

ISBN 978-974-625-956-9

RMUTR & RICE International Conference 2022, pp. 33-38,
22-24 June 2022

© 2022 Rajamangala University of Technology Rattanakosin, Thailand

doi: 10.14457/RMUTR.res.2022.4

Received 3.05.22/ Revised 12.05.22/ Accepted 27.05.22

The Interior Design Guideline for Preschool Child Development Centers in Bangkok Based on the Brain-Based Learning Approach

Pooree Sakod^{1,*}

Arisara Bunpotia¹

Marndarath Suksanga²

¹ Interior Architecture Program, Rajamangala University of Technology Rattanakosin

² Public Administration Program, Suan Sunandha Rajabhat University

*E-mail address: pooree.s@rmutr.ac.th

Corresponding author

Abstract

The objective of this research paper was to propose the interior design guidelines for Bangkok preschool child development centers, in order to enhance the learning environment of early childhood children according to the brain-based learning approach. The documentary research technique was employed in this qualitative study to synthesize knowledge and formulate interior design guidelines for boosting the learning environment of preschool children aged 2 to 6 years old in Bangkok's preschool child development centers.

The major findings of this research were the brain-based learning approach, psychological concepts, theories, and colors should be applied to design the interior architecture of each room, in accordance with children's activities and brain development. Moreover, to promote children's learning and perception, all relevant graphics, such as animal and tree images, should be designed to stimulate children's interests, foster a learning atmosphere, and improve recognition skills. Theoretically, brain and emotions are related, and emotions also affect learning. If children are stimulated by their learning environment, it will help to enhance their learning because the learning environment influences the development of children in various aspects, including learning abilities, emotions, feelings, and behaviors.

Keywords: *Preschool Child Development Centers, Interior Design, Brain-Based Learning Approach*

1. Introduction

Among other missions, The Bangkok Metropolitan Administration is responsible for preschool child development. Therefore, a preschool child development center was established to help people, who have low incomes and work outside, are unable to raise their children –at the ages before entering compulsory school. The children will have the opportunity to prepare, and strengthen themselves as educating evolution in both emotional, and socializing before entering the compulsory level.

According to the report of Extraordinary Committee for child development center, Bangkok preschool child development center had problems and limitations much as lack of personnel,

location, budget, law, and etc. (Bangkok Council, 2021). Consistent with the report from The Ministry of Interior studied. the major problems and obstacles are the problems of teacher resources who caring the children are not enough and not be rate to cover all areas. In addition, non-standard building and inappropriate environment are also problems for the care and development of early children (“question no. 218/r., 2021, p.69) consistent with the assessment results. The external quality of child development center is just the sight level as a whole, and there are 10.8% of child development center need improvement (Laowong, P. et al., 2019, p.4).

It is often mentioned in educational and psychological concepts most research finding trend to focus on teachers, teaching material, curriculum etc. Deferent teaching styles as Montessori teaching methods, Waldorf teaching style, Multi-Wisdom teaching approach, Brain-Based Learning, and etc., each educational concept has its own goals, and these goals affect the child and his or her needs. These goals effected children and children’s needs, which much needs will be filled by designing the space around the child (Shawket, 2016, p. 222)

Brain-Based Learning is one of the most popular teaching and learning models, receive a stream of awakening. Many educational institutes bring the concept of Brain-Based Learning Management applied in teaching and learning technique to suit their process by applying the theory of multiple intelligence in both areas of the brain to practice skills with the functioning of the brain in order to develop systematic thinking and learning process to encourage the use of potential brain.

From the literature review, it was found that besides teachers, teaching methods, curriculum, the environment is another factor, which has an effect on brain development. A good environment will help children to receive more learning, that is always stimulate the brain to work, it also stimulates awareness, and promotes social and emotional development. The main objective of this study was then to study interior architecture styles that enhance the learning atmosphere of early childhood and suggests guidelines for architectural design within the place that reinforces the learning atmosphere of center development of preschool children in Bangkok.

2. Research Objective

The objective of the study was to develop the interior design guideline for preschool child development centers in Bangkok based on the brain-based learning approach.

3. Methodology

3.1 The Population and the Sampling of the Research

This research was a qualitative research. The population and sample were interior design guidelines for boosting the learning environment of preschool children aged 2 to 6 years old in preschool child development centers in Bangkok.

3.2 Research Instruments

The documentary research technique was applied in the present research to synthesis of the interior design guideline for Bangkok preschool child development centers based on the brain-based learning approach.

