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# The Influence of Activities on the Form-Function Relationship in the Design of Miftahul Hidayah Mosque, Bandung

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### ABSTRACT

*This study investigates the complex relationship between architectural form and function in mosque design, specifically exploring the integration of Early Childhood Education (PAUD) facilities within the mosque complex. The research aims to understand how ritual and non-ritual activities influence spatial organization, both within the broader urban environment and within the specific mosque site. Utilizing an architectural ideogram framework, which represents the sequence of worship actions as the basis for design, this research methodology employs a qualitative descriptive approach. Miftahul Hidayah Mosque in Bandung was selected as a case study, with data collection through direct observation, literature review, and in-depth documentation. The research findings indicate that Miftahul Hidayah Mosque generally aligns with ideogrammatic principles for multi-functional spaces, particularly in the clear site delineation and hierarchical spatial arrangement for prayer. However, the identification of specific areas requiring refinement is crucial. This includes the need to enhance the visual axis leading to the Qibla from the site's entry point, as well as optimizing post-ablution circulation to ensure consistent gender separation and maintain ritual purity. This study also reaffirms the historical precedent of mosques as comprehensive multi-functional community centers, providing strong justification for the integration of contemporary educational facilities. This research is expected to provide valuable insights for architects and urban planners, encouraging the design of more effective, functional, and socially responsive mosque complexes that harmoniously blend sacred and educational functions within dense urban environments.*

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## 1. INTRODUCTION

The architectural styles and forms of mosques have evolved over centuries across the globe, each displaying increasingly detailed and diverse characteristics. This evolution is reflected in the work of Sumalyo, an architect who, in his book "Arsitektur Masjid," describes the rich variety of mosque designs that mirror distinct cultural values and local traditions. The development of mosque architecture isn't solely determined by aesthetic aspects but also by the social and religious functions it serves. In his book "Islamic Architecture: Form, Function, and Meaning," Hillenbrand (1994) states that mosque architecture reflects the changing needs of Muslim communities, including the need to create spaces that support various religious and social activities. Furthermore, in "The Mosque: History, Architectural Development & Regional Diversity," Frishman and Khan (2002) explain that mosque design is influenced by the geographical and cultural contexts in which they are built. They demonstrate that while mosques worldwide share basic elements like the mihrab and minaret, there are significant variations in architectural form and style, reflecting local adaptations to climate conditions, building materials, and indigenous architectural traditions. This phenomenon highlights how different mosque forms can still serve the same function in diverse contexts. However, in some cases, the form and function of mosques operate independently, without close correlation. According to Grube (1978) in his book "Architecture of the Islamic World," there are many instances where mosque architectural elements are applied without considering their functional needs, resulting in visually beautiful buildings that are less effective in supporting worship activities. Additionally, in "The Elements of Islamic Architecture," Williams (1996) argues that there is often a dissonance between the physical design of a mosque and its practical functions, where architecture is more focused on symbolism and aesthetics than on user comfort and needs. This phenomenon suggests that while mosque architectural design can be highly diverse, it's crucial to ensure that form and function are harmonized for the mosque to operate optimally.

Differences of opinion regarding mosque architecture arise from these differing perspectives. The function of a mosque as a place of worship is not limited to religious rituals but also encompasses various social, educational, and economic activities. Thus, mosques possess architectural flexibility that reflects local cultural values while still performing their primary function. The integration of educational functions, such as kindergartens/Early Childhood Education (PAUD), within the mosque environment reflects the mosque's role as a comprehensive community center, not only for worship but also for the development of younger generations (Bianca, 2000). The presence of these early childhood education facilities makes the mosque a vital node in the social fabric of society, facilitating early religious and general learning (Petersen, 2012). Mosque architecture that supports this dual function demonstrates an evolution of design that accommodates social and educational needs, where worship spaces and learning spaces can coexist harmoniously (Grabar & Michell, 1999). This concept aligns with the Islamic tradition that views mosques as multifunctional institutions, as practiced in early Islam, where mosques served as schools, courts, and social centers (Denny, 2005). This design flexibility is important to ensure that mosques remain relevant and functional amidst changing societal needs (Hoag, 2002). Non-formal educational functions like kindergartens/PAUD within or alongside mosques also reaffirm the mosque's role as a dynamic community activity center, not just for ritual worship (Bloom & Blair, 2009). This research will provide a deeper understanding of how ritual and non-ritual activities within mosques influence their architectural form, helping architects, designers, and developers design mosques that are more effective and suited to community needs. To delineate these

architectural differences, it is necessary to examine the mindset, concepts, and culture of the people in a place and era where the mosque was founded (Sumalyo, 2006). From this perspective, the principal differences between one and another become more clearly visible. This indicates that the form or spatial layout of a mosque can change over time, while its basic function as a place of worship remains the same (Sucipto, 2014). A mosque can be defined as any place for Muslims to pray, as stated in the words of Prophet Muhammad SAW: "Wherever you pray, that place is a mosque" (Endang et al., 2012). Thus, mosques have architectural flexibility that reflects local cultural values while still performing their primary function. This research will provide a deeper understanding of how ritual and non-ritual activities within mosques influence their architectural form, helping architects, designers, and developers design mosques that are more effective and suited to community needs.

