

LEARNING ENVIRONMENT DESIGN IN EARLY CHILDHOOD EDUCATION FACILITIES AND INFRASTRUCTURE MANAGEMENT

Asih Wikaningtyas¹, Siti Nor Asiah²
asih.wikaningtyas27@gmail.com¹, sitinorasiah@uinsi.ac.id²

^{1,2}Department of PIAUD, Faculty of Tarbiyah and Education,
Sultan Aji Muhammad Idris State Islamic University Samarinda

Abstract. Attention is needed on the implementation of Early Childhood Education (ECE) in terms of learning environment design as one of the components of ECE facilities and infrastructure management. A non-comfortable learning environment for children will interfere with aspects of child development, causing children to become difficult to move, uncreative, and easily bored. Despite the teacher's lack of design expertise, it would be helpful for the teacher to understand the techniques of quality learning environment design that correspond with children's needs and interests so that the learning process runs smoothly and reaches maximum goals. This study is intended to teach educators and people in general a way how to design a good learning environment. In this study, literature studies or library research were utilized together with qualitative research methods. Documentation is used in data retrieval techniques, and content analysis is utilized in analysis techniques. The design of this learning environment is crucial and must be in place to meet the objectives of ECE implementation.

Keywords: Learning Environment Design, Facilities and Infrastructure, Early Childhood Education.

INTRODUCTION

Early Childhood Education (ECE) institutions are second only to the home in terms of developing and improving the six aspects of child development. Children can improve their cognitive processes, social interactions, independence, freedom of movement, and self-skills. This is emphasized by (Susanti, 2018), that educational institutions are places where children interact with parents, teachers, and peers in activities and learning. Educational institutions are also agents of change, namely substitute places after the home or family environment. According to Khuluqo in Wiyani (2021), the implementation of ECE aims to help children's physical and spiritual activities to prepare them for the next level of education. In addition, Masruroh in Wiyani (2021) also mentioned that ECE was held to foster children's independence, behavior, and knowledge, as well as provide freedom for children to carry out the learning process without coercion by utilizing the availability of facilities and infrastructure in the form of Educational Tool Aids and a conducive environment, based on the interests and needs of the children.

Early childhood acquires learning spontaneously and it is in the environment around them, they can get it when they are playing, daydreaming, eating, or whatever the activity is. Montessori (Ismail et al., 2019) said that the environment is the major key to spontaneous learning in children since it may give anything youngsters require. Children will also take advantage of anything they come across in their environment. The learning process in children can occur everywhere, not just at home, but also at school, on the playground, or even in automobiles, where children can carry out the learning process. Depending on where the child is interested in learning, each child develops the ability to engage and think in different ways. As a result, there is a need for stimulation and the availability of facilities to enhance early childhood education success. (Baiti, 2020).

To achieve the success of ECE implementation, ECE organizers need to pay attention to the scope of ECE management activities, including; Student Management, ECE Curriculum Management, Human Resource Management (HR), Facilities and Infrastructure Management, ECE Financial Management, and Public Relations Management (Wiyani, 2021). Among the six ECE management activities, ECE facility and infrastructure management is one of the key elements that must exist for ECE activities to run smoothly. According to Indrawan (2015), the definition of facilities and infrastructure management is the management and utilization of all facilities both directly and indirectly to be used and managed in the process of implementing education to achieve learning objectives.

The creation of a secure and comfortable environment for children to play and learn is one type of facility and infrastructure management that must be controlled in the implementation of ECE. The goal of organizing or designing this learning environment is to provide an ideal environment for children, promote children's growth and development, and arrange facilities and infrastructure that can support children's active learning. According to Ihsan in Wiyani (2021), the provision and design of a comfortable environment are one of the facilities and infrastructure that must be met to support the achievement of the objectives of ECE implementation. The quality of the learning environment is a determining factor in the success of ECC implementation. The availability of facilities and infrastructure to establish a comfortable learning environment requires special attention because it can give children positive stimulation. The setting supplied must meet the needs of children who have a distinct learning style, are always active, have a wide range of interests, enjoy challenges, and enjoy exploring. The better the learning environment offered for children, the more positive the response from children, teachers, and parents. (Mariyana, et al.2010)

The learning environment provided must be comfortable, fun for children and can develop individual potential in children (Mania, Nurhasanah, Syam, Shermila, & K, 2018). An unclean, too quiet, or too noisy setting, as well as a design of the learning environment that is less appealing to children, will severely limit the area for children who are always moving energetically. To provide a favorable and enjoyable learning environment for children, careful design and arrangement of the environment are required. However, creating a pleasant learning environment is not easy, and not everyone is capable of organizing an enjoyable learning environment for children. Due to a lack of ability and understanding in creating entertaining learning and play settings, many ECE institutions operate without consideration for the principles in the design of learning environments.

