect of furniture design as a means of supporting children's learning interest and motivation, whether the furniture design used by several schools is able to influence children's learning interest and motivation. The aim of the research, in general, is to create kindergarten supporting facilities that can attract children's interest in learning and provide an understanding of educational facilities in the selection of interior design for classrooms. Specifically, this study aims to determine the effect of furniture design as a means of supporting children's learning interest and motivation. Thus, this research is expected to provide benefits by providing training and consideration for parents who will choose educational facilities for their children to participate in, as well as providing clear information about the application of classroom interior design for prospective educational facility providers.

2. METHOD

This study aims to analyze the effect of furniture design on children's motivation and interest learning that was driven through furniture design. The research method was comparative descriptive where fact-finding was conducted, as well as cause and effect relationships, are sought. The subjects in this study were 10 kindergarten schools in Coblong District, Bandung, West Java. The object of this research was the kindergarten students, who were then given a questionnaire in the form of questions related to furniture design, such as study desks and bookshelves used in schools (Lumakso, C, A., and Setiawan, A, P., 2016). The questionnaire used a random sampling technique with a sample size of 50 students. The research analysis used statistics to determine whether there is an influence of predetermined variables, and the research instrument used was a questionnaire for these variables. In this study, two variables were used, namely the quality of the furniture in the classroom as the independent variable (X) and student learning motivation as the dependent variable (Y). The furniture quality variable includes design quality, while the learning motivation variable includes student's attitudes and interest in learning activities. The questionnaire method is the main method used to reveal the independent variables in this study. The questionnaire used was a closed questionnaire so that respondents only need to choose answers that are already available. This questionnaire used Likert, which contains four answer choices, namely strongly agree (SS), agree (S), disagree (TS), and strongly disagree (STS). The assignment of each positive statement moves from 4 to 1. A score of 4 for an "SS" statement, a value of 3 for an

"S" statement, a value of 2 for the "TS" statement, and a value of 1 for the "STS" statement. The higher the score, the higher the motivation to learn. Conversely, if the lower the score, the lower the motivation to learn (Husein, H, A., et al., 2020).

3. RESULTS AND DISCUSSION

3.1. Design

Furniture is designed to be attractive as well as functional. Children in the preoperational cognitive phase will begin to develop memory and imagination. Providing a design that is tailored to the child's cognitive phase will help the child in his development phase. The results of the discussion are finding out the influence of the furniture design used in kindergarten children's interest in children's motivation in learning. The picture below is a furniture model design to determine whether there is an effect of design as a means of support in encouraging children's interest and motivation (See Figure 1).



Fig. 1. Design Furniture

The figure below is the stimulus process of furniture design on children's learning motivation (See Figure 2).

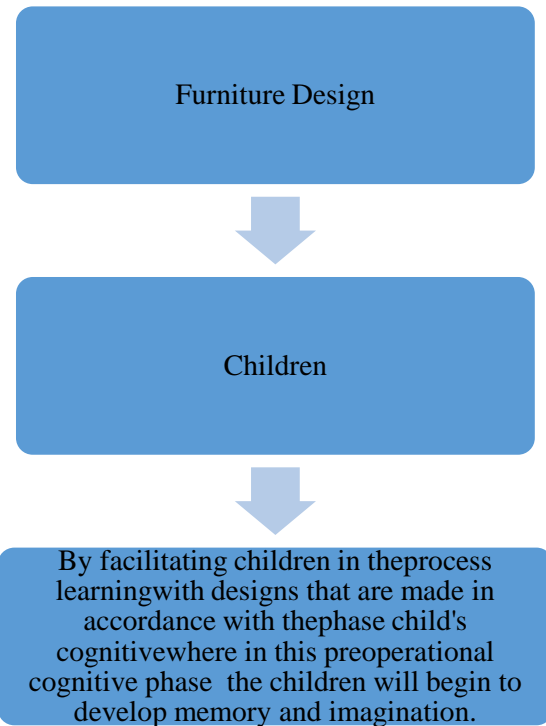


Fig. 2. Design of Influence Model

The formation of children's learning motivation is caused by the design of furniture, namely by utilizing the cognitive phase of the child. The preoperational cognitive phase is utilizing furniture designed with many colors to represent natural beauty. Shades of color that can be applied to create a calming effect and greeted are light brown. The brown color gives the effect of warmth, support, and serenity (Lumakso, C, A., and Setiawan, A, P., 2016).

3.2. Survey of Respondent Sample Search

In this sample search, the response of the child and the teacher's assessment of the child became the sample we were aiming for. The survey was conducted by visiting the school and interviewing the subject under study (See Figure 3).

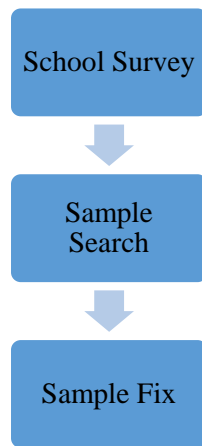


Fig. 3. Respondent Search Survey

Participation or involvement of people or communities in providing support (energy, thought, and material) and responsibility for every decision that has been taken in order to achieve the goals is important (Suryani, L., and Hamdu, G., 2021). Resource persons are searched based on criteria according to which the researchers are suitable as representative samples. Therefore, the writer appointed a teacher in 10 kindergartens around the Coblong Bandung area. Researchers conducted interviews for a predetermined period of time, namely two weeks. The key informants we use are the child's parents and the child's teacher.

3.3. Resource Interview Techniques

The figure below describes the stages in conducting interviews with resources to obtain information (See Figure 4).

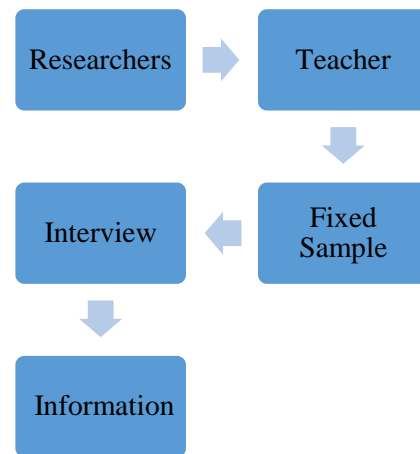


Fig. 4. Interview Techniques

Therefore, the researchers appointed a teacher in 10 kindergarten schools in Coblong, Bandung. After getting samples to be interviewed, the researchers prepared the time and place for the interviews to be held. On January 11, 2021, the researchers and resource persons were pleased to hold a short interview to obtain information about the influence of furniture used as a motivation for children's motivation and interest in learning. In connection with the Covid-19 pandemic situation, the researchers conducted interviews using online communication applications Zoom. From the results of the interviews, the researchers got the information needed in making this paper.

4. CONCLUSION

This study aims to analyze the effect of furniture design on children's motivation and interest in learning that is driven through furniture design. This type of research method is comparative descriptive, where fact-finding is conducted, and cause and effect relationships are sought. The subjects of this study were 10 kindergarten schools in Coblong, Bandung. The random sampling technique was used with a

sample size of 50 students so that its significant influence can be drawn, namely with attractive and multifunctional furniture designs that can provide motivational stimulation for children to develop skills and then create curiosity about the interest in learning new things.

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