Although the Qur'an mentions the function of mosques for glorifying and remembering Allah (QS An-Nur [24]: 36-37), there are no explicit or implicit details regarding building forms and architecture (Ayubi, 2008). Differences of opinion about mosque architecture arise from these differing perspectives. The function of a mosque as a place of worship is not limited to religious rituals but also includes various social, educational, and economic activities. This creates the appeal for mosques to be visited and remain "alive" with the multitude of activities conducted within them (Bahreisj, 1982). In Islamic culture, mosques are considered the most crucial sacred places with specific architectural characteristics and important functional facilities that foster place attachment (Najafi & Shariff, 2014). Therefore, mosque design not only considers aesthetic aspects but also its function and social sustainability. By analyzing the relationship between mosque activities and forms, this research can encourage innovation in mosque design that is more responsive to the needs of congregants and the surrounding environment, as well as trigger the development of mosques that are more functional, efficient, and impactful.

A mosque is not just a place of prostration but also the "House of Allah" that must be glorified (Mustafa, 1990). Throughout the history of architectural development, mosques have received optimal attention in terms of technological skill, aesthetics, and philosophy. This aligns with the hadith of Rasulullah SAW, who stated that whoever builds a mosque for the sake of Allah, Allah will surely build a comparable house in paradise (Barliana, 2008). Mosques serve as centers for religious, social, educational, and political activities, reflecting cultural identity and local values (Krier, 2001). A deep understanding of the relationship between mosque form and function is crucial to ensure that mosques can optimally serve as places of worship and community centers (Johnston, 2013). The results of this research can be a significant contribution to architectural literature, design, and religious studies, and stimulate further research in the field of more inclusive and sustainable mosque design.

### **1.1 Mosques and Early Childhood Education (PAUD)**

Historically, mosques have been far more than just places of worship. They've served as comprehensive community centers for a wide range of social, educational, and even economic activities (Endang et al., 2012; Ilmi & Al Hakim, 2020; Mustafa, 1990). This traditional multifunctional role provides a strong precedent for the mosque's dynamic contemporary role as a community hub. The evolution of mosque architecture isn't solely driven by aesthetics, but also by the social and religious functions it fulfills (Fitria Indrarani, 2017). In Islam, mosques are viewed as multifunctional institutions, a practice evident from early Islamic times when mosques served as schools, courts, and social centers (Denny, 2005). This broad appeal makes mosques vibrant places, continually "alive" with numerous activities (Bahreisj, 1982).

The period of early childhood (ages 0-6) is recognized as a crucial "Golden Age" for development. Significant neurological findings highlight rapid growth in intellectual capacity during these formative years (Peraturan Daerah Kabupaten Sidenreng Rappang Nomor 1 Tahun 2020). Early Childhood Education (PAUD) is defined as a nurturing effort for children from birth up to six years old. It involves providing educational stimuli to foster physical and spiritual growth and development, ultimately preparing them for further education (Undang-Undang Republik Indonesia Nomor 20 Tahun 2003; Peraturan Pemerintah Nomor 17 Tahun 2010; Nurhayati, 2011). The primary goal of PAUD is to build a strong foundation for children's potential, helping them become individuals who are faithful and devout, possess noble character, are healthy, knowledgeable, capable, critical, creative, innovative, independent, self-confident, and become democratic and responsible citizens (Peraturan Pemerintah Nomor 17 Tahun 2010; Nurhayati, 2011).

Integrating PAUD facilities within or alongside mosque complexes reflects the mosque's comprehensive community role, extending beyond worship to include the development of the younger generation (Bianca, 2000). The presence of these early childhood education facilities transforms mosques into vital nodes within society's social structure, facilitating both religious and general learning from an early age (Petersen, 2012). This concept aligns perfectly with the Islamic tradition of viewing mosques as multifunctional institutions (Denny, 2005; Kemenag, 2020).

The repeated emphasis on the historical multifunctionality of mosques isn't just a historical fact; it's a powerful justification for contemporary integration efforts. This inherent multifunctionality helps mitigate potential arguments against adding "secular" functions to sacred spaces. Instead, it frames PAUD integration as a continuation or evolution of core Islamic tradition, rather than a deviation. Thus, successful integration leverages the existing cultural and religious acceptance of the mosque's broader role. This underscores that architectural and urban planning interventions in religiously significant spaces often require a narrative that connects modern utility with historical or theological legitimacy to ensure community acceptance and project success.

