

Children's Creation and Education Center with a Behavioral Architecture Approach in Central Tapanuli Regency

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Abstract. *The Children's Creation and Education Center is a facility specifically designed to develop creative potential and facilitate children's learning optimally. In this abstract, we explain the concept and benefits of the center. The Children's Creation and Education Center is a facility specifically designed to develop creative potential and facilitate children's learning optimally. This educational program is designed to facilitate fun, interactive, and experiential-based learning. Through this approach, children can develop their cognitive, motor, social and emotional skills in a balanced way. In order to achieve the center's vision and goals, cooperation between parents, teachers and trained professionals is essential. Through open communication and active collaboration, the center can provide a holistic learning experience and support children's optimal growth.*

Keywords: *Creative center, children's education, creativity, learning, potential*

INTRODUCTION

Education is one of the important things for children. From birth the child acquires first education from the family. However, this is not enough because there are children too requires formal education. Early childhood education is a stepping stone the most basic and has the biggest influence on subsequent educational success. As mentioned in the National Education System Law (2013) in article 1 paragraph (14) It is stated that: Early childhood education is a coaching effort aimed at to children from birth to six years of age which is done through gifts educational stimulation to help physical and spiritual growth and development so that children are ready to enter further education. According to Suyadi (2015), creativity is a basic need human, namely the need for self-realization or self-actualization and is a need highest for humans. Basically, everyone is born into the world with possessions creative potential. Creativity can be identified and nurtured through proper education. Creativity as the ability to see various possible solutions towards a problem is a form of thinking that until now is still lacking receive attention in education. This is not in accordance with life in that era This development, the prosperity and glory of society and the state depend on creative contributions, in the form of new ideas, new discoveries and new technology. Central Tapanuli is a district in the province of North Sumatra, with its capital being Pandan is located on the border with the

city of Sibolga. After the Proclamation of Independence Republic of Indonesia, implementation of government affairs in the regions, including in Central Tapanuli remains within the framework of the Unitary State of the Republic of Indonesia. On August 24, 1945 The Tapanuli Resident, at that time appointed Z.A. Glr Sutan Komala Pontas Sibolga District Leader subsequently as Demang and responsible for implementing the wheels of government in Central Tapanuli. The educational condition of a nation's level of education is one of the factors influence the progress of a nation. And it cannot be denied that the level of education in each region influences the level of national education. According to education level in Central Tapanuli Regency, Pure Enrollment Rate (APM) for elementary school education was 99.38% and the Gross Participation Rate (APK) was 110.38%. For junior high school level, The Pure Participation Rate (APM) is 87.58% for the Gross Participation Rate (APK).

Tabel 3.E.I.5. APK dan APM Kabupaten Tapanuli Tengah					
No	Indikator	2016		2017	
		APK	APM	APK	APM
1	SD/MI	115.02	97.76	110.38	99.38
2	SMP/MTs	101.95	88.26	96.99	87.58
3	SMA/SMK/MA	85.73	65.78	88.95	68.61
4	Perguruan Tinggi	15.18	9.71	-	-
Sumber : Kabupaten Tapanuli Tengah Dalam Angka 2018					

As for the education sector in Central Tapanuli, since the last few years there has been growing rapidly. Education, which was previously far behind, is now able to stand up parallel to other districts/cities in North Sumatra. Various achievements at North Sumatra, national and national levels The international achievement achieved by education stakeholders in Central Tapanuli is an indicator It is clear that the world of education is increasingly developing in Central Tapanuli. Currently, it is almost deep every competition event in the field of education and science in North Sumatra, apart from taking part section, students, teachers, principals or schools from Central Tapanuli are always carving performance. This is clearly proof that our education is no longer there lost, has been able to keep up with other districts or even cities in North Sumatra, which have been around for a long time This is considered capable of being a barometer of education, because it has far more facilities adequate, for example Medan City," said the Regent of Central Tapanuli. Next, the Regent of Tapanuli Tengah said that various efforts have been and will continue to be made by the District Government Tapanuli is in the middle of encouraging increased development in the education sector. Especially It is believed that the education sector will be the main factor in Central Tapanuli's future hopes because this

sector determines the human resources in Central Tapanuli later. Apart from that, the construction of a children's creation and education center is also important can further develop the achievements of children in

Central Tapanuli, so efforts must be made This is done by building a children's creation and education center with facilities adequate for children by developing an interesting learning system for children. So to those of you who excel and want to learn. Tapanuli district is very central needs a children's education center because the children there really need it more attractive facilities and can appreciate better creative ideas, and The children's creativity and education center in Central Tapanuli Regency plays a very important role in helping the community, children and parents.