In this paper, the author will discuss Learning Environment Design as Early Childhood Education (ECE) Facilities and Infrastructure Management. The purpose of this study is to enlighten educators, parents, and anybody else who needs to know how to manage and develop learning environments.

RESEARCH METHOD

In this study, researchers use library research studies with qualitative research methods, in which research is carried out by collecting readings from various library sources without having to go directly into the field and then explaining qualitatively, or the elaboration is explained narratively in the researcher's language but still refers to the opinions of experts or researchers.

The definition of literature study according to Syaibani (Azizah & Purwoko, 2017) is research that uses reading sources from books, articles, magazines, websites, written sources both printed and electronic, scientific writings, and other readings as the main reference in collecting data.

Data collection techniques use documentation, which according to Arikunto (Azizah & Purwoko, 2017) is interpreted as searching for data about various things sourced from newspapers, books, articles, notes, and so on. While the analysis technique used is content analysis. Content analysis according to (Asfar, I. T., & Taufan, 2019) is the result of research from written information in the media or other readings, the topic of which is thoroughly discussed. To ensure that the information review process is dependable and that there are no errors in writing the literature owing to the author's lack of experience, the author should check the library and seek help from the supervisor. This opinion was explained by Sutanto (Azizah & Purwoko, 2017).

RESULT AND ANALYSIS

According to the Indonesian Dictionary (2012), the word design means a way of arranging, and the word environment means an area or place that affects human growth. Based on the definition of these two words, the understanding of environmental design is a way of arranging the environment or places, both outdoor and indoor, that are used for daily activities. (Baiti, 2020) defines environmental design as the arrangement of the indoor and outdoor environment in the form of arranging the beauty of the room, room accessories or places, the shape and type of floor, wall accessories, educational game tools (EGT) provided, and the size of the space or place to play and learn that is adjusted to the initial planning. So, when the word environmental design is combined with the word learning, the understanding of learning environment design is an activity to design environmental conditions or places, both indoor and outdoor, used to carry out learning activities. To establish a conducive setting for children's learning, the learning environment must be carefully designed with excellent standards. (Baiti, 2020) argues that the learning environment has a great influence on developing the six aspects of development for early childhood. The learning concept is that children can think freely and can think creatively. A good learning environment can provide a sense of comfort, security, and pleasure and become a home for activities such as playing and learning (Hasan et al., 2021), and this is a principle in managing the ECE learning environment. When all the definitions above are combined, then the definition of learning environment design is the arrangement of learning environments both indoors and outdoors by paying attention to the needs and interests of children, which can cause a sense of comfort, security, and fun. Teachers, as facilitators and guides of children, need to pay attention to the arrangement of their classes and the arrangement of all facilities used by children in learning (Ismail et al., 2019).



Fig.1. Early childhood learning environment

The early childhood learning environment is designed according to an understanding of all existing elements about ECE, such as the curriculum used, the learning process, child development, children's interest needs, etc., so that children's activities can run according to the learning program that has been prepared. Expertise designing a learning environment is actually not everyone can do it, because this skill is basically mastered by those who do have talent the field or art and spatial planning. This is as stated by Suyadi (2011) in (Septiani, 2019), which explains that the arrangement or management of indoor and outdoor displays can only be done by people who have competence in the field of art and design. However even though the teacher is not an expert in the field environmental design, at least the teacher has knowledge of how to manage or organize a good learning environment so that it is fun for students and teacher who teach. As expressed by (Susanti, 2018), the teacher at least understand the character of the environment in accordance with the child's fantasy world which can affect six aspects of development. Because the fantasy world that exists in children greatly influences children's development.

Teachers must pay attention to the environment that will be used by children in learning, carefully planning and managing the learning environment and its equipment. Some points that must be considered by teachers in planning the management of the learning environment are preparing

locations or learning environments with various types of learning, meaning that even though the place is limited but teachers are still able to prepare various learning so that all aspects of child development can increase optimally. Attention to the design of the learning environment is not only the task of teachers who regulate the room and the shape of the learning environment, the managers of the institution also have the task of procuring various supporting equipment needed in the learning environment, both indoor and outdoor. Since the ability to procure, this equipment is closely related to the availability of financial funds, if the manager can meet all facilities in the learning environment, the learning process will run effectively (Nuryati and Mufrodi, 2020).