## 1.2 Definition and Typology of Mosques in Indonesia

The word "masjid" originates from the Arabic root "sajada," which means "to prostrate," and as an isim makan (noun of place), "masjidan" means "place of prostration" (Endang et al., 2012; Syihab, 2000). This symbolizes a place of submission, obedience, and reverence to Allah SWT (Endang et al., 2012). Prophet Muhammad SAW said, "Wherever you pray, that place is a masjid," which implies that every sacred place on earth can function as a place of prayer (Endang et al., 2012). The Qur'an (QS An-Nur: 36-37, QS Al-Jin: 18) emphasizes the function of mosques for remembering Allah and states that mosques belong to Allah (Ayubi, 2008; Endang et al., 2012). From a jurisprudential perspective, a mosque is a place that has been specifically endowed (waqf) for the purpose of performing prayers, both obligatory (fardhu) and supererogatory (sunah) (Endang et al., 2012). This legal definition implies permanence and certain legal implications, such as the invalidity of selling or transferring the property (Endang et al., 2012). Although there is no explicit government definition in the provided sources, the context of regulations concerning mosque management (for example, Peraturan Wali Kota Bontang Nomor 2 Tahun 2023) implicitly defines a mosque as a building owned and managed by the local government for religious activities (Peraturan Wali Kota Bontang Nomor 2 Tahun 2023). The Ministry of Religious Affairs' Mosque Information System also tracks mosques, indicating official recognition and classification (Kemenag, 2020).

The contrast between the broad definition of a mosque in the Hadith ("every inch of land on this planet earth that is pure, is valid for performing prayers") and the narrower fiqh

definition ("a place that has been endowed for the purpose of prayer worship") indicates a dynamic tension (Endang et al., 2012). While the Hadith emphasizes spiritual flexibility, the fiqh definition imposes legal and architectural permanence. This duality impacts design decisions: temporary prayer spaces require minimal design, whereas endowed mosques necessitate certain architectural features and legal considerations that affect land use and building typology. This distinction shows that not every "place of prostration" requires formal architectural intervention or complex regulatory oversight. However, for a building to be legally recognized and managed as a "masjid" in the fiqh sense, it must comply with certain waqf principles, which then determine its permanence, design, and permitted activities. This highlights how religious concepts are translated into tangible legal and architectural frameworks, shaping the built environment.

### 1.3 Typology of Mosques in Indonesia

The Directorate of Islamic Religious Affairs and Syariah Development within the Directorate General of Islamic Community Guidance, Ministry of Religious Affairs of the Republic of Indonesia, issued Decree Number DJ.II/802 Year 2014 concerning Standards for Mosque Management Development (Direktorat Urusan Agama Islam dan Pembinaan Syariah Direktorat Jenderal Bimbingan Masyarakat Islam Kementerian Agama Republik Indonesia, 2014). This decree outlines specific typologies based on their administrative and territorial significance (Direktorat Urusan Agama Islam dan Pembinaan Syariah Direktorat Jenderal Bimbingan Masyarakat Islam Kementerian Agama Republik Indonesia, 2014).



Figure 1: typology pyramid of mosques in Indonesia

Source : [memakmurkanmasjid.com](http://memakmurkanmasjid.com)

In Indonesia, mosques are classified based on their scope and role. The State Mosque (Masjid Negara) is the principal mosque in the nation's capital, serving as the center for state-level religious activities. At the provincial level, there are two main types of mosques: the National Mosque (Masjid Nasional), designated by the Minister of Religious Affairs as the provincial religious activity center, and the Grand Mosque (Masjid Raya), designated by the governor with a similar function. For regency/city levels, the Great Mosque (Masjid Agung) becomes the hub for socio-religious activities attended by local officials. Meanwhile, at the sub-district level, there is the Large Mosque (Masjid Besar), designated by the head of the sub-district as a social activity center. Besides these classifications, there are also Jami' Mosques (Masjid Jami') used for daily five prayers and Friday prayers, Historical Mosques (Masjid Bersejarah) that hold historical value, and Public Place Mosques (Masjid di Tempat Publik) located in general public areas.

This government-mandated typology is primarily administrative and hierarchical, reflecting a top-down approach to organizing religious infrastructure rather than architectural style or functional specialization. This means that the scale and scope of activities, including the potential for educational integration, are often determined by the mosque's official

designation and its place within the governmental hierarchy. This can significantly influence funding, management, and community outreach. Larger, centrally located mosques (e.g., State Mosques, National Mosques) are more likely to receive greater state support, have broader mandates (e.g., state-level religious activities), and potentially possess greater resources for extensive multifunctional programs like large-scale Early Childhood Education (PAUD). Smaller, more local mosques (e.g., Jami' Mosques) might rely more heavily on community initiatives. This highlights the significant role of state policy and administrative frameworks in shaping religious architecture and its functional evolution, demonstrating how government structures can dictate the scope of community services offered by religious institutions.

