### MEASURES TO BUILD MATERIAL ENVIRONMENT FOR CHILDREN AGED 5-6 TO DISCOVER SCIENCE AT KINDERGARTEN SCHOOLS IN LAP VO DISTRICT, DONG THAP PROVINCE

Tran Nguyen Thi Nhu Mai<sup>1</sup>, Dao Thi Bao Tran<sup>2</sup>\*, Cao Huyen Hao<sup>2</sup>, and Nguyen Thuy Diem<sup>2</sup>

<sup>1</sup>Faculty of Primary and Preschool Education, Dong Thap University, Vietnam <sup>2</sup>Student, Faculty of Primary and Preschool Education, Dong Thap University, Vietnam \*Corresponding author: tran190380@student.dthu.edu.vn

### Article history

Received: 10/5/2023; Received in revised form: 26/6/2023; Accepted: 31/7/2023

### Abstract

Building a physical environment for children to explore science is an extremely important task in the process for preschool education goal, towards developing their cognitive capacity by experiencing the surrounding environment in various forms. This also helps to meet their needs and interests under the motto "learning by playing, playing through learning", promoting all potentials and personalities. The article mentions the concepts of the physical environment, the principles of building a physical environment for children aged 5-6 to explore science and points out the difficulties in this task. The article also proposes measures to build the target environment, such as: promoting real local conditions; closely coordinating with young families; choosing toys based on children's interests and promoting children's ability to make toys. These measures will contribute to improving the effectiveness of the design of the physical environment for children in scientific discovery activities.

Keywords: 5 - 6 years old children, physical environment, science discovery.

DOI: https://doi.org/10.52714/dthu.12.7.2023.1142

Cite: Tran, N. T. N. M., Dao, T. B. T., Cao, H. H., & Nguyen, T. D. (2023). Measures to build material environment for children aged 5-6 to discover science at kindergarten schools in Lap Vo district, Dong Thap province. *Dong Thap University Journal of Science*, *12*(7), 88-98. https://doi.org/10.52714/dthu.12.7.2023.1142.

### BIỆN PHÁP XÂY DỰNG MÔI TRƯỜNG VẬT CHẤT CHO TRỂ 5-6 TUỔI KHÁM PHÁ KHOA HỌC Ở TRƯỜNG MẦM NON TẠI HUYỆN LẤP VÒ, TỈNH ĐỒNG THÁP

Trần Nguyễn Thị Như Mai<sup>1</sup>, Đào Thị Bảo Trân<sup>2\*</sup>, Cao Huyền Hảo<sup>2</sup> và Nguyễn Thúy Diễm<sup>2</sup>

<sup>1</sup>Khoa Giáo dục Tiểu học - Mầm non, Trường Đại học Đồng Tháp, Việt Nam <sup>2</sup>Sinh viên, Khoa Giáo dục Tiểu học - Mầm non, Trường Đại học Đồng Tháp, Việt Nam <sup>\*</sup>Tác giả liên hệ: tran190380@student.dthu.edu.vn

### Lịch sử bài báo

Ngày nhận: 10/5/2023; Ngày nhận chỉnh sửa: 26/6/2023; Ngày duyệt đăng: 31/7/2023

### Tóm tắt

Xây dựng môi trường vật chất cho trẻ khám phá khoa học là nhiệm vụ vô cùng quan trọng trong quá trình thực hiện mục tiêu giáo dục mầm non, hướng đến việc phát triển năng lực nhận thức cho trẻ mầm non, giúp trẻ được trải nghiệm, tìm tòi, khám phá môi trường xung quanh dưới nhiều hình thức đa dạng, đáp ứng nhu cầu, hứng thú của trẻ theo phương châm "học bằng chơi, chơi mà học", thúc đẩy phát triển mọi tìm năng của trẻ, bên cạnh đó hình thành và phát triển toàn diện nhân cách của trẻ. Bài viết đề cập tới các khái niệm về môi trường vật chất, nguyên tắc xây dựng môi trường vật chất cho trẻ 5-6 tuổi khám phá khoa học, nêu ra những khó khăn khi xây dựng môi trường vật chất cho trẻ 5-6 tuổi khám phá khoa học. Chúng tôi đã đề xuất các biện pháp xây dựng môi trường vật chất cho trẻ 5-6 tuổi khám phá khoa học. Chúng tôi đã như: phát huy điều kiện thực tế ở địa phương; phối hợp chặt chẽ với gia đình trẻ; lựa chọn đồ chơi dựa trên hứng thú của trẻ và phát huy khả năng làm đồ chơi của trẻ. Các biện pháp này sẽ góp phần nâng cao hiệu quả thiết kế môi trường vật chất cho trẻ động khám phá khoa học.