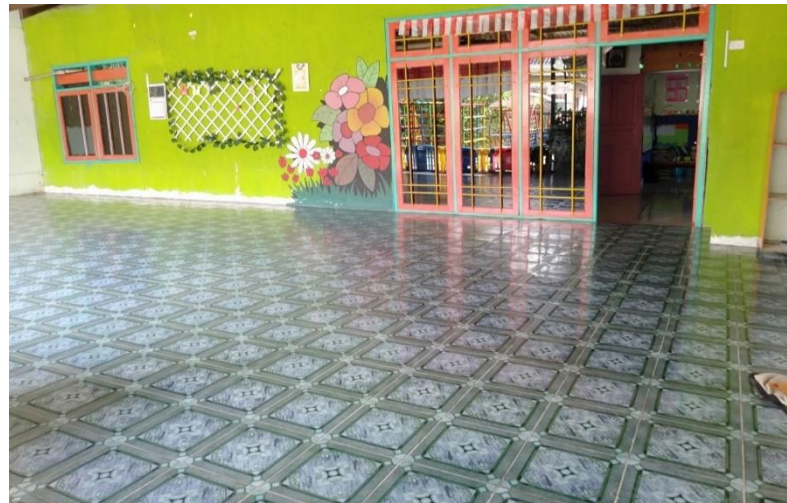


Fig. 2. Environmental design to carry out all activities

In essence, each child's activity should have its location or area, for example, the art area and language area are separated and not in one space, because the language area usually requires a quieter room, especially in terms of recognizing literacy while the art room is usually used for activities that emit louder sounds. In line with (Ramdhani, A. P., Sari, F. P., & Wulandari, 2022) states that in general, every child's activity has an area that supports children to freely choose, both playgrounds and types of activities that children like. Hidayatulloh (2014) in (Mania et al., 2018) said that the environment can be said to be pleasant if it has the characteristics of easy access and availability, freedom of movement and choice, full of personal responsibility, real and natural, beautiful and harmonious. (Septiani, 2019) also said that a good environment is influenced by several principles which if applied will cause comfort and a sense of fun, these principles include harmony, beauty, economic value, artistic value, balance, having a sense of security, and having unity.

There are two types of children's learning environments, namely indoor learning environments and outdoor learning environments. Both types of learning environments need to be managed because each environment provides different benefits. Indoor learning environment design is the arrangement of the learning environment inside the building which is a child's activity for teaching and playing, while the outdoor learning environment design is the arrangement of the children's learning environment outside the building or in other words is the arrangement of the children's playing ground that can be used as a learning arena (Hamidah, Haromiah, & Wulandari, 2022). The design requirements for the indoor learning environment are: few tables and chairs, carpets, pillows, floor mats, and indoor EGT; switches or objects that generate electricity must be out of reach of children, no sharp and toxic objects, clean and comfortable, the floor is not slippery and sticky, and others (Hamidah et al., 2022).



Fig. 3. Schoolyard

In addition to the arrangement of indoor learning spaces, the arrangement of the outdoor environment must receive attention because every child has a different character, so the presence of an outdoor learning environment can encourage children to be more creative, probing, and able to explore according to their fantasies. (Rukmana, 2021). Activities carried out by children outdoors are also used as an arena to relieve fatigue and boredom indoors because many children's activities are carried out indoors both at home and school. By doing outdoor activities, children become freer to move, can move, jump, hang around, shout, and all things that make children more active (Syaripatunisa, Nurhayati, & ..., 2022). The provision of an outdoor play environment is needed by children because the outdoor environment with a large area that supports children's movements will make children more exploring. In addition to playing equipment to stimulate children's motoric sensors, it is necessary to provide a greenery area and be designed that is friendly to nature such as the arrangement of a mini garden containing flowers or trees so that the school environment looks beautiful and fresh. Furthermore, a beautiful environment will provide sensitivity to children about their concern for the environment and can cause a sense of empathy, concern for the environment, and children's motivation in protecting the environment. (Cawla, 2009) (Apriliani, Purba, Dewanti, Herawati, & Faizal, 2021).