#### **1.4 Early Childhood Education (PAUD)**

In Indonesia, Early Childhood Education (PAUD) is defined by Law of the Republic of Indonesia Number 20 Year 2003 on the National Education System, Chapter I, Article 1, paragraph 14, as a developmental effort aimed at children from birth up to six years of age. This development is carried out by providing educational stimuli to aid physical and spiritual growth and development, ensuring children's readiness to enter further education (Undang-Undang Republik Indonesia Nomor 20 Tahun 2003; Peraturan Pemerintah Nomor 17 Tahun 2010; Nurhayati, 2011; Peraturan Pemerintah Nomor 57 Tahun 2021). PAUD can be conducted through formal channels (e.g., Taman Kanak-Kanak/TK - Kindergartens, Raudhatul Athfal/RA, Bustanul Athfal/BA), non-formal channels (e.g., Kelompok Bermain/KB - Playgroups, Taman Penitipan Anak/TPA - Childcare Centers, Satuan PAUD Sejenis/SPS - Similar PAUD Units), and informal channels (family and environment) (Undang-Undang Republik Indonesia Nomor 20 Tahun 2003).

Regulations regarding the development and implementation of PAUD in Indonesia are highly detailed, especially following the enactment of Minister of Education, Culture, Research, and Technology Regulation Number 22 Year 2023, which is crucial for architectural design. This regulation specifies the minimum criteria for facilities (sarana) and infrastructure (prasarana) of PAUD units. Facilities must be suitable for children's needs, accommodate diversity, provide opportunities for play, align with developmental stages, facilitate children's freedom, and must be safe, healthy, comfortable, and environmentally friendly (Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 22 Tahun 2023). Infrastructure consists of land, buildings, and spaces (Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 22 Tahun 2023). Land must have sufficient area, include green open spaces, be free from potential hazards, have clear land ownership status, and be easily accessible (Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 22 Tahun 2023). Buildings must have sufficient area, comply with building regulations, and ensure safety, health, security, comfort, and accessibility for persons with disabilities (Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 22 Tahun 2023). The type and number of spaces must be adjusted to their functional purpose, ensuring safety, security, health, and accessibility (Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 22 Tahun 2023).

Every PAUD unit (TK/RA/KB/TPA/SPS) must have at least a classroom, children's literacy activity room, lactation room (for children under 2 years old), administration room, health room, prayer room, play/sports area, and toilets (Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 22 Tahun 2023). Special needs kindergartens (TK luar biasa) require additional special development rooms (Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 22 Tahun 2023). This highly detailed and prescriptive regulation for PAUD facilities and infrastructure poses significant architectural

limitations and opportunities when integrating with mosques (Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 22 Tahun 2023), implying a potential design conflict between the "simplicity" of traditional mosques and the complex, regulated programmatic needs of modern PAUD.

### 1.5 Literature Review

The formulation of architectural ideograms for mosques is a visual or symbolic representation of the sequence of actions and movements performed by Muslims during worship in a mosque. This ideogram can be a floor plan, diagram, or illustration that depicts how the mosque space is used and how congregants interact with each other and with architectural elements during rituals. This ideogram is not merely a drawing or a plan, but also carries deeper symbolic meaning, reflecting spiritual values, worship procedures, and the relationship between humans and God within the context of the mosque space. Indri Astrina Fitria Indrarani, in her dissertation (2017), developed a theory for the formulation of mosque architectural ideograms by considering the stages of ritual prayer activities as its foundation. This theory emphasizes the importance of understanding the sequence of ritual activities in shaping the spatial layout and architectural elements of a mosque.

**Environmental Scope:** Within this ideogram formulation, the study examines the reciprocal relationship between the mosque complex and integrated schools within the broader urban, social, and cultural context. This scope is crucial to ensure the effective identification, accessibility, and harmonious integration of the complex within its environment. It emphasizes how buildings interact with their physical context, such as climate, topography, existing infrastructure, and the social structure of the community. Based on the Theory of Architectural Anatomy, a building cannot be separated from its environment. This principle dictates that architectural design must consider and respond to existing environmental conditions, including climate, topography, vegetation, and infrastructure, as well as the social and cultural aspects of the local community. For a mosque, this extends to its role as a community landmark and its interaction with the surrounding urban fabric.

