

Mobile Architecture as Education Quality Enhancement of Street Children

Hasan Busri¹, FX Teddy Badai Samodra¹

Abstract—Street children as a reality that can be found in every city in Indonesia becomes a "magnet" of urban issues especially in education sector. Marginal Theory assumes that urban poverty occurs due to culture of poverty that is isolated within certain societies with apathetic and pessimist individual characters and unsupportive family and community environments. The existence of marginalized groups became the main source of the occurrence of various forms of public illness, one of them is street children. Mobile Architecture is a reaction from the world of architecture in presenting new solutions in the social world. The phenomenon of formal education that is always seen with the size of formalities and measurable values, it should be seen from the other side that presents a reaction to the world of architecture as a container. The main question is how the concept of architectural flexibility can work optimally in the existence of this street children's school design? So that can be according to time, function and place. Architectural flexibility as the concept offered is accordance with current social and environmental conditions. This flexibility is supported by Portable Architecture and Folding Architecture methods so that a design - in this case street children's school - can match the space at any time. This method allows to environment changes and can reach street children scattered at some point in the city. Based on the characteristics of street children who have demands on the street to make money, the empowerment approach proposed is the "Street Based Intervention" approach. This approach makes street children will be approached at a certain point then accommodated and given services in the form of education, coaching, and the place of play and socializing.

Keywords—Architectural Flexibility, Education, Street Children, Social.

I. INTRODUCTION

The nascent of marginalized society comes from high urbanization. Unfortunately, many of them do not equip themselves with the skills and expertise in the face of the harsh life in the city. Thus, they only become unskilled labour where the income obtained is uncertain and so some children become abandoned because they do not meet the needs of the child. It makes many children meet their own needs. It can also increase unemployment rates in urban areas, as well as the emergence of marginalized communities.

"A city that grows into a metropolis and a gigantic, at the same time must deal with the problem of limited development costs and the ability of the city to provide jobs for those who flocked into large cities". The phenomenon

gives rise to marginalized groups. Marginal people are societies that exist because of economic, social, cultural and political pressures, including government policies and programs that are not pro-marginalized [1].

"Marginal Theory assumes that urban poverty occurs due to a 'culture of poverty' that is isolated within certain societies with their character that: Apathetic, resigned; Unstable family systems; Lack of education; Less ambition to build the future; Common crime and violence".

The existence of marginalized society became the main source of various forms of public illness in a country, one of them is street children. According to the Ministry of Social Affairs (2005: 5; 2001:23-24), street children are children who spend most of their time doing daily living activities on the streets, either to earn a living or to roam the streets of other public places. Their age indicators range from 6 to 18 years old. This needs to be given more attention because it involves the next generation of people who still have a great opportunity for a decent life to continue the nation's relay.

II. DESIGN METHOD

A. Portable Architecture.

Portable architecture is a work of architecture that has flexibility over time and location. The object of the architecture can be moved or relocated and can adapt to changes in its environment. This method will help in reaching street children which are scattered at several point within the city. This design will use the transfer method that joined the transport system. But the building can also be separated from its transport, so it can stand on its own. This makes the building can move in a location that can't be taken even though the vehicle.

B. Folding Architecture.

Folding architecture is an architectural method that has the flexibility in the form of building mass. This architectural object uses a folding / kinetic technique in its construction. This model can be developed and can also be the simplest form. The simplest form is used when objects move locations, whereas more complex shapes are used when they have found the location points that will be temporarily inhabited.

C. Architectural Programming [2].

Design process is the formula between the ideas and objectives that are delivered in the language of architecture. In other words, the concept is a statement and thought of the architect about the basic, orientation, idealization, and

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dreams that the architect wants to achieve through his design. The design concept confirms and provides guidance and direction and methodology in designing. In the use of Architectural Programming, we are guided in completing the facts in sequence to the concepts that will be applied to the design [2].

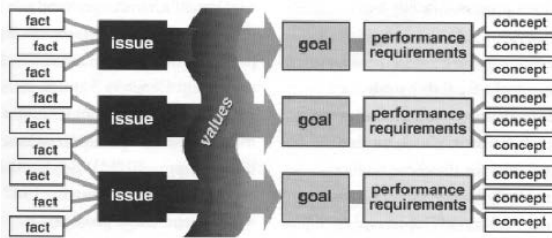


Figure 1. Donna P. Duerk Programming Design [2].

III. RESULTS AND DISCUSSION

Based on the background exposure, the issues to be raised in this proposal are to find a critical solution to improve the quality of Education that can reach marginalized groups, especially street children which are scattered at various points in the city. This design comes as a solution to the problems of existing solutions such as raids and rehabilitation of the Surabaya government or community teaching activities driven by Surabaya students.

A. Street Based Intervention Approach.

Behavioural architecture is an approach which in its application always includes behavioural considerations in design. Through the general overview of the user can formulated the type of space and activities that suit the needs and character of the user. Analyzing the problem covers all aspects consisting of analysis of activity pattern, space requirement, space scale, organization of space, and pattern of interior in building. In this case the user behaviour of the design object, which is devoted to the behaviour of street children [3].

