

DESIGN OF MODERN ISLAMIC BOARDING SCHOOLS BY APPLYNG THE THEORY FORM FOLLOW FUNCTION AND COLOR PSYCHOLOGY

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Abstract

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Parent tend to send their children to public schools which in fact lack religious education. Besides that, they only put their children in salaf boarding schools where there is a lack of general education. So that between formal education and religiosity is less balanced. With the educational needs that exist, educational institutions that cover both are very important. One of the implementations is the existence of modern Islamic boarding schools whose ideology is religious education combined with general education. The development of an increasing modern era makes buildings more modern as well. People in this modern era tend to pay attention to functional as well as facilities that can meet their needs, especially the needs of educational facilities today. With this trend, efficient and functional modern buildings can be presented as an effort to meet today's needs. In harmony with modern buildings that are efficient and functional, the theoretical approach of "Form Follow Function" in Modern Architecture can be used as a basis for designing modern Islamic boarding schools. In addition, the function of the building that can affect psychological health also needs to be considered. One of the applications is with several color combinations in the building. For this reason, a combination of form follow function theory and color psychology will be applied to this Modern Islamic Boarding School Design.

Keywords: Educational Ideology, Modern Islamic Boarding School, Modern Architecture, , Form Follow Function, Color Psychology

INTRODUCTION

Education is one of the important spears in advancing a nation or country. A proper education can create intelligent and superior generations. This current generation will be the next generation in the future. The implications of the education system provide educational output. Religious education can produce generations who have an awareness of being obedient to religion. Public education produces a generation who thinks that there are no ultimate limits to the possibilities that occur within him, or that he can create his own life without divine guidance. Parents always try to provide a proper education for their children. However, parents tend to send their children to public schools which in fact lack religious education. So that between formal education and religiosity is less balanced. There are those who are good at academics but do not know

about the science of religion. There are also those who only focus on salaf education so they are less aware of future changes that are increasingly modern. Judging from the educational needs that occur, educational institutions by sheltering both are very important. One of the implementations is the existence of modern Islamic boarding schools whose ideology is religious education without compromising general education, and vice versa. Modern Islamic boarding schools are equipped with dormitories, religious schools or can be called diniyah schools and formal schools. Dormitories teach students to live independently. The diniyah school strives for students to deepen their religious knowledge. Formal schools are expected so that students are not left behind from civilization and modern technology.

The development of an increasingly modern era creates increasingly modern buildings as

well. Society, especially parents in this modern era, of course, tends to pay attention to functional as well as facilities that can meet their needs, especially the needs of educational facilities today. With this trend, efficient and functional modern buildings can be presented as an effort to meet today's needs. In harmony with modern buildings that are efficient and functional, the concept of Modern Architecture can be used as a basis for designing modern Islamic boarding schools. Modern architecture is a building style with general characteristics, mainly characterized by the use of simple elements with minimal ornamentation. Variations of modern style were found in the early 20th century. Initially modern architecture was adopted by the influence of many architects and architectural educators, however "modern buildings" were built very little in the early 20th century. Instead, it rose in popularity after World War II and became one of the dominant architectural styles for institutional and corporate buildings in three decades.

Some historians view the evolution towards modern architecture starting from social problems, also the close relationship between modernization projects and the dogma of the Age of Enlightenment (The Age of Enlightenment). The modern style was built, in the opinion above, as a solution to social problems and political revolution. The site arthagilberte.com explains a brief history of the differences between Contemporary Architecture and Modern Architecture. Modern architecture originated in European countries in the late 19th century after the first world war and continued to expand throughout the world in the early and mid-20th century. Modern architecture achieved its popularity after World War 2 and usually refers to the design styles of the 1920s and 1950s. While contemporary architecture is 21st century architecture, there is no single dominant style in contemporary architecture worked on a dozen different styles, from post-modernism and high-tech architecture to very conceptual and expressive styles, resembling engraving on a large scale. a variety of common styles and approaches using highly sophisticated technology and modern building materials.