Table 1. Mosque Architectural Ideogram: Environmental Scope

Ideogram : Environmental Scope		
<p>A. Jalan B. Bangunan eksisting 1. Area batas masuk</p>		
Activity Property	Architectural Property	Composition
Mosque Identification and Accessibility	Main Road, Mosque Architectural Character	Ideally, the mosque faces the main road in front of the mosque site. The architectural design of the mosque should have distinctive features that differentiate it from surrounding buildings to facilitate identification from the environment.
Mosque Territorial Delineation	Site Boundaries	The mosque site should have clear boundaries that separate it from the surrounding environment.
Entering the Mosque Area (Profane Transition)	Main Entrance, Profane Area	The main entrance area of the mosque should be clear and distinct. This area, which is the entry point from the external environment, is considered a profane area. Ideally, this main entrance faces the main road in front of the mosque site.



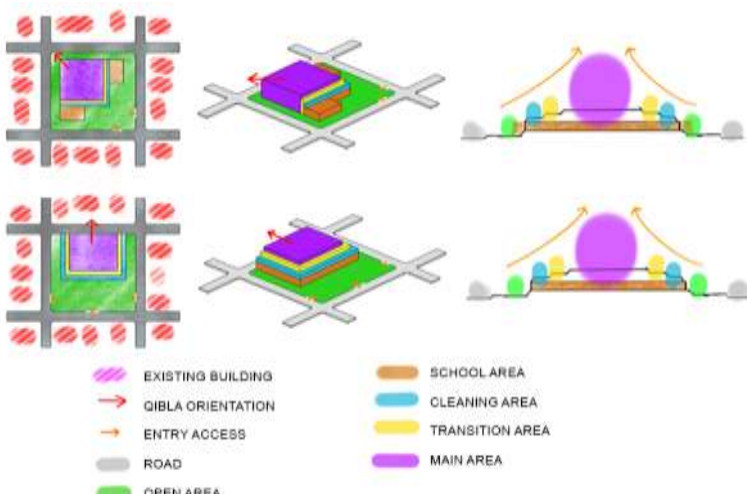
Integration of Educational Function, User Access and Circulation	Separate Access, Delineated Circulation, Shared Open Space, Garden/Green Area, Architectural Style	Ideally, a mosque and school within the same area have separate access and circulation to maintain the sanctity of the mosque and the privacy of the school, while also ensuring cleanliness. Although physically separate, both can be visually and spatially integrated through harmonious design or shared open spaces like gardens, also considering the interaction of male and female congregants when approaching the mosque.
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Source: Personal documentation

Applying this concept of reciprocal relationship, which also includes efforts to maintain existing positives and rectify shortcomings in the environment, suggests that the mosque-school complex should aesthetically blend with or enhance the quality of its surroundings. In the context of a dense and dynamic urban environment like Bandung, where old buildings may be demolished and residential areas transform into commercial ones, this reciprocal relationship extends beyond mere aesthetics. It implies a functional symbiosis where the complex actively contributes to and benefits from the surrounding urban life. For instance, providing easily accessible green spaces or flexible communal areas can serve the broader community, not just congregants or students. This transforms the concept from passive integration into active community engagement, making the mosque a true community hub.

**Site Scope:** This ideogram formulation focuses on the internal composition of mass and space within the mosque and school complex. It involves arranging areas based on the hierarchy of ritual prayer activities, ensuring efficient circulation, maintaining gender separation, and seamlessly integrating educational functions while preserving the sanctity of the prayer space. The site scope, grounded in the Theory of Architectural Anatomy, examines the relationship between a building and its specific site. It considers how the arrangement of mass and space interacts with the physical characteristics of the site, such as its shape, size, contours, and orientation. Crucially, it also addresses accessibility within the site, including pedestrian and vehicular circulation. For a mosque, this means designing an internal spatial sequence that guides users through a clear ritual journey.

Table 2. Mosque Architectural Ideogram: Site Scope

Ideogram : site scope composition		
		
Activity Property	Architectural Property	Composition
Entrance Boundary Area	Gate, Utilities, Transition Area/Plaza	Transition, manage flow.
Site Boundary Area	Site Boundary (Fence, Vegetation), Main Mosque Building, School Building	Physical form, security, privacy, visibility.



Open Area	Plaza, Garden, Relaxation Area, Green Area, Vegetation Buffer	Multi-functional: socialization, recreation, visual, buffer, prevent disturbance.
Self-Cleansing Area	Ablution Area (Men/Women), Toilets	Cleanliness, separate men/women, near mosque/school, near Qibla.
Educational Area	School Rooms (Veranda), Circulation Paths	Connected to public areas, "inner" hierarchy, flexible, social interaction.
Main Prayer Area within the Site	Main Prayer Hall, Mihrab, Mimbar, Rows (Men/Women), Office/Non-ritual Center	Core of worship, prayer composition, separate men/women, non-ritual activities do not disturb.