3.3 Research Procedures

The present research was carried out according to the following procedures.

- 1) Collect and study data from secondary sources; documentary, relevant research and etc.
- 2) Carry out content and descriptive analysis
- 3) Analyze, synthesize and summarize body of knowledge about the interior design for Bangkok preschool child development centers based on the brain-based learning approach.
- 4) Formulate interior design guideline for Bangkok preschool child development centers based on the brain-based learning approach.

3.4 Data analysis

Content analysis and descriptive analysis were applied to create inductive conclusions and used this information to suggest the architectural design of the preschool child development center in Bangkok based on brain-based learning management.

4. Results

The results of the study of brain-based learning approach showed that it was the leaving the functioning of the brain, which is special organ of the body, need both food and mental food in the correct proportions throughout the lifespan.

Body food for brain consists of 5 main food groups and clean drinking water. Mental food is love, warmth from parents, happiness, satisfaction from playing and doing in activities. The brain of early children is in the picking stage. Experience through movement of the body and develop the tactile system, namely sight, taste, smell, sound, and touch, so that the experience is projected into different forms for different locations in brain. Early childhood is obtained from the collection of knowledge through analysis connecting education goals to design body of knowledge. The research team has brought the above physical concept adapted as a guideline for interiors architecture design of Preschool Child Development Centers in Bangkok, named “Sense of Place” as an inspiration. By using different geographical areas, such as, levels of terrain, water, lowlands, plateaus and mountains for supporting children to study by nature and also brought the theory of color applied in different room. It also increases awareness and learning with graphics of animals, trees, and other things to create imagination and enhance learning atmosphere according to the brain-based learning approach.



Figure 1: Playground design

From figure 1, it is design of playground, which likes a leaning room for sea learning room, and also increases the use of color tones-hot for various players such as red, orange, etc. to stimulate the child’s brain to feel fun, excitement, enthusiastic, creativity and courage.



Figure 2: Music classroom and Cooking classroom design

From figure 2, it is design of Music classroom and Cooking classroom, which are special activity room enhance children’s skill and development. These special rooms are like “brain food” for children that stimulate the work of the left hemisphere and the right hemisphere to work together in balance which is important for creativity and increasing the child’s aesthetic. Research team design music classroom and cooking class like rooms in Savannah plains increasing exposure and leaning by graphic designing animals on the wall such as zebras, lions, giraffes, etc. In addition, the color scheme was designed in orange and yellow tones to stimulate the child’s brain to be, thinks, and performs various activities, with the different connotations of colors; yellow has the power to drive creativity, and orange has an influence on stimulating confidence, promoting the ability to recognize and understand emotions of oneself and others (emotion quotient : EQ). Socializing children in orange room will have the opportunity to get to know more friends or talk.

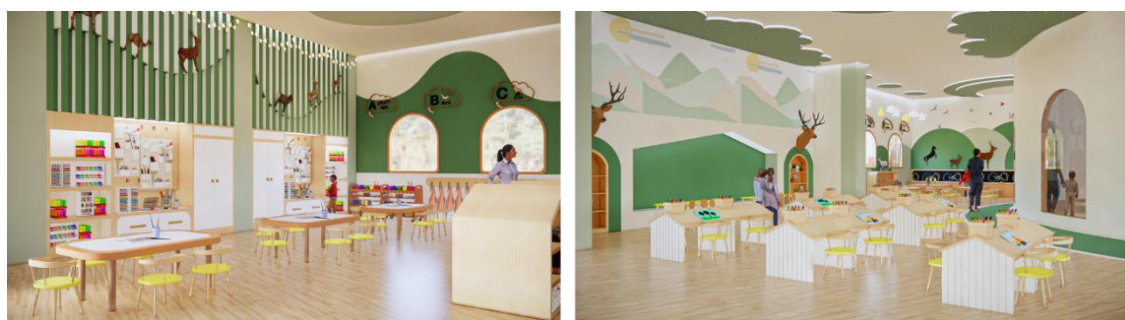


Figure 3: Art classroom design

From figure 3, it is design of art classroom, which is another special activity room that is important to enhance creativity for children. Learning in the arts will also develop the strength of besides fine muscles and hand – eye coordination, art activities are consistent with stereotypes. brain-based learning (BBL), children will practice for real, have direct experience learn through observation and practice a variety of activities to develop the connection points of the nerve fibers

under a relax environment with freedom of thought. Therefore, the research team designed the classroom like a learning room in a lowland, like a rainforest, increasing awareness and leaning with graphic design. Animals in the rainforest on the wall such as tapir, rhinoceros, barking deer, orangutan, etc. in addition, the color scheme of the main room was designed as green tones to connect with nature and match with the theme of the rainforest. It also stimulates concentration in making art project and colds orange and yellow tones as various furniture to stimulate the child's brain, encourage them to act energetically, and drive for creativity.



