The Interior Design of Public Library with Javanese Neo Vernacular Concept in Yogyakarta City

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ABSTRACT

The existence of quality and adequate reading facilities is one of the many factors that can encourage people's interest in reading. Based on research at various Taman Baca Masyarakat (TBM) in Yogyakarta, it proves that the existence of reading facilities has a positive impact, including increasing interest in reading, empowering the community, being independent in terms of the economy, and others. Yogyakarta as a City of Students and City of Culture has various educational facilities ranging from elementary to tertiary levels. The large number of educational facilities in particular has increased the need for libraries as a place to look for references and as an alternative source of knowledge other than formal schools. The study aims to producing an educational and recreational library with a modern packaging that considers elements of culture, tradition and local wisdom as the embodiment of Javanese Neo Vernacular concepts. The creative process in this creation uses a functional approach, an ergonomic approach, and a theme approach. The design implementation is translated through the Javanese Neo Vernacular concept which takes ideas from traditional Javanese architecture or more specifically the Joglo house. The elements in the Joglo house that are taken include the layout, site, and building elements that are tailored to the needs of the library. Design with traditional elements is a manifestation of the educational function of the library and modern elements are a means to attract visitors. The addition of exhibition space is an effort to make the library have a recreational function.

1. Introduction

Reading is an easy activity that can be done anytime and anywhere. However, the reading interest of Indonesian people in general is still relatively low. The Program for International Student Assessment (PISA) survey in 2015, positioned Indonesia 64th out of 72 countries (Pasaribu, n.d.). During the period of 2012-2015, PISA score for reading only increased one point from 396 to 397, while for science rose from 375 to 386. The results of the test showed that the ability to understand and skills using reading materials, especially document texts, in Indonesian children aged 9-14 years ranked in the bottom ten (Hardinata, Suchyadi, and Wulandari 2021). Meanwhile, according to a survey entitled World's Most Literate Nations Ranked \ by CCSU (Central Connecticut State University, America) in 2016 stated that Indonesia is ranked 60 out of 61 countries (Mansur, Sahaja, and Endri 2021). In order to improve people's literacy, since 2016 the government through the Ministry of Education and Culture has launched a National Literacy Movement program consisting of the School Literacy Movement (GLS), the Family Literacy Movement, and the Community Literacy Movement and the National Literacy Movement initiated by the Ministry of Education and Culture has encouraged the growth of reading culture (Suwandayani, Fakhruddin, and Astutik 2020). However, in the implementation, the condition of family and community literacy met some challenges due to lack of
public libraries and bookstores. The existence of quality and adequate reading facilities is one of many factors that can help to increase people's reading interest. A research, on various reading communities in the society or known as Taman Baca Masyarakat (TBM) in Yogyakarta, proves that the existence of reading facilities can have positive impacts such as increasing interest in reading, empowering the community, enhancing economic independence, and others (Septiarti, Tristanti, and Santi 2020). Yogyakarta, known as a city of students and culture, has a variety of educational facilities ranging from basic level to higher education level, both public and private. The number of educational facilities in particular, increases the need for libraries as a place to find reference as well as an alternative source of knowledge other than formal schools. In addition to effective functionality, the success of a library design should pay attention to the attractive and comfortable shape of the space (Pierce 2020). Yogyakarta, being popular as the city of students and the city of culture, has some potentials to be used as a strong identity in the creation of reading facility design with Neo Vernacular concept. The addition of cultural elements is expected to be a potential means to serve the two main tasks of the library, such as the society development through the provision of information and also traditional humanistic tasks (Lehnen and Insua 2021). Library design must also be able to serve many roles to the community and society through the form of interior physical environmental satisfaction that affects them (B. Wibawa, Situmorang, and Efendy 2020). The preparation of Neo Vernacular concepts aimed at presenting traditional nuances rooted in local wisdom, in this case is Javanese architecture packaged in modern style, to strengthen the appeal of the library and branding of the city of Yogyakarta as a City of Students and Culture.