Fig. 4. Indoor Area

Some of the requirements that must be considered in organizing or managing the ECE learning environment are: first, pay attention to the size of the place or room that will be used by children in carrying out learning activities. The size of the room or place of study must always be a concern, do not let the room be too full of children who play or study. Ideally, the area of the room according to Permendiknas No. 58/2009 is a room with a minimum area of 300m² with a ratio of 3m² per child. Classrooms are arranged so that children can move freely, and not be too full of items that hinder children's movement, for example, as expressed by Mariyana, et al (Mariyana & Setiasih, 2018) classrooms for children aged 3-4, learning activities are more freely carried out on the floor. Likewise for the arrangement of classrooms aged 5-6 years, in addition to activities carried out on the floor for children of this age, there are several activities carried out at the table, so that in the classroom in addition to placing several tables and chairs also provided a learning arena on the floor. However, if the room is less supportive or lacks standard size, teachers can create learning programs outside the school, for example playing on playgrounds, and city parks, touring complexes around the school, and visiting places so that children get new nuances and make learning process continues to run smoothly.



Fig. 5. Outdoor Area

The second requirement is lighting and air circulation, the need for light and air circulation in and out of the room, especially indoors, also affects children's learning activities. If the classroom is facing the direction of sunlight then the classroom will have good lighting and the classroom will be naturally bright. Meanwhile, if the class does not get enough sunlight, lighting assistance from lamps is needed based on the size of the room (Nurhadi in Amala, 2022). The placement of playground equipment or furniture also affects the entry of light in the room, for example covering part of the window, covering the light of the lamp, and blocking the entry of light from the entrance. The teacher's skill in arranging the location and position of the play equipment and furniture is very helpful in managing the child's learning environment. The third requirement is the interior design of the room, the walls should not be painted permanently (Hamidah et al., 2022) because it prevents boredom for those who look at them, and the walls need to be decorated and include hangers created by teachers or children on the ceiling of the room that is following the characteristics and imagination of children.

In the design of the learning environment, what needs to be considered is also the cleanliness of the yard, room, toilet, and surrounding environment. Do not let the dirty environment and the smell caused will interfere with the comfort of children when doing activities at school. The manager must provide several trash cans and teachers must be good at placing trash cans so as not to interfere with the movement of children. If deemed necessary, every corner of the place needs to be written to remind everyone in the ECE environment not to litter. Children should also be given an understanding of the importance of school hygiene. The cleanliness of the toilet also needs to be considered, so as not to cause an unpleasant smell. If possible, the placement of toilets is placed inside the school building and in the corner of the schoolyard so that at any time children play in the yard and want to go to the toilet can be easily accessed. A quality learning environment must

also be free from cigarette smoke and burnt garbage smoke. It is good for every ECE institution to give directions to parents not to smoke in the school area, even if it is on the school grounds. As long as the environment is a child's learning environment, cigarette smoke should remain absent. Likewise, guests who come to visit, should not be allowed to smoke in the school area. Writing as a warning against smoking needs to be placed at every point around the learning environment.

CONCLUSION

The management of facilities and infrastructure in the implementation of ECE, particularly in terms of learning environment design, is one of the ECE management activities that must be conducted. The purpose of arranging or designing this learning environment is to establish an ideal environment for children, to support their growth and development, and to provide facilities and infrastructure to facilitate their active learning. A quality learning environment plays a significant part in the development of various areas of child development because it may establish a learning environment that is safe, engaging, and personalized to the requirements and interests of the children.

The organization of indoor and outdoor surroundings, such as room decorations, furniture layout, floor surfaces, or varieties of outdoor and indoor EGT, must be arranged by the child's fantasy world. The necessity is to put plants in the schoolyard to make the school more natural and to allow youngsters to fit in with nature. In managing the learning environment in the ECE environment, several conditions must be met, namely: first, pay attention to the size of the place or room that children will use to carry out learning activities, second, lighting and air circulation, third, the interior design of the room, and fourth, environmental cleanliness. While the objectives of learning environment design include harmony, attractiveness, economic value, artistic worth, balance, a sense of security, and unity.

A good-quality learning environment allows children to move freely, is easily accessible, enjoyable to be in, has artistic value, provides children with a sense of security, and has adequate lighting. Although this is a field mastered by people with skills in art and design, teachers should be able to expand their knowledge in terms of learning environment design. Teachers can learn about the design of the learning environment by reading from any source, as well as through electronic broadcasts and social media.