B. Potential and Behaviour of Street Children.

In the concept of BKS (2000: pp. 111-112), seen from the inherent potential of street children as individuals / groups and potentials in their social environment [4], there are potentials:

- a. Education : there is still a desire to go to school
- b. Economy : the ability to run the wheels of the street economy
- c. Social : to grow the social attitude of the people of the city

C. Locations.

To provide land characterization, the site will be selected based on several benchmarks, i.e. accessibility, land boundaries and strategic place. Here is an area that will be

the location of a street children school. Some examples of selected locations are Joyoboyo Terminal; Bungkul park (Taman Bungkul); Bungurasih Terminal.

D. Program Activities: Learning + Play + Socializing.

The activities that try to be presented in certain locations is the process of teaching and learning, play, and also socialization. It is hoped that street children can learn comfortably and cheerfully in accordance with the character of children in general. In addition to learning, socialization process becomes one of the fulfilments of basic human needs that sometimes street children do not get it in his family.

The play "consists of repeated responses just for functional enjoyment." According to Bettelheim play activities are activities that "have no rules other than those set by the players themselves and there is no end result intended in external reality" [5]. With the three main activities are expected street children are able to receive education with pleasure without any pressure. So that learning will be easily carried out and become a necessity for every individual of street child. With this, the goal of street children education will be achieved well.

E. Building Functions: Transportation + non-formal school.

Transportation is used to facilitate humans in performing daily activities. Non-formal education is an educational path outside of formal education that can be implemented in a structured and tiered manner.

Nonformal education is organized for community members who need education services that serve as a substitute, enhancement, and / or complementary formal education in order to support lifelong education. Nonformal education serves to develop the potential of learners with an emphasis on mastery of knowledge and functional skills as well as the development of professional attitudes and personalities [6].

This idea is a combination of transportation used to migrate and with non-formal schools that have the function of teaching and learning. It is expected to be a place of learning that can reach certain points in the city that became the location of the spread of street children.

IV. ACTIVITY & SPACE RELATED REQUIREMENTS

Activities to be presented are educational activities of street children. Therefore, in order to run effectively, it is necessary to limit the quantity limitation of the street children themselves in each room. One room can accommodate 10-15 street children. There is distribution of rooms by activity in Figure 2.

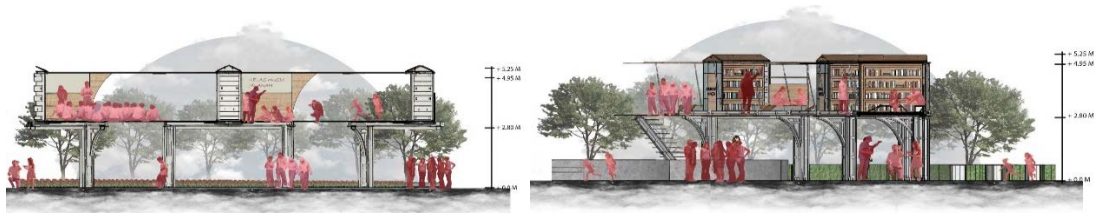


Figure 2. Classroom and Library Section Drawing

V. DESIGN CONCEPT

Goals, Criteria and Concept Design is a decline in the concept that departs from the objectives and criteria of the design. So that the concepts are designed to achieve the expected goals.

A. Mobile Architecture Concept.

Mobile Architecture Concept is the core of this design concept. With this is the task to reach the dots of the city that became the location of the distribution of street children can be done easily.

This concept uses the merging function of the building. Buildings that have been simplified shape using portable structure and folding architecture earlier, then transported using a vehicle. With these transportations, buildings can move places.

Because the building must be able to reach the city dots that are the location of the distribution of street children, then certainly the building should be packaged in a much simpler form. This is to facilitate the movement of the location of the building. Therefore, the building that

originally has this large volume, with the concept of folding architecture can be reduced to one third of the volume of the initial form. In addition, the folding architecture can improve the optimization of the existing room so that the running activities can be facilitated well, because with this concept can accommodate the necessary facilities for activities that have been determined.

Of course, this structure requires a lightweight material and strong because the change in shape of the building itself will often be done. The use of material from this structure is steel. With this steel this building will be able to be transformed into a simpler form than the original shape for easy removal.

With this modular concept, it is expected that the number of rooms can adjust to the needs of the street children themselves [7]. Due to the different location of the land, it will be different condition needs. Lands that tend to be narrow will allow to develop vertically and land that tends to be wide will allow to develop horizontally [8]. Mobile Schooling is a living organism that allows a new approach that turns imagination into collective memory.



Figure. 3 Units of Mobile Architecture: Building Can Move Location.



Figure. 4 Buildings Can be Changed to A Simple Form.



Figure. 5 Mobile Architecture Units Can Accommodated in Various Places (a. near Joyoboyo Terminal; b. Bungkul Park; c. Purabaya Terminal)



Figure. 6 Street Children School Basecamp.

VI. CONCLUSION

Termination of the chain of street children must use education to improve the quality of life in the future. With the concept of mobile architecture, street children who have dynamic behaviour can be accommodate. The architecture can reach various places that are often by street children.

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