2. Method

Physical and non-physical data and problems found in cases will be present in the concept of space design by also referring to literature (library sources), interview results, and parameters in the forms of photo images as references and comparisons with other public library designs. Problems that will be solved through analysis will later produce ideas or design alternatives. The final result is the design to be realized

Fig. 1. Design Process Scheme. Source: Guide to Drafting Chapter 1 TA Interior Design

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2.1. Design Solution Approach

Public Library design aims to accommodate the activities of library users, for example, searching for some reading materials or information, reading, discussing, borrowing-returning books, and other activities. Additionally, the library is expected to meet the needs of users both physically and psychologically so that users feel safe and comfortable. In general, the benchmark of interior design is to facilitate human needs or activities. Therefore, there are several elements that must be present, such as activities, capacities, and anthropometry that are closely related to the socio-cultural conditions of the users. In addition, the safety and security factors of users must also be considered in designing a building interior. Here is the design approach used in this design:

1) Function Approach

Public Library is a public facility that accommodates user activities in finding educational and entertaining reading materials located in Yogyakarta city. The library users are also educated through traditional elements applied to building design and get recreational facilities in the form of exhibition space.

2) Ergonomic Approach

Ergonomic approaches are applied in this design because the main target of design is humans. Things related to the comfort and safety of the users in doing their activities in the library are the design priorities. Anatomy, anthropometry, psychology, and human physiology are references in design. Facilities in the library are adapted to the character / activities of its users. The space layout as well as the furniture layout is arranged in such a way that all activities in it are in accordance with their purpose and function. Furniture design is adjusted to the standard body size of the users in order to create a sense of security and comfort.

3) Theme/Style/Flow Approach

Neo-Vernacular architecture is a style of architecture that emerged and developed in the post-modern era (Parnell 2021). The emergence of this type is as a form of protest against modern architecture which tends to be subject to rules, too idealistic, systematic, and disconnected from history (Zhao and Greenop 2019). Neo-Vernacular architecture is an architectural display that does not fully apply vernacular rules, but tries to display visual expressions such as vernacular buildings (Ginting and Juliandi 2018). Vernacular means local language. In architecture, the term is used to refer to forms that apply local elements of culture, environment, and even climate, expressed in architectural physical form (layout of floor plans, structures, elements details, ornaments, etc.) (Siradjuddin 2021). Vernacular architecture reflects a local image even though the materials used are modern materials such as glass and metal (Salman 2019). In neo-vernacular architecture, the idea of forms is taken from the original vernacular developed in modern forms. Neo-vernacular architecture has several principles, including: (a) Aim to preserve local elements that have been shaped by traditions; (b) Developing local elements into a modern style; (c) Consider normative, cosmological, local roles and cultures in people's lives as well as the alignment between buildings, nature and the environment; (d) It is a continuation of Vernacular architecture; (e) It uses elements of Vernacular architecture adjusted in the form and function of more current-styled buildings (P. C. Wibawa, Kridarso, and Wijayanto 2021). Javanese Neo Vernacular architecture means an architectural style that does not fully apply traditional Javanese architectural rules, but only takes some and tries to display visuals like traditional buildings.

3. Results and Discussion

3.1. Design Ideas

The vernacular architecture used in this design is Javanese architecture. Javanese architecture refers to the architecture of the house named after the shape of the roof (panggape, kampung, limasan, joglo, tajug). Of some types of houses, Joglo house is used as a source of design ideas because Joglo house is the most Javanese and the most relevant to be a representation of Javanese architecture for its space completeness and deeper philosophical meaning found in its elements (Suwarlan 2021b). The modern elements added to the design aim to make this library in tune with the current conditions of globalization that cannot be
ignored. Thus, it becomes important for the library to be able to keep up with the times without leaving the roots of local culture that characterize a region.