References

- Apriliani, I. M., Purba, N. P., Dewanti, L. P., Herawati, H., & Faizal, I. (2021). Desain Lingkungan Fisik Untuk Perkembangan dalam kebutuhan anak Di PAUD. *Citizen-Based Marine Debris Collection Training: Study Case in Pangandaran*, 2(1), 56–61.
- Asfar, I. T., & Taufan, I. (2019). Analisis naratif, analisis konten, dan analisis semiotik (Penelitian kualitatif). *No. January, 1-13.*, (January). <https://doi.org/10.13140/RG.2.2.21963.41767>
- Azizah, A., & Purwoko, B. (2017). Studi Kepustakaan Mengenai Landasan Teori dan Praktik Konseling. *Jurnal Mahasiswa Universitas Negeri Surabaya*, 7(2), 1–7. Retrieved from <https://core.ac.uk/download/pdf/230614535.pdf>
- Baiti, N. (2020). Desain pengelolaan lingkungan bermain dalam meningkatkan kemampuan berbahasa anak. *Jurnal Pendidikan Islam Anak Usia Dini*, 3(2), 98–106.
- Hamidah, N. S., Haromiah, I., & Wulandari, R. (2022). Pengelolaan Desain Lingkungan Kelompok Bermain (KB) Amalia Palembang. *JIMR : Journal Of International Multidisciplinary Research*, 1(1), 159–174.

Hasan, Muhammad. dkk. (2021). *Pengelolaan Lingkungan Belajar*. Yayasan Kita Menulis.

Indrawan, Irjus. (2015). *Pengantar Manajemen Sarana dan Prasarana Sekolah*. Yogyakarta: Deepublish.

Ismail, W., Rahun, R., Mutmainnah, M., Nurwahilda, N., Misbawati, M., & Hasanah, U. (2019). Pengelolaan Lingkungan Pembelajaran Di Paud Kemala Bayangkari. *NANAEKE: Indonesian Journal of Early Childhood Education*, 2(2), 121. <https://doi.org/10.24252/nananeke.v2i2.11625>

Kemendiknas. (2009). *Permendiknas Nomor 58 tentang Standar PAUD*. Jakarta.

Mania, S., Nurhasanah, N., Syam, N., Shermila, S., & K, F. (2018). Manajemen Desain Lingkungan Pendidikan Anak Usia Dini Di Pusat Tumbuh Kembang Anak Pendidikan Islam Anak Usia Dini Alauddin Makassar. *NANAEKE: Indonesian Journal of Early Childhood Education*, 1(1), 44. <https://doi.org/10.24252/nananeke.v1i1.6904>

Mariyana, R., & Setiasih, O. (2018). Penataan Lingkungan Belajar Terpadu Untuk Meningkatkan Potensi Kecerdasan Jamak Anak. *Pedagogia*, 15(3), 241. <https://doi.org/10.17509/pdgia.v15i3.11020>

Nisa'el Amala. (2022). *Pengelolaan Lingkungan Belajar di Lembaga PAUD (ed.1)*. Malang: Madza Media. <http://repository.iaimadura.ac.id/483/1/Buku%20Pengelolaan%20Lingkungan%20Belajar%20PAUD>

Nuryati dan Mufrodi, A, M. (2020). *Manajemen Penyelenggaraan PAUD*. Makassar: Yayasan Barcode.

Ramdhani, A. P., Sari, F. P., & Wulandari, R. (2022). Pengelolaan Desain Lingkungan Kelompok Bermain. *Jurnal Multidisipliner Bharasumba*, 1(02 July), 337–350. Retrieved from <https://azramedia-indonesia.azramediaindonesia.com/index.php/bharasumba/article/view/226>

Rukmana, Maman. (2021). *Bahan Ajar Pengelolaan Lingkungan Lingkungan Belajar (Tahun Akademik 2021-2022)*. Pandeglang: Sekolah Tinggi Keguruan dan Ilmu Pendidikan Babunnajah. <https://anyflip.com/tdwob/eqcp>

Septiani, P. E. (2019). PENGELOLAAN DESAIN LINGKUNGAN PLAYGROUB DI CIPTA KREATIF BANGSA PRESCHOOL & DAYCARE PALEMBANG. *Dinamisia : Jurnal Pengabdian Kepada Masyarakat*, 3(1), 105–111. <https://doi.org/10.31849/dinamisia.v3i1.2729>

Susanti, S. M. (2018). Manajemen Pengelolaan Lingkungan Belajar PAUD Berbasis Masyarakat. *Jurnal Tumbuh Kembang*, 5(1), 1–10.

Syaripatunisa, V., Nurhayati, R., & ... (2022). Spesifikasi Lingkungan Belajar Di Luar (Outdoor). *Indonesian Journal of ...*, x(2), 534–540. Retrieved from <https://jurnal.unw.ac.id/index.php/IJEC/article/view/1647>

Wikanjati, Argo dan Tim Saujana Media. (2012). *Kamus Bahasa Indonesia: Untuk Pelajar, Mahasiswa, dan Umum*. Yogyakarta: Pustaka Widyatama.

Wiyani, Novan Ardy. (2015). *Manajemen PAUD*. Yogyakarta: Gavan Media.