The modern Islamic boarding school will be designed in Surowiti Village, Panceng District, Gresik Regency, East Java because the potential for Islamic boarding schools in Gresik is quite a lot. Gresik Regency is one of the regencies in East Java Province. Gresik Regency has an area of about 1,191.25 km². It is known through the Pondok Pesantren Database, Gresik Regency

has 94 Islamic boarding schools with 12,837 mukim students. With the number of Islamic boarding schools in Gresik Regency, it can support the existence of modern Islamic boarding schools. In addition, the design site is surrounded by a horticultural area, this can be used as a Santri's creativity in managing sources of local wisdom.

MATERIALS AND METHODS

In the design process, methods are needed to facilitate and guide the designer in developing an idea or ideas. There are two kinds of methods in this design, namely rational or synoptic methods and creative methods. The rational method is a design process with structured, detailed, and clear steps to obtain a good design solution. The creative method is the process of designing spontaneously and controlled by experience and imagination. The Design of Modern Islamic Boarding Schools has the concept of advanced and latest technology using Modern Architecture and utilizing horticulture as existing local wisdom.

The modern architectural approach by emphasizing the theory of "form follow function" makes all buildings focused on their functionality. The theory of "form follow function" was expressed by one of the leaders of the flow of modern architecture, namely Louis Sullivan. An architect in America in the 20th century. In one of his articles entitled *The Tall Building Artistically Considered*, Louis Sullivan explained that the form follow function is the form of a building or an object that must be adapted to its function or use. A size, space and characteristics in the building must first be addressed solely to the function of the building. In addition to functional building, color psychology also affects building users.

Color in architecture does not only represent colors, decorations or aesthetics, but is also used to create and represent an impression in the design area and also as a virtual barrier between rooms or design areas. This is due to the process of the human brain being able to accept and criticize the atmosphere objectively and subjectively. In addition, the use of color in a design also affects the behavior, character, comfort and user experience.

Color is also a sensory perception, and therefore, color has a symbolic effect, and emotion. This logic has been proven by scientific studies, because the body and mind are one unit so that the neuropsychological aspects, psychosomatic effects, visual

ergonomics, and the psychological effects of color are components of color ergonomics. There are 3 actions that can be achieved in the color game, namely:

- Attracting attention and giving an impression to the user
- Contains many expressions, able to create reactions and emotions to the user
- Gaining symbolic value, each different color has a different meaning

Here are the primary and secondary colors along with representatives in color psychology that you can consider and develop when designing.

- **Blue**, gives a positive, confident, and safe impression.
- **Red**, gives the impression of energy, excitement, impulsiveness, and action.
- **Yellow**, gives the impression of being optimistic, curious, cheerful, and bright.
- **Orange**, gives the impression of creativity, euphoria, and enthusiasm.
- **Green**, creates serenity, comfort and tranquility
- **Purple**, gives the impression of well-being, calm, and gentleness.

DISCUSSION

Determination of Site and Building Mass

The rationale for mass preparation of Modern Islamic Boarding School Design is the direction of Qibla orientation, because Modern Islamic Boarding Schools are Islamic buildings that should be based on the Qibla direction. The mosque building which is the beginning of the building from the entrance point makes the mosque building a public building that can be accessed by the general public. Then further into the Modern Islamic Boarding School Design complex, there is a school building between the male and female dormitory buildings as an effort to separate or divide the male and female areas in the Design of Modern Islamic Boarding Schools.

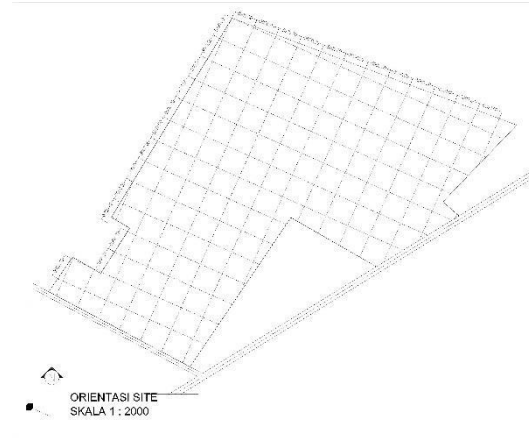


Figure 1 Concept of Mass Composition Orientation.

Source: Writer's Design 2022

The building design is a modern Islamic boarding school which is identical to its Islam. For this reason, the concept of composition on the mass of modern Islamic boarding schools refers to the orientation of the Qibla direction and the standard module size of the building.