1) Spatial Planning

The basic form used by Javanese houses is square or rectangular and basically divided into two parts, namely the mother house and additional spaces (Idham 2018b). This pattern follows the principle of layout according to the north-south axis and has an increasing sacred value towards the Dalem (central part inside) of the building. Here is the layout pattern (arrangement) of traditional Javanese houses. The other house consists of: Pendapa; Buildings without walls with four pillars (sakaguru), functioned for activities that are 'public' such as receiving guests. The look is made magnificently and authoritatively because it is located at the very front and can be seen from the outside (Utomo et al., n.d.). Dalem; It is located behind Pendapa which is the main building that serves as a family room. Dalem is divided into two parts, namely senthong and living room (H astuti et al. 2021). Senthong; It consists of three spaces that are aligned. The three spaces are senthong kiwa (left), center senthong, senthong tengen (right). Senthong kiwa is usually used to store weapons or sacred items. The middle senthong, also called petanen, pasren, or krobongan is a sanctified space to honor Dewi Sri as the goddess of fertility. Senthong tengen is used as a bedroom. Pringgatan; Located between pendapa and Dalem, used for leather puppet (wayang) show venue at any given moment (H astuti et al. 2021). Additional house (spaces) consists of: Gandhok; spaces on the right and left side of the dalem. Gandhok kiwa (left gandhok) is functioned as bedroom for men while gandhok tengen (right gandhok) is used for bedrooms for women. Gadri; The building behind Dalem serves as a dining room and looks like an emper (open space like a terrace). Pekiwan and pawon; the service area at its back. Pekiwan is bathroom, and pawon is kitchen (Suwarlan 2021a). The characteristic of joglo house site is its symmetrical arrangement, especially the location of the main buildings namely Pendapa and Dalem. In addition, there is an open space or courtyard between buildings that strongly supports air circulation and lighting. Common area, In this area there is a regol (courtyard door), fence, front yard, pendapa, sekheteng (left-right side door of pendapa), butulan door / yard side door (symbolizing strong social ties between neighbors), vegetation, wells, courtyards between buildings / longkangan. Semi-private/private area, it consists of dalem, gandhok, and backyard. Area service, there are gadri or gandhok mburi and pekawan (Jogja Heritage Society, 2007).

Fig. 2. Java House Site Arrangement
2. Building Elements

Feet; it consists of foundation, floor, and umpak. The foundation is made of soil that is sometimes coated in sand. The floor is also called jerambah or jogan, generally using cement, bligon or tegel (with or without motif). Umpak is a base made of black natural stone. The size varies depending on the area of the building (Fauzi, Munir, and M ustansyir 2020). Body; it consists of poles or saka, walls, doors, windows and ventilation. There are several kinds of poles including saka emper / saka rawa (located in emper), saka goco (located in the corner), saka guru (the main pole). Walls are made of different materials. But in general, they usually use bamboo, a combination of bamboo and boards, boards (gabok) and brick. For the doors, windows, and ventilation; there are two models of doors and windows, namely the two-leaf model (kupu tarung / ine p loro) and the one-leaf model (inep siji). Head; it consists of a roof frame and a roof cover. The roof frame is usually made of teak wood, jackfruit wood or coconut wood (glugu). The roof frame of joglo building is a pyramid-shaped brunjung located above the four poles or saka guru. Roof covering; using the empypak system which is a roof supported by a rigid arrangement consisting of usuk (usually made of woods) arrangement that connects molo with blandar pemanjang or blandar-blandar (beams) below them, following the type of the roof. Roof covering material; Joglo roofs are generally covered with clay tiles, either flam or press type (Idham 2018a).

3.2. Design Results.

1) Project Location

This public library is located on Yos Sudarso Street No.1, Kotabaru, Gondokusuman, Yogyakarta City, Yogyakarta Special Region province. This is based on several considerations including: Perda DIY (Regional Regulations) of Yogyakarta Province no. 5 of 2019 on the Spatial Plan of the Special Region of Yogyakarta in 2019-2039, article 74 b mentions that the areas that function for research and higher education are in the urban area of Yogyakarta and Sleman Regency. This location is adjacent to 4 universities: UGM, UNY, Sanata Dharma University and Duta Wacana Christian University, as well as several schools. Thus, the library in the area can optimize the educational activities. Site borders details:

2) Project Implementation

The elements of joglo house adopted in the design of this library include:

- Layout and site; spatial arrangement in this library refers to the arrangement of space as in Joglo house based on the similarity of space functions and classification of zones or zoning, adjusted to the needs of the library. The results are as follows: Lobby placement (public) refers to the placement of Pendapa because both serve to receive guests / interact with the outside world. The exhibition area (public) which is right at the back after the Lobby is based on the location of Pringgitan after passing through the pendapa. Pringgitan is an area for wayang performance (ringgit) - traditional leather puppet show at any given moment. The book collection, reading, and discussion area is placed in the center of the building. This refers to the location of Dalem in the middle of the building because Dalem is the core area of Javanese houses, as well as the book collection area which becomes the core area of the library building. Although this collection area includes a public zone, in order to reach this room requires permission in advance (by leaving items in the locker room), unlike the Lobby area that can be accessed by visitors freely. Similar to the concept of Dalem (private-semi-private) in a Javanese house whose users are the family, guests can access Dalem after getting permission from the host. Due to the shape of the floor plan that is not symmetrical, some rooms undergo adjustments but still consider the laying of similar spaces as in Javanese houses. For example, the location of bathroom and warehouse which are located in the back area of the building.