RESEARCH METHOD

This research uses a mixed method between quantitative research types research that produces discoveries that can be achieved (obtained) with using statistical procedures or other means of quantification (measurement), V. Wiratna Sujarweni (2014:39), While Quantitative Research Methods are research based on the philosophy of positivism is used to research populations or certain samples, data collection using research instruments, data analysis quantitative or statistical in nature, with the aim of testing the established hypothesis, Sugiyono (2017:8).

1. Implementation Stage: Research sites

The research location was carried out in one area, namely Central Tapanuli Regency, The building is located in the district. Pandan, Central Tapanuli Regency, North Sumatra.

2. Data Collection

This stage involves collecting data through various techniques such as interviews, questionnaires, participant observation, document study, or focus group discussion. Researchers must plan and implement data collection strategies appropriate to the research design The selected. Sugiyono (2009:225) also explains that "in qualitative research Data collection was carried out in natural settings (natural conditions), primary data sources, and data collection techniques focus more on observation, interviews and documentation, Data What researchers use in this research is primary data, namely data that is processed in the form of numbers obtained from the questionnaire scale that the researcher distributed to subsequent respondents processed using SPSS 25 software. The data collection technique is a step the most strategic in research, because the main goal of research is to obtain data, according to Sugiyono

(2009:224). Observation is "observation and recording systematic of the elements that appear in a symptom on the object of research. Observation is research by observing and recording various processes direct or indirect biological and psychological aspects that appear in a symptom on the research object. The purposes of using observation as a research method include:

To find out students' behavior when at school and at home, Widoyoko (2014:46).

3. Research Variables and Samples There are 2 research variables, namely:

1. Application of Game Based Learning concepts to architectural elements,
2. User perception with game based learning concepts in building users, such as children

Table 1. Variables, Data Types, and Data Collection Methods

NO.	VARIABLE	DATA	METHODS
1.	Application of Game Based Learning concepts to architectural elements	Open Space Natural Lighting Color and Aesthetics Attractive Zoning	Survey and mapping Questionnaire distribution
2.	User perception with game-based learning concepts in building users, such as children.	User characteristics (children)	Participatory observation questionnaire




RESULT AND DISCUSSION

1. Review of Comparative Studies

In planning a building, location selection is a very important factor. Analysis and consideration of certain factors must be carried out carefully so that the selected location can meet the criteria in accordance with the function and design theme. (table 1)

Comparative study results Table

No.	Name	Location
1.	Children's Forest Nursery School / Takashige Yamashita Office	Gotemba, Japan

	 <p>(https://www.archdaily.com)</p>	<p>Nestled amidst the serene beauty of forested hills near the majestic Mount Fuji, this architectural gem is poised to provide a nurturing and stimulating environment for young minds to flourish.</p>
2.	<p>La Croze School / rue royale architects</p>  <p>(https://www.archdaily.com)</p>	<p>Billom, France</p> <p>This building is located in a small town in Puy-de-Dôme, France. A new work created in Spanish for 120 people, its architecture is designed to integrate or project in its context, using site materials and proportions in direct league with nature.</p>
3.	<p>LYCEUM School / DL Atelier</p>  <p>(https://www.archdaily.com)</p>	<p>Chongzuo, Guangxi, China</p> <p>This building is in a cottage in Beijing, which is a courtyard surrounded by bungalows. Each classroom faces the courtyard, there are five or six classes in the larger courtyard, and only two or three classes in the smaller courtyard.</p>

2. Theme Overview

Since childhood, humans have stored memories of architectural experiences into a collection of visual, emotional and sensory perceptions. A person's perception of space determined by the process of occurrence of a stimulus, namely the presence of a stimulus from the environment, registration of stimulus information, then interpretation of the meaning of the stimulus to the individual.

Christopher Alexander's 1977 "The Timeless Way of Building" emphasizes that design A good one must be able to create an environment that can fulfill human needs and can result in a positive experience for its residents. The theory used to explore this research is cognitive theory from the book Daniel Kahneman's "Thinking, Fast and Slow" discusses various topics in psychology cognitive, including cognitive theories related to children's learning and education. In context of children's education centers, this theory can be used to improve teaching methods and education.