Từ khóa: Môi trường vật chất, khám phá khoa học, trẻ 5-6 tuổi.

#### 1. Introduction

Preschool is the first level of education in the national education system, laying the foundation for the comprehensive development of the human being. Therefore, the general goal is to help children develop physically, emotionally, intellectually, and aesthetically, to help children be bold and confident, to form the first element of personality, to arouse and Maximize the potential development of children (Ministry of Education and Training, 2020). Preschool children have a great need to explore the world around them, they are always curious to discover new things in life, by constantly asking adults many questions. Therefore, this learning will be effective when it is not compulsory but learns naturally through play, learning is organized according to the motto "learning by playing, playing by learning". In addition, adults will support children's learning by creating an environment and organizing diverse creative activities for children to participate in. Therefore, it is extremely important to build a suitable physical environment for them to explore science to meet their development needs, positivity and creativity easil, absorb and comprehend life experiences.

Organizing scientific discovery activities for preschool children is an important content to develop cognitive capacity, understanding ability, and enrich life experience about the world around them. From there, contributing to the development of children's intellectual capacity and personality, specifically, children can detect problems, solve simple situations that occur in life, and form their attitudes, positive behavior towards the surrounding environment. Therefore, building a suitable and diverse physical environment is an opportunity to enrich the symbolic capital of the surrounding world for children and is the foundation for the formation of patriotism.

In fact, we have found: Most preschools today do quite well in building such a material environment. All facilities are based on children's exploration needs and abilities: Create a friendly, close but equally new environment to create conditions for children to enjoy participating in activities. Exploit and use effective raw materials and locally available supplies. In the classroom, teachers have designed creative play corners for children with vivid and interesting drawings and colors. The classroom environment has appropriate space and arrangement, is safe and close, and is familiar to children's real daily life. However, the outdoor spaces and available materials have not been fully utilized to build an environment for children to explore activities, but are not really open to provide children with creativity and automatically make scientific discoveries. learn on demand. The article proposed solutions to build a physical environment for scientific discovery for children aged 5-6 at preschools in Lap Vo district, Dong Thap province".

### 2. Content

## **2.1.** Concept of physical environment in preschool

- The environment in general is understood as the totality of natural and social factors that interact with each other to create a living environment with conditions for humans to survive and develop. The educational environment in a preschool is a combination of necessary natural and social conditions that directly affect child care and education activities in preschool. The effectiveness of these activities is to contribute to the good implementation of the goals and tasks of child care and education, the educational environment includes the physical environment and social environment (Nguyen, 2008).

*Physical environment:* includes natural and human-made equipment and supplies. In the classroom, there are study room, bedroom and furniture and toys. The physical environment in the classroom is a resource that promotes exploration and discovery of the world around (Nguyen & Nguyen, 2008a).

*Physical environment in preschool:* includes equipment, utensils, toys, and space serving the organization of children's daily activities. The physical environment creates good opportunities for children to satisfy their activity needs and develop comprehensively physically, intellectually, aesthetically, ethically, and socially (Nguyen & Nguyen, 2008a).

Thus: The physical environment for children to explore science is the equipment, utensils, toys, and space serving children's scientific discovery activities in Kindergarten.