- Building Elements; Feet; The feet element in Joglo house taken is umpak. Umpak is a base made of black natural stone. The size varies depending on the area of the building with 20-100 cm high, can be with or without motif. Usually the motif used is a padma flower (land lotus) which symbolizes purity and strength. There are also umpak carved with Arabic letters. The shape of the umpak used in the design of this library has undergone a change in the form of simplification of the umpak form in general. The umpak is placed in every column in this building and uses teak wood material (Figure 3).
Body, walls in Javanese Vernacular architecture usually use woods, bamboo webbing, and some combined with brick walls or bricks as a whole, Figure 4.

One of the webbing that is often found on the bamboo walls of Javanese houses is mata walik or Walik Eye motif (the motif consists of eyes in 90° rotated arrangement). This motif is taken and then simplified to then be applied to interior elements and furniture in this library, Figure 5, and Figure 6.

In addition to the woven motif of Walik Eye, the body elements in Javanese houses taken are the ornamental variety of Banyu Tētes (literally: water drops) and Wajikan (diamond-like shape). This ornamental variety is realized in the form of gold color scratches as much as 2 to 4 pieces from top to bottom, placed between two ornamental varieties in the form of patran, Figure 7, and Figure 8.
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Wajikan motif is one of the ornamental varieties often found in Javanese houses. This motif is usually applied to the main pole / saka guru by adding fillings in the form of foliage arranged centrically or flowers. Its application to the library is to use only the edge line of the Wajikan motif itself. This is as a form of adjustment to contemporary concepts used in design, Figure 9.

In addition to being applied as an aesthetic element to the door, wajikan motifs are also used as wall panels in seminar rooms, Figure 10.
Head, the characteristics of Javanese Vernacular architecture can be seen from the various roof shapes. Ceilings usually expose the applied materials and implemented constructions then beautified with the carvings of ornamental varieties. The design of this library adopts joglo roof, but in its application joglo roof cannot be fully applied because the layout of this library is not square. On the top part of joglo itself, there is an element what people have known as tumpang sari which is not found on other types of roofs. The shape of tumpang sari (steps) is used as a ceiling accent in this library, Figure 11.

![Fig. 11. The Ceiling with Tumpang Sari Accent.](image)

- Space Forming Elements: Floor, floors in Javanese vernacular architecture usually use wood floors and tiles with vintage motifs. The implementation on the design of this library, the vintage motif tiles will be used as accent. The materials that will dominate in this building are granite ceramics and wood parquet, Figure 12.

![Fig. 12. Floor Plan.](image)

Wall, walls in Javanese vernacular architecture usually use wood, woven bamboos, some combined with brick walls or bricks as a whole. The implementation in this building is that the rooms separations use brick walls with the some additional wooden panels and large window casements for maximizing natural lighting. In Javanese houses, there are often vents (tebeng) that are rectangular in shape with arrow motif carvings. The location of this vent is above the doors and windows. Ventilation (tebeng) is adopted by leaving arrow motif carvings and replacing them with the woven style of walik eye motifs. Ceiling, the ceiling of this library is dominated by gypsum material and polished concrete with a white-colored finishing. Meanwhile, the accent of the ceiling is in the form of lumber ceiling and wood paneling. The selection of white dominance is based on the main activity in the library, reading, which requires good lighting so that visitors can focus or concentrate on the activities being done. The white color gives a clean and bright impression. Javanese vernacular architecture in ancient times used materials from nature as building materials, such as wood, sand, stone, and bamboo. The colors applied to the design of this library are the
colors of nature, from wood materials. Yet, the dominant color is still white for it is a simple color that can be put in harmony with modern concepts, and at the same time providing a comfortable and bright effect for reading activities in the library. Materials scheme, the materials used are those that are able to represent or give the impression of Javanese vernacular architecture. The use of wood and ceramics with vintage motifs (tegel) are some of the materials that will be applied. Whereas the material that dominates the building is acian (smoothened with cement) walls with white paint finishing, floors with granite, and ceilings with polished concrete and gypsum. Figure 13.

Fig. 13. Ventilation in the Lobby Window.