Source: Personal documentation

When applied to a mosque, the arrangement of mass and space transforms the site into a microcosm of a spiritual journey. The deliberate spatial progression from the profane (the entrance plaza) to the sacred (the main prayer hall) is not only functional but designed to psychologically and spiritually prepare congregants to connect with God. This aligns with Mircea Eliade's concept of hierophany, where the sacred manifests within space. The internal site planning of a mosque is a powerful tool for reinforcing religious principles and enhancing the spiritual experience, turning physical movement into a ritualistic progression.

Overall, the formulation of the architectural ideogram for mosques and the integration of educational functions within both the environmental scope and site scope offer a comprehensive framework for designing mosque complexes that are integrated with education. This theory emphasizes that architectural design must consider the urban context, ritual needs, and educational aspects to create spaces that are functional, meaningful, and supportive of the community's spiritual and social development. By understanding the hierarchy of spaces, the importance of proper circulation, and strategies for harmonious functional integration, architects can design mosques that adapt to contemporary times without compromising their sacred values and primary purpose.

## 2. RESEARCH METHODS

This study employs a qualitative descriptive approach to analyze the relationship between ritual activities and mosque architectural forms, specifically when integrated with educational functions (Early Childhood Education/PAUD). Data was collected through direct observation at the case study site, Miftahul Hidayah Mosque on Jalan Mangga, Bandung. This observation aimed to understand the existing conditions of the site and its surrounding environment, as well as how mosque activities and potential school activities (PAUD) could be physically accommodated.

In addition to observation, data collection also involved a literature review of relevant books, journals, articles, and online sources pertinent to the topic. Documentation, including photos, drawings, and floor plans of Miftahul Hidayah Mosque, was also utilized for the analysis of its architectural form and spatial layout.

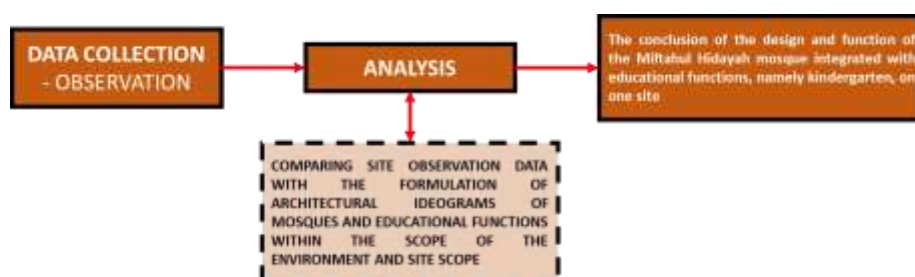


Figure 2: research methods

Source: Personal documentation

Data analysis was conducted by comparing site observation data with the Mosque Architectural Ideogram and Educational Function Formulation within the Environmental Scope and Site Scope, as outlined in the theoretical review. The environmental scope analysis will identify the site's relationship with the main road, surrounding buildings, and potential accessibility and identification from the outside. Meanwhile, the site scope analysis will focus on spatial hierarchy, circulation, gender segregation, and how mosque and school functions can be harmoniously integrated.

The results of this analysis will identify the alignment and deviations between the existing conditions and the ideogram principles. Based on these findings, the research will generate innovative, functional, and relevant design concepts for a multifunctional mosque integrated with Early Childhood Education (PAUD) within a single site, considering ritual needs, educational requirements, Islamic values, and the local context.

## 2.1 Case Study



Figure 3: Location of Masjid Miftahul Hidayah

Source : Google Earth

The land analyzed is located on Jalan Mangga, Cihapit, Bandung, a dense urban area with mixed residential and commercial functions. This context demands a design that's highly responsive to urban density, noise, and the potential for community integration. The site is square-shaped with street frontage, covering approximately 2,850 m<sup>2</sup>. This offers flexibility for massing and spatial arrangement but requires efficient land use. Given that the Qibla orientation from Bandung is northwest, the placement of the mihrab and prayer rows must be precise, and the visual axis can be strengthened accordingly.

The topography is assumed to be relatively flat, which minimizes elevation construction challenges. However, it calls for creativity in establishing vertical spatial hierarchy. The main access from Jalan Mangga necessitates a strategically designed and easily identifiable gate and transition area. The surrounding environment is characterized by existing mixed-use commercial/residential buildings and potential urban noise. Therefore, the facade design and building orientation must consider noise mitigation, privacy, and the creation of a strong identity for the mosque complex.