# **2.2.** Characteristics of the physical environment for 5-6 year-old children to explore science.

The physical environment in preschool includes natural and man-made objects (Hoang Thi Phuong, 2008). This environment has the following characteristics:

It is diverse, meeting children's need for exploration and play. The physical environment for children to explore science can be real objects (utilities, tools for scientific exploration, household items, pets, trees, vegetables, flowers, etc...); model pictures; lottery pictures, books, newspapers, collections of plants, animals, vehicles, household appliances,...; audio-visual equipment (speakers, televisions, computers, projectors,...); materials (soil, sand, water, rocks, gravel, bottles, plates, jars, plastic tubes, magnifying glasses,...). When designing this environment, teachers should create diversity and richness to promote and maintain children's interest in participating in scientific exploration, helping them to engage in diverse activities with many different forms to satisfy children's needs. Satisfy your need for fun and exploration.

Preschool children have great needs in contact and perception of the world around them (Nguyen & Nguyen, 2008a). Therefore, if creating a good physical environment for children, helping them to have maximum access to age-appropriate knowledge, it will promote their development in the most effective way. Exploring science is perhaps one of the few activities that meets the child's need to learn about the things around him. Children are always excited about science, when they do science projects, they are always busy learning interesting things. They will talk about predictions, what they observe and continuously ask questions. That is when children's thinking is expanded, stimulating the brain to think for itself (Hoang, 2008). The physical environment meets the goals for 5-6-year-old children to explore science in preschool, aiming at cognitive development in particular and comprehensive development for children in general.

# 2.3. Principles for building a physical environment for 5-6 years old children to explore science

When building a physical environment for 5-6 years old children to explore science, educators also comply with the general requirements and principles of building an educational environment in the preschool education program as prescribed as follows: safety, aesthetics, suitability, versatility,... The organization of the physical environment in schools and preschool classrooms plays an important role in physical, language, and intellectual development, children's intelligence, emotions - social skills, aesthetic abilities, and creativity. Therefore, the design of the physical environment in preschools must comply with the following principles:

## - Meeting the goals and content of the preschool education program

Designing the physical environment for children to explore science must be based on the child's comprehensive development, aiming at educational goals and content for each age (in the preschool education program) and at the same time being suitable for childrenand the purpose of organizing childcare and education activities. The physical environment both meets the innovation requirements of the preschool education program (environmental design according to thematic activity process, construction of activity areas/corners) and is suitable for the content of children's education in the program. The field of scientific discovery for 5-6 years old.

*For example:* In the 5-6 years old class: teachers must rely on the goals and content in the Preschool Education Program to prepare in accordance with the activity content:

	Educational contents	Supplies in the classroom prepared	
Scientific discovery	Some weather phenomena change according to the sea- sons and the order of the sea- sons (Education Program, 2020).	<ul> <li>Pictures representing the characteristics of the seasons and seasonal weather of the year.</li> <li>Videos showing the weather and changes in phenomena according to the seasons of the year.</li> <li>Model of the changing seasons during the year.</li> <li>Costumes appropriate to the seasons for children to role-play.</li> <li>Utensils, toys, and materials for children to simulate activities during the seasons.</li> <li>Drawing paper, pencils, crayons, colored paper, for children to draw, color, collage pictures of the seasons of the year, weather of the seasons,</li> <li>Construction toys: bricks, gravel, stones, trees, for children to build gardens according to the seasons of the year.</li> </ul>	

### Table 1. Design of scientific discovery toys for childrenbased on educational content in the preschool education program

- It is necessary to arrange play areas/corners and activities in the classroom and outdoors that are appropriate and convenient for teachers and children to use.

Arrange and arrange play areas and activities in the classroom and outdoors in accordance with the theme, convenient for use by teachers and children. It is necessary to plan the school's existing space to allocate areas for activities appropriate to the age, interests, abilities... of children and suitable for general class activities, group or individual activities.

### For example:

Allocate reasonable space for activity areas/ corners: Quiet areas (reading books, creating pictures, playing on the computer, doing puzzles) away from noisy areas (construction, typing, music, etc.); Arrange a natural, shaping area/corner near the toilet so that children can conveniently wash their hands, wash tools, get water to water plants, take care of plants...; Provide well-lit places for reading, shaping and tree care areas/corners; The classroom and outdoor play areas must be a certain distance apart to avoid children making noise to each other; There is a place for eating, sleeping, relaxing, storing personal belongings of teachers and children.