- Interior System; Lighting. the lighting system in the interior of this library uses both natural and artificial lighting. Natural lighting in this building utilizes sunlight that enters the room through walls with large window casements, while artificial lighting for the room uses public lighting with direct lights, such as down lights, SMART LED panels, and TL lights. The addition of wall lamp is an indirect lamp that is used as an accent and aesthetic element. In the room of book collection, reading, and discussion, there placed many light spots and large window casements to accommodate the need for lighting for reading activities. Similarly, in the room of management officers that requires enough light to do office activities, Figure 14.

Fig. 14. The Natural and Artificial Lighting in the Room of Book Collection and Reading.

Ventilation, the ventilating system in this library uses two types of conditioning, natural and artificial. Natural conditioning is from casements such as doors and windows. The air conditioning in this library is dominated by artificial air conditioning from the use of Central AC, 2-Split AC PK Panasonic CS-PN 18RKP (CU-PN 18RKP) and exhaust fan. Acoustics, in some rooms, there will be special application on their walls and gypsum ceiling, by using special acoustics as in seminar rooms. This intends to support activities in the room and so as not to interfere with activities in other rooms. Security, the security system in this library includes CCTV installed in every room (except toilets), fire extinguishers, fire detectors, and sprinklers at some points. Security is more emphasized on CCTV to avoid theft of valuable books or archives as well as fire prevention systems.
3.3. Library Facilities.

1) Lobby
   The lobby is the first focal point for visitors. This area serves to receive guests and look for information as well as waiting area, Figure 15.

![Fig. 15. Lobby and Waiting Area.](image)

2) Locker Room
   Before entering the core of the building that is the library room, visitors are required to leave bags or luggage into the locker room to avoid unwanted cases such as book theft, etc, Figure 16.

![Fig. 16. Locker Room.](image)

3) Exhibition Space
   In addition to storing and collecting books, the library also has a collection of rare objects or books/archives that are exhibited as a means of recreation and education to visitors, Figure 17.

![Fig. 17. Exhibition Space.](image)

4) Exhibition Space
   In this space, there are several facilities including: 1) loan and return of books (manual or self-service), 2) a collection of physical and digital books, 3) individual and collective reading areas, Figure 18.

![Fig. 18. Reading Area and Digital Collection Area.](image)
5) Kids Corner

Kids Corner is a library service that contains a collection of physical and digital books for children, Figure 19.

![Fig. 19. Kids Corner.]

6) Seminar Room

One of the supporting facilities in this library is the seminar room. This room is to be used for seminars, workshop, or book discussion, Figure 20.

![Fig. 20. Seminar Room]

7) Manager's Office

The management office consists of a work area for employees, a head/manager office, a meeting room and a mini pantry. The shared workspace is designed to save space, Figure 21.

![Fig. 21. Employee Work Area.]

8) Cafeteria

Another supporting facility is Cafeteria which has a dual function: a place to enjoy foods, reading, and also as a place to relax or rest, Figure 22.
9) Prayer Room
To facilitate the worship activities of visitors and managers, mushola (a small room for Islamic praying) is provided in this library, Figure 23.

Fig. 23. Mushola.

4. Conclusion.
Public Library Interior Design with the concept of Javanese Neo Vernacular in Yogyakarta City aims to design the interior of the library that can accommodate the needs of its users for educational and entertaining reading facilities as well as provide a sense of security, comfort, and fun during activities in it. Educational libraries are present through the addition of cultural or local elements through the architecture. The existence of additional facilities such as Seminar Room is an effort to provide educational facilities to visitors. Exhibition area contains rare archives or collections owned by the library function as a means of recreation that also has an educational aspect. In addition, a fun atmosphere is in there for the library’s flexible and non-rigid interior. The design of the library, which combines traditional Javanese interiors with modern ones, provides a new atmosphere so that the design of this library is not old-fashioned and boring like the image of common libraries that has been noticed in the community. To give a traditional impression on the building, the design of some interior elements is made based on the reference of woven motifs and ornamental varieties commonly found in Javanese houses, including Mata Walik woven motifs, Banyu Tetes ornamental variety, and Wajikan ornament applied to various spaces of Joglo house, but it is tailored to adjust to the needs of the library. These rooms include the Lobby, Exhibition Room, Book Collection Reading Room, and a service area that includes a rest room and warehouse.

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