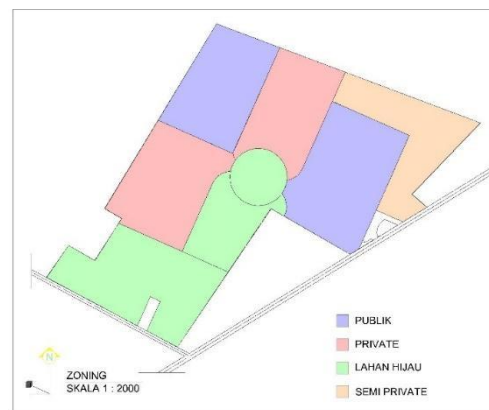


Figure 2 Zoning Concept

Source: Author's Design Work 2022 The

site is divided into 4 zones, namely service, public, private, and green land zones. For zoning the organization of space on the site can be explained as follows:

- a. Service Zones such as, Genset rooms, ATM Centers, Shopping Centers, Parking Areas
- b. Public Zones such as, Mosques, and Schools,
- c. Private Zones such as, male and female dormitories,
- d. Green Land Zones such as parks, lakes , horticultural land

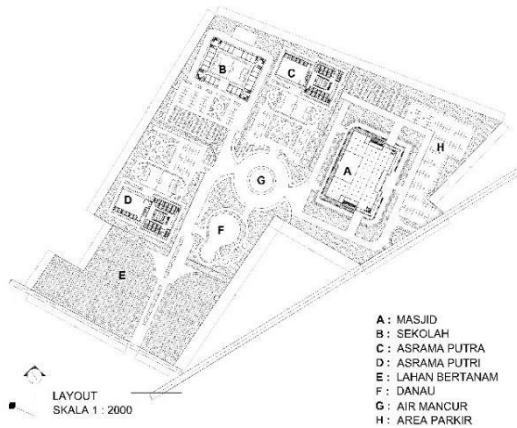


Figure 3 Site Layout
Source: Author's Design 2022

With the availability of the existing land, it will be developed again with a larger and more feasible scale.

Designation of Spaces in the Building + (single space, 10 pt)



Figure 4 Perspective View of Mosque Building
Source: Author's Design 2022

A mosque which has the main function as a place to perform congregational prayers, perform wirid and prayer, I'tikaf and tadarus al-Qur'an or the like. However, for Islamic boarding schools, the mosque also functions as a place to educate students, especially the practice of praying, giving sermons, or teaching classical books. This mosque building has a glass roof at the end of the roof. To avoid *overlap* on the glass roof, *window covering* so that the hot wind caused by solar radiation can get out through the window holes.



Figure 5 Perspective View Inside the School Building
Source: Author's Design 2022

This school building has 4, The 1st floor is used as the leadership and management rooms. 2nd floor as a school facilities area. The 3rd and 4th floors have classrooms and the top 5th floor is the rooftop and the school canteen. The building is designed with a combination of several colors in order to improve the psychology of building users.






Figure 6 Front View of the Dormitory Building
Source: Author's Design 2022

The dormitory is the residence of the students and the community of the Modern Islamic Boarding School Design complex. The hostel building has 4 floors. This dormitory building has 72 rooms, 1 room can accommodate 6 people. This building is also designed with a combination of several colors in order to improve the psychology of building users.

CONCLUSION

The application of Modern Architecture in the Design of Modern Islamic Boarding Schools in Gresik Regency refers to the "*Form Follows Function*" expressed by Louis Sullivan, namely the form of a building or an object must be adapted to its function or use. Therefore, the form of the Modern Islamic Boarding School Design building adjusts from the building's functionalities. In addition, color combinations also affect the psychology of building users, for that functional building that can affect user psychology needs to be considered in order to obtain maximum comfort.

Table 1 Application of Modern Architecture Concepts in Building

No.	Drawing	Concept of Application
1		Columns exposed as a structural function of the building. Glass material is one of the materials for modern buildings. For this reason, glass is applied to some of the walls of the building which also functions as lighting.
2		The colors applied to the building can improve the user's psychology./'
3		The iron fence used as a secondary skin can also be used as a non-permanent structure.

Source: Author's Design 2022

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