Figure 4: Classroom design

From figure 4, it is a design classroom. Considered a room, it is the heart of every child's skill development. From the results of studied, it was found that the brain deals with emotional and emotions also affect children's learning. Therefore, if the brain of children worked like muscles, like a child who exercise often, muscles get strong so does the brain. If the child is used to do the same activities often, the nerve cells are connected more tightly. The classroom, an environment that allows children to exercise, would exercise the brain and built fibers between cells. Nerve becomes a skill that can be used in daily life. The key problem of BBL is to avenge the environment to be a place that encourage children to learn and remember better. Therefore, the research team has designed an internal environment. A new classroom playful or attractive use concentration colorfulness to keep the emotional part of the brain involved in learning, especially if it is in a positive mood, it will make children feel good, concentrate, it also includes arranging chains into groups for discussions, exchanges, through creating the space for variety purposed.

4. Conclusion and Discussion

In the research on "The Interior Design Guideline for Preschool Child Development Centers in Bangkok Based on the Brain-Based Learning Approach," the researcher found important issues that are in accordance with the concepts, theories and relevant research have been found in the above research results. It should be discussed as summarized below.

Interior architecture design of the development Preschool Child Development Centers in Bangkok that strengthen learning atmosphere of early childhood according to BBL, management should look to decorate different room with colors to stimulate the room. Because of affecting emotions and child's behaviors by colors, it should also increase awareness and learn to design graphic such as animals, tree, etc., in order to stimulate the interest. It also promotes a learning environment and increases the memory, which is correspond to finding of Kwallek and Lewis

(1990, pp. 276-277) – testing colored office environment, which affected to the employee’ mood and efficiency. It found that the performance of reading in a pure white room was reducing when compared to the red and blue rooms as the same result of Hulshof (2013, pp. 53-54) tested, assessed the cognitive and emotional performance of participants. Testing in meeting rooms with different colors, and colors, it was found that using more cool tones and relaxed smells made the audience feel more comfortable perception of clam mood by using color tones, warm, and stimulation smell test felt alertness and emotional stimulation, as well as the research results of Phunphat (2015, pp.6-7) found that the avenging of environment given children the opportunity to study independently from purposely provided environment. The material provided are sized to appropriate to the child’s age and child’s need to study – children will concentrate on responsibility for completing activities, thinking and solving problems on their own, and also learning from self – discovery.

5. Recommendations

5.1 Recommendations for applying the research results

The agencies that provide early childhood education should realize on importance to design of the whole interior environment and also outside the classroom to be new, interesting. Colorful will encourage children to learn and memorize in accordance with the learning of the brain development on the cumulative age; the cover, as well as conducive to learning in a warm and happy atmosphere, will support children learn to do activities collaborate in various ways, safe, secure, emotionally stable.

5.2 Recommendations for further research

The Interior Design for Preschool Child Development Centers in Bangkok should consider illumination. Because the illumination is part of the aspect environment affecting the vision and perception of early childhood, safety of the playground. In addition, most of research results showed that the classrooms that were hygiene has sufficient illumination, it will have a positive effect on the learners, let learners learn happily with determination and enthusiasm.

6. References

- Phunphat, C. (2015). Teaching Management for Young Children from Montessori Approach. Bangkok: Chulalongkorn University.
- Hulshof, B. (2013). The Influence of Colour and Scent on People’s Mood and Cognitive Performance in Meeting Rooms. (Master’s thesis). University of Twente, Enschede.
- Kwallek, N., & Lewis, C. M. (1990). Effects of Environmental Colour on Males and Females: A Red or White or Green Office. *Applied Ergonomics*, Vol.21, No. (4), pp. 275–278.
- Laowong, P. & et al. (2019). Approaches to Expand Quality Learning Management in Preschool Child Development Centers, A Case Study: Quality Improvement Child Development Centers of Local Government Organizations. Bangkok: Office of the National Economic and Social Development Council.