A children's education center can function as an environment that supports children's cognitive development and helps them reach their maximum potential. Cognitive and social development program implementation is depicted in the following diagram:



As for supporting or complementary literature for the main theory used, here is some literature that supports the theory in this project:

"Creative Confidence" by Tom Kelley and David Kelley (2013). This book discusses how to develop creative self-confidence in children and adults, as well as how to use creativity to solve problems and create innovation. "The Importance of Art Education in Young Children's Development" by Kaitlyn E. Snyder and Jill K. Mulholland, in the journal Early Childhood Education Journal (2019). this journal discusses the benefits and importance of creative arts education in development children's creative, social, and emotional skills.

3. Project Location

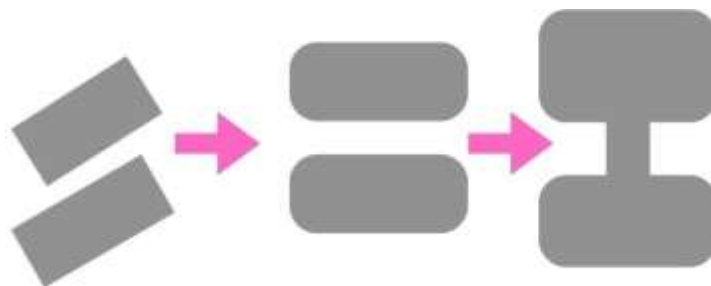
The design in this scientific paper is the design of a children's creation and education center using a behavioral architecture approach in Central Tapanuli Regency. As a place where children can learn, develop and explore their interests and creativity. The goal is to provide an environment that supports children's intellectual, social, emotional, and physical development. This project is located on Jl. Sisingamangaraja, Barus sub-district, Central Tapanuli Tengah.



Picture 1: Project Location

4. Building Mass Concept

The shape of the mass taken is a square, where the nature of the square/square shape is that it means purity and rationality. A square is a static and neutral figure that has no directional inclination. Other rectangles can be considered as variations of the square shape with additional deviations. long or wide. Then what became the basis for the mass composition was the Lego game. Because the Children's Creation and Education Center focuses on children who are an alternative concept for mass composition.



5. Outdoor Space Zoning

The Children's Creation and Education Center is a type of educational building, therefore a good circulation and parking system is needed to support the function of the building. Circulation in the design of children's creation and education centers is designed to make it easier for motorized vehicle users and pedestrians.



CONCLUSION

Thus, children's creativity and education centers have an important role in developing children's creative potential and supporting their optimal growth. Through a fun and interactive learning approach, as well as collaboration between parents, teachers and professionals, this center can provide a holistic educational experience and support children's cognitive, motor, social and emotional development.

This playful concept with a behavioral architectural approach is expected to be a solution for formulating the design concept for the Children's Creation and Education Center in raising children who are intelligent and full of creativity and can improve the quality of the nation's next generation for the better. The application of this concept also aims to think creatively and innovatively with psychological influence from.

Apart from that, the LEGO Education solution is teaching to inspire interest from the humanities and arts, science, technology, engineering, and mathematics (STEM), targeted at preschool, elementary school and intermediate. In the USA, close to 20,000 schools teach the subject different ones using solutions from LEGO Education. This is based on the LEGO system to learn to play combined with materials relevant curriculum and digital resources. With education set, lesson plans and curriculum materials, assessment tools and teacher training and support, Lego Education can help students meet their goals curriculum and provides students with the tools needed to make learning inspiring, interesting and effective.

DAFTAR REFERENSI

- Astini, W. (2021). Perancangan pusat kreativitas anak (Pendekatan arsitektur perilaku) [Doctoral dissertation, UIN AR-RANIRY].
- Hurlock, E. B. (1978). Psikologi perkembangan anak. Jakarta: Erlangga.
- Neufert, E. (1996). Data arsitek Jilid 1. Jakarta: Erlangga.
- Neufert, E. (2002). Data arsitek Jilid 2. Jakarta: Erlangga.
- Fakriah, N. (2019). Pendekatan arsitektur perilaku dalam pengembangan konsep model sekolah ramah anak. *Gender Equality: International Journal of Child and Gender Studies*, 5(2), 1-14.
- Huliyah, M. (2016). Hakikat pendidikan anak usia dini. *As-Sibyan: Jurnal Pendidikan Anak Usia Dini*, 1(01), 60-71.
- Marlina, H., & Ariska, D. (2019). Arsitektur perilaku. *Rumoh: Journal of Architecture*, 9(18), 47-49.
- Munandar, U. (1999). Mengembangkan bakat dan kreativitas anak sekolah. Jakarta: Rineka Cipta.