Activity areas/corners are arranged flexibly and conveniently with low partitions, shelves or shelves, large crates or boxes (can be fixed or movable), open, creating easy conditions for children to independently select and use objects and toys, participate in activities (making shapes, playing with water, doing housework near water; playing with computers, listening to CDs, watching tapes near electrical outlets) and convenient for teachers monitor. Areas need to be clearly divided and have boundaries so children can easily navigate the used space.

The number of play corners, order of deployment and arrangement of activity corner areas depends on the area of the room, furniture, toys, equipment, number of children in the group/class, age of the children and each individual and specific topic. It is possible to gradually rotate from 4 to 5 operating zones/angles. For each case, arrange or change the space accordingly.

Balance the position of hard objects (such as tables, chairs...) with soft objects (such as pillows, cushions, mats, carpets,...).

- It is necessary to take into account the actual space of the school to balance the areas.

Most preschools are interested in and desired to achieve that the land area in the school, the garden area and the area of supporting areas are large enough for the school to arrange areas for children. Play, live, and study activities in a more scientific and appropriate way. However, reality shows that not all preschools have a spacious area that meets the above expectations, so teachers need to design a physical environment for children to play, live, and study in a scientific way. Learning is both appropriate and balanced with the actual space of the school. *For example:* A school does not need to be too large but must have a tight layout. Preschool children, they are very active, so it is advisable to focus on building appropriate play corners and spaces for children depending on the actual area of the school.

- The physical environment needs to ensure purpose.

Purposefulness here has two meanings: Firstly, the educational environment must be directed towards the comprehensive development of children in order to achieve the goals of preschool education in general and the goals of the end of age in particular. Second, the environmental design must be consistent with the purpose of organizing the activities.

**Example:** Building a play corner must be different from that of young children because the educational purpose is different. Children aged 5-6 are very active, their desire to explore are also higher, so toys and play groundshould also be more diverse and rich, and the space should be large enough for children to have fun and move freely and comfortably.

- The physical environment must be truly safe and highly aesthetic.

The school location must be far away from noisy, polluted and toxic places for children such as: away from major roads, factories, hospitals, garbage areas, cemeteries... Ensure source hygiene water, air, hygiene and safety in eating and drinking. The equipment, utensils and toys must be regularly maintained, kept clean and changed and supplemented according to the theme, week, and period to create attractiveness for children. There is a protective fence around the school area.

Decorating the classroom environment needs to be appropriate to the nature of the activities and suitable for each age group. In the classroom, it is necessary to arrange appropriate space for common class activities and activities according to the interests and abilities of small groups or individuals. There is a dedicated area to care for children with special needs. For each age, the educational environment will have its own characteristics.

*For example:* For preschool children aged 5-6, toys may not need too much variety and are mainly toys available for children to use, but for older

children, attention needs to be paid to the richness of toys. Special toys are open materials and means for children to be creative and make their own toys to serve their play ideas.

### - Needs variety and richness to stimulate children's development.

Ensure enough and diverse types of materials, equipment, utensils, and toys suitable for each topic; Clearly demonstrate the culture of each region to create opportunities for children to participate and apply the knowledge and skills they have learned to build an environment and stimulate comprehensive development for children.

+ Outdoor equipment stimulates children's different movements

+ Take advantage of locally available raw materials for children to explore, especially natural materials and scraps. For example, leaves can be used to create shapes, plastic bottles can be used to make flower vases, milk cartons and many other scraps can be reused.

+ Reflects national cultural colors through utensils, costumes, customs, etc. Provides children with understanding of local cultures and of different ethnic groups.

+ Create an environment with space suitable for children's real daily life.

+ Ensure a combination of collective, small group and individual activities; classroom and outdoor activities.

+ Respect the needs, activity preferences and take into account the abilities of each child.