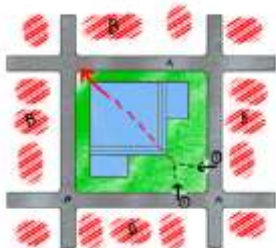

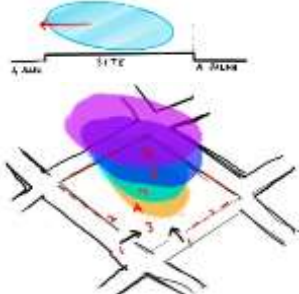
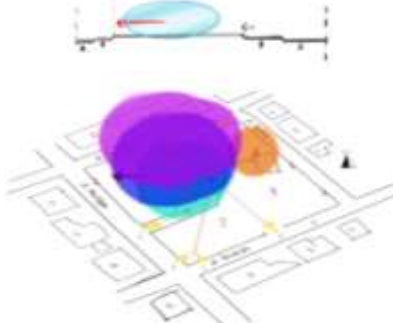
## 3. RESULT AND DISCUSSION

An analysis of Miftahul Hidayah Mosque in Bandung as a case study was conducted to empirically understand the relationship between ritual activities, educational functions, and architectural form within its existing context. This analysis utilizes the lens of architectural

anatomy theory and ideogram formulation as an evaluative framework, identifying alignments and deviations that will form the basis for formulating design guidelines.

**Environmental Scope:** The environmental scope of this analysis of Miftahul Hidayah Mosque involves aspects such as (1) Location and relationship with surrounding roads, (2) Main entrance boundary area of the mosque and school in relation to the environment, (3) Relationship with surrounding buildings.

Table 3. Environmental Scope: Existing Main Road for Easy Mosque Identification

Ideogram		Typogram
Environmental composition	Property	Environmental composition on the Miftahul Hidayah
	<ul style="list-style-type: none"> <li>a. Road</li> <li>b. Existing Building</li> <li>1. Entry Access</li> </ul>	
Ideogram Sections and 3-Dimensional		Typogram Sections and 3-Dimensional
	<ul style="list-style-type: none"> <li>1. Entrance Boundary Area</li> <li>2. Site Boundary Area</li> <li>3. Open Area</li> <li>4. Ablution/Clean sing Area</li> <li>5. Transition Area</li> <li>6. Main Area</li> <li>A. School Area</li> </ul>	

Source: Personal documentation

## 1. Location and Relationship with Surrounding Roads

Miftahul Hidayah Mosque is located on Jalan Mangga, Cihapit, Bandung Wetan District, Bandung City. It's situated in a dense urban area with a mix of residential and commercial functions. The primary access to the mosque is from Jalan Mangga. Although it's not located on a roundabout like Istiqamah Mosque, its position in a dense area allows for interaction with the local community.

## 2. Main Entrance Boundary Area of the Mosque and School with the Environment

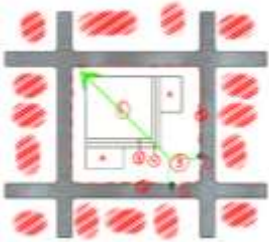

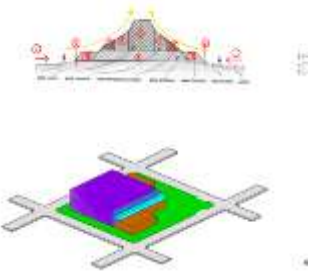
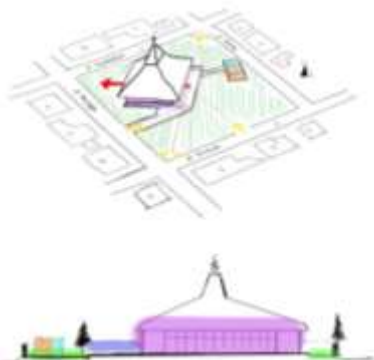
Miftahul Hidayah Mosque has its main access from Jalan Mangga. For the mosque, the main entrance leads directly to the mosque's door. Meanwhile, TK Karya Abadi (kindergarten) is located behind the mosque in a separate building, implying a different or delineated entrance access for the educational function. The absence of a unified entrance gate for both the mosque and the school automatically avoids potential user flow management challenges observed in the Istiqamah Mosque precedent. Accessibility from the street should be strategic and easily identifiable.

3. Relationship with Surrounding Buildings

Miftahul Hidayah Mosque is surrounded by existing buildings, assumed to be a mix of commercial and residential functions. The facade design and building orientation of the mosque must consider noise mitigation and privacy, while also creating a strong identity within the dense urban environment. The separate relationship with TK Karya Abadi behind the mosque indicates a physical separation between the worship and educational functions within the site.

**Site Scope:** Within the site scope, the analysis of Miftahul Hidayah Mosque emphasizes the concepts of space and mass as primary properties, based on the stages of prayer circulation according to the rules of prayer activity sequences. This analysis focuses on six main areas (1) Site entrance boundary area, (2) Site boundary area, (3) Open area, (4) Ablution/cleansing area, (5) Transition area, (6) Main prayer area within the site. It also examines how the educational function of TK Karya Abadi (kindergarten) is integrated within these areas.