### 2.5. Difficulties in building a physical environment for 5-6-year-old children to explore science in some preschools in Lap Vo district, Dong Thap province

We conducted a practical survey with 40 teachers who have been teaching 5-6 year-oldchildren at a number of preschools in Lap Vo district, Dong Thap province: Tan My Kindergarten; Vinh Thanh Kindergarten; My An Hung B Kindergarten aims to identify common difficulties teachers face in the process of building a physical environment for 5-6-year-old children to explore science in kindergarten. From there, it serves as a practical basis for developing measures. Kindergartens in the district are also fully invested in facilities and equipment. Most of the schools we surveyed are standard preschools, trusted and highly appreciated by parents in terms of child care and education. One of the factors that create the unique features and strengths of Kindergartens is having spacious, airy spaces, planted with many trees, and classrooms that are built to standards and suitable for the ratio of children per class. At the beginning of the year, all classes were fully invested in supplies, toys, and equipment. In addition, teachers have also equipped homemade toys for children to play with and are designed in an open direction.

However, we see many difficulties when building a physical environment for 5-6 years old children to explore science. Through an observation survey and direct discussion with 40 teachers who have been teaching 5-6 year old classes. We obtain the following results:

Numberical order	Common difficulties	Quantity agreed	Percentage (%)
1	Preschool teachers are dominated by many jobs and have not spent much time building a physical environment for children to explore science	37/40	92.5
2	The number of children in the class is large	25/40	62.5
3	Not fully exploiting the inherent conditions of the locality in building physical environment to explore science for children	29/40	72.5
4	There is no coordinated support from many parents	34/40	85.0
5	Financial difficulties to buy play materials for children	32/40	80.0

### Table 2. Survey results on difficulties in building a physical environment for 5-6 years old children to explore science in preschools

Through the table above, we can see that preschool teachers often encounter many difficulties in building target environments. Among them, the most common difficulty is that preschool teachers are dominated by many tasks and do not spend much time on this task. Playing materials are not rich, do not meet the requirements of building a physical environment for children to explore science in different educational topics as well as affect the quality of scientific discovery activities. Children's learning (92.5%); The next difficulty is that there is not much coordination between parents and schools and teachers in building a physical environment for children to explore science due to many different reasons (85% of teachers have difficulty with science). Then, teachers have financial difficulties in investing in building a physical environment

for children to explore science (80% of teachers have difficulty in this issue). The other obstacle is not exploiting nor making the most of the inherent local conditions in arranging and building a physical environment suitable to the topic and content of scientific discovery for children (72.5 % of teachers having difficulty in this issue); The number of teachers facing difficulties because of the overcrowding of children in the classroom and the inability to build a physical environment that meets children's needs and interests is quite large, but is also lower than other difficulties (accounting for 62.5%).

The characteristics of preschool teachers are different from other levels in the national education system. Preschool teachers must stay close to and monitor children during two session per day period, including lunch breaks. But in reality, they also have to do many other tasks such as planning, lesson plans, preparing teaching aids - toys, participating in professional activities, recording children's assessment books,... In addition, preschool teachers have to arrive very early to ventilate the classroom to welcome children into class and can only leave when the last child is picked up by their parents. When they get home, preschool teachers have to be busy with work. Living with family and individuals, free time is limited. On the other hand, under the new preschool curriculum, the educational topics are changed by the school year. Each topic requires teachers to build a physical environment suitable for the educational topic, for example: arranging, arranging and selecting utensils, toys, materials in corners, Teaching and learning tools and supplies, etc. Therefore, teachers are dominated by many tasks and do not spend much time on building a physical environment, making tools and toys suitable for educational topics. If there is any, they just move the position between play corners, change some items and toys in that play corner, etc. This does not create excitement or positivity for children in the process of exploring science.

In order to have many new toys to attract children'attention, the enthusiastic contribution of parents and young parents has to be taken into consideration. However, in fact, there are still a number of reasons that limit the cooperation of parents with schools and teachers in building physical environment for children, such as: difficult economic conditions affect the payment of school fees. In terms of buying supplies, toys, and play materials, school has not done well propaganda to let parents see the importance of building an physical environment to explore science for children in the parent meetings of the school and the class; The program of socialization of education is still limited;... Therefore, it is necessary to improve and strengthen the cooperation of parents with the school and teachers from there, parents will be more active in supporting the schools. Materials from the characteristics of parents' professions

that schools and teachers can take advantage of in building physical environment to explore science for children.