Table 4. Site Scope Based on On-Site Circulation According to Prayer Ritual Stages

Ideogram		Typogram
Primary composition on the site	Property	Primary composition on the Miftahul Hidayah site
	<div>1. Entrance Boundary Area</div> <div>2. Site Boundary Area</div> <div>3. Open Area</div> <div>4. Ablution/Cleansing Area</div> <div>5. Transition Area</div> <div>6. Main Area</div> <div>A. School Area</div>	
Ideogram Sections and 3-Dimensional		Typogram Sections and 3-Dimensional
		

Source : Personal Documentation

**1. Site Entrance Boundary Area:** The site entrance boundary area marks the transition point from the external environment into the mosque complex. At Miftahul Hidayah Mosque, this includes the area around the access from Jalan Mangga. The presence of TK Karya Abadi (kindergarten) behind the mosque suggests that the school's entrance access is likely separate or at least not directly integrated with the mosque's main access. This

means the dynamic of user flow in this area is relatively more segregated compared to the Istiqamah Mosque precedent.

2. **Site Boundary Area:** The Miftahul Hidayah Mosque site is square-shaped with all four sides bordering roads, encompassing an area of 2,850 m<sup>2</sup>. This offers full flexibility for massing and spatial arrangement but demands efficient land use. The site boundaries around the perimeter likely utilize fences or other demarcation elements to differentiate the mosque site from surrounding buildings.
3. **Open Area:** Miftahul Hidayah Mosque features an open area that functions as a communal space. This area is crucial for social interaction and provides flexibility in site usage. While specific details are not mentioned, it's assumed this open area supports the mosque's ancillary functions.
4. **Ablution/Cleansing Area:** The ablution and toilet facilities are located at the rear of the mosque section. These facilities are already separated for men and women. However, after performing ablution, the circulation paths for men and women still allow for potential encounters. This is similar to the areas identified for improvement at the Istiqamah Mosque precedent, where consistent ritual purity and modesty need to be more strictly maintained.
5. **Transition Area:** Miftahul Hidayah Mosque has a veranda (serambi) that serves as a transition area. This clean transitional space connects the ablution area with the main prayer hall. The hierarchy from the open area to the main prayer hall is well-organized, indicating a structured ritual flow.
6. **Main Prayer Area within the Site:** The main prayer area occupies a central and highly hierarchical position, aligning with ideogram principles. The spatial layout and hierarchy from the open area to the main prayer hall are well-executed, suggesting that the main prayer hall is designed to optimally support devotional prayer.
7. **School Area (TK Karya Abadi):** TK Karya Abadi (kindergarten) is located behind the mosque in a separate building. This means the educational function has a clear, physically distinct entity from the main mosque building. The kindergarten has two classrooms and several teacher rooms, along with two separate toilets for men and women. This physical separation of the school building from the mosque inherently supports functional segregation and minimizes disruption to the mosque's worship activities.

Table 5. Matrix of the analysis results of the juxtaposition of ideograms and tipograms of Masjid Miftahul Hidayah

Aspect	Ideogram	Typogram	Alignment	Remarks
ENVIRONMENTAL SCOPE				
Road and Orientation	Access from existing road & orientation supports mosque identification.	Main access from Jalan Mangga.	S	Location on a main road facilitates access.
Main Entrance Boundary	Transition area & separate/clear gate for mosque & school.	Main mosque entrance directly from Jalan Mangga. Kindergarten separate at the back.	S	Separation of the kindergarten building supports access delineation.
Environmental Relationship	Mosque interacts positively with surrounding buildings.	Surrounded by existing buildings (residential/commercial).	S	Integrated with the dense urban environment.
SITE SCOPE				

Site Entrance and Qibla	Linear visual axis strengthening the Qibla direction.	Site entrance access is relatively linear, not explicitly a visual axis to the Qibla.	PS	Potential for strengthening the visual axis.
Physical Site Boundary	Clear site boundaries & separation from surroundings.	Square-shaped site, bordered by roads on 4 sides.	S	Clear site boundaries support functional isolation.
Open Area	Spacious & central as a multifunctional communal space.	Open areas exist around the mosque building.	S	Open areas support social activities.
Ablution Area	Ablution circulation separate for men & women, minimizing post-ablution encounters, & facing Qibla.	Separate for men & women, but still allows for post-ablution encounters.	PS	Requires improvement in post-ablution circulation.
Transition Area	Connects cleansing & main areas, clean, separates men's & women's circulation.	Has a veranda as a transition area. Spatial hierarchy is good.	S	Functions well as a transition area; spatial hierarchy is appropriate.
Main Prayer Area	Central position & end of ritual circulation, separates men & women, clear mihrab & mimbar.	Central position with high hierarchy. Good separation for men & women