It can be said that financial difficulties in purchasing tools, toys or materials to make tools and toys is one of the common difficulties for preschool teachers because of the cost. of appliances, toys, and raw materials is constantly increasing at each specific time. Compared to the salary that each preschool teacher receives monthly, it is generally impossible to meet. In addition, financial support policies for preschool teachers in preparing supplies, toys, and learning materials are limited, so most teachers choose cheap supplies, toys, and materials, simply or prepare utensils and toys in a "coping" way. Therefore, the construction of physical environment to explore science for children has not been highly effective.

Children's play space has created a variety of names, materials as well as vivid colors of toys. Actual observation shows that the toys, toys and play materials in the play corners are mostly used by preschools using ready-made toys, toys and play materials, also known as public products. Therefore, we see that outstanding local agricultural and handicraft products have not been fully exploited to decorate the classroom space or are rarely used as open materials for children to explore. On the market today, there are many tools, toys and play materials available for preschool children with diverse features in colors, rich in types, but ready-made utensils, toys, and materials. They are beautiful and good but they are not rich in materials, cost a lot of money, and children have little opportunity to explore experiences. Therefore, teachers need to pay more attention to exploiting the inherent conditions of the locality to build physical environment to explore science for children.

In addition, the number of children in the class being too large is also a difficulty for preschool teachers because when the number of children in the class is too large, it will lead to a situation where the children's activity space and play space is narrowed. creating a cramped and uncomfortable feeling for children, leading to them being passive and lazy in expressing their own play ideas, making it difficult for teachers to choose space to arrange and build a suitable physical environment with the theme and content of scientific discovery. Besides, each child is a different individual, with different needs and interests, and this also leads to preschool teachers not being able to provide adequate supplies and toys according to their needs and interests of each child in the class.

Because of the above difficulties, we boldly researched and proposed some measures to build a physical environment for 5-6 year old children to explore science at Kindergarten school in Lap Vo district, Dong Thap Province as follows.

#### 3. Measures to build a physical environment

Measure 1: Bring into play local practical conditions in building a physical environment for scientific discovery for children

- Purpose of using the measure:

When doing this task, teachers should increase the use of local materials to create diversity in the physical environment for children while still preserving closeness to daily life, young locality. In addition, diverse materials also help children be more active in exploring experiences and educating children about some virtues such as saving, loving nature, and protecting the environment. In addition, it also helps teachers save money to use for other expenses.

#### - How to use the measure:

+ Teachers exploit available materials such as leaves, flowers, grass, straw, branches, coconut shells, bamboo, seashells, ...

+ Choose materials appropriate to the topic and purpose of the activity.

+ Teachers choose to use toys with a variety of forms and materials.

+ The teacher arranges the corners and places toys in an open format to stimulate children's participation.

- Conditions for using the measure:

+ Teachers fully understand the content needed to design a physical environment for children to explore science.

+ Teachers have creative capacity, flexibility in using materials in organizing activities.

### For example:

Leaves can be used in students' learning how to explore the properties of leaves, used plastic bottles to make water containers, use CDs to decorate decal paper for children to make fish and birds, and use dried leaves to make children. buffalo. From the same materials, children can play in corners such as leaves, CDs, seeds, ... she will divide into art corners for children to work on; Bottles, CDs, bottles, fresh milk cartons and yogurt cartons... she put them in the study corner and role-playing corner.

The outstanding features of Lap Vo district are agricultural products and plants such as: water hyacinth, lotus, etc., so when using the nature corner, children can explore science. I will add natural materials such as: acorn leaves, acorn fruit, rice plants, water hyacinth leaves, water hyacinth flowers, lotus leaves, lotus buds, lotus flowers... so that children can freely explore, learn more closely what belongs to nature, their locality that children encounter in daily life. For example: with the lotus plant, young people will discover the name, characteristics, color, shape and benefits of the lotus plant: it is used for decoration, lotus buds are used to eat, and lotus pistils are used for cooking. medicine, making lotus tea, etc. Water hyacinth is used as food for livestock, used to compost straw mushrooms, and as manure. Dried old leaf sheaths can be processed to be braided into ropes and ropes and then woven into carpets, crafts, or tables and chairs. Besides discovering science, children also learn some outstanding features and main agricultural products of the locality where they live.

### Measure 2: Coordinate closely with parents

### - Purpose of using the measure:

Teachers strengthen educational socialization and work closely with parents to create sources of materials and funds to enhance the toy environment for children.

### - How to use the measure:

+ Through parent meetings, every day parents pick up and drop off children and teachers propagate

to parents the role of creating a physical environment for children to play. Parents donate available materials and used items (dishwashing liquid bottles, milk cans, newspapers, cartons,...)

*For example:* Parents donate used plastic bottles and family agricultural products such as: water snail leaves, water snail fruit, rice plants, water hyacinth leaves, water hyacinth flowers, lotus leaves, lotus buds, flowers lotus,... to serve children's scientific discovery activities.

+ Parents coordinate with teachers to provide children with local practical knowledge and skills such as characteristics, structure, materials, and how to use agricultural products at home.

*For example*: In a family where the baby tree is grown, parents can explain to their children the name, structure, living environment, and products made from the baby tree in the most specific and realistic way.

### - Conditions of use:

+ Teachers must work closely with children's families in the care and education of children in class.

+ Families care about children's activities.

## Measure 3: Select toys - toys based on the interests of all children in the class.

### - Purpose of the measure:

Choosing toys that are suitable for children's needs, interests, and psycho-physiological characteristics will develop children's positive feelings of play. From there, it leads to children's exploration of the physical environment in the classroom to play more effectively.

- How to use the measure.

+ The teacher selects toys that ensure the criteria of safety, aesthetics, etc. The toys must be multifunctional so that children can play; many games, many different playing actions.

+ Teachers choose toys that must be new but not too strange to children. Must be based on the children's inherent experience and knowledge, they must have a relationship and develop on the object of play. - Conditions for using the measure.

+ Teachers choose toys derived from children's actual needs to stimulate children to participate in fun activities.

+ Selected toys must show creative diversity in colors, materials and uses for children to explore.

### Measure 4: Promoting the ability to make toys, the ability to design corners of all children in the class.

### - Purpose of the measure.

Children aged 5-6 are completely capable of making toys (simple, complex, ugly, beautiful depending on the child's aptitude), teachers will save time when they have to make toys alone. Besides, children will enjoy playing with toys made by themselves and their friends. Young children make simple toys according to their ability. Therefore, teachers should promote the role of children to create a play environment for the class.

- How to use the measure.

+ She models a few times for children to observe and follow, or the teacher will provide materials for the child, the child will make toys according to their ability, liking, and creativity.

+ The teacher suggests and suggests the idea of making children's toys (depending on the age of the child and the child's ability).

+ Teachers observe and help children in the process.

- Conditions for using the measure.

+ Teachers do not criticize children's products, do not compare the level of achievement of products made by children

+ Teachers respect the products created by children.

+ Suggestions for making toys suitable for the ability of each different age.

### 4. Conclusion

It can be seen that the measure of building a reasonable physical environment for scientific discovery will open up opportunities for children to actively participate in activities to explore the world around them. The environment will be a means for them to learn through playing effectively, independently and creatively in their own way, contributing to the comprehensive development of personality. The building of such a physical environment needs to maximize the inherent conditions of the locality, flexibly and creatively combine the teachers' children's reality and reallife conditions. The school's economic and cultural characteristics to create a physical environment for children to explore the science of play with many interesting colors. It must aim at education for all ages, creating positive interactions to maximize the advantages to help children 5-6 years old develop harmoniously and comprehensively./.

Acknowledgments: This research was supported by Dong Thap University, with the project code SPD2022.02.41.

### References

- Hoang, T. P. (2008). Theoretical curriculum and methods guide children to become familiar with the surrounding environment. Hanoi: University of Pedagogy Publishing House.
- Ministry of Education and Training. (2020). *Preschool education program*. Hanoi: Vietnam Education Publishing House.
- Nguyen, T. T. H. (2008). *Curriculum Organizing* and implementing the Preschool Education program. Hanoi: Education Publishing House.
- Nguyen, T. O., & Nguyen, T. X. (2008a). *Methods for preschool children to explore science*. Hanoi: Education Publishing House.
- Nguyen, A. T., & Nguyen, T. N. M. (2008b). Curriculum for the psychological development of preschool children. Hanoi: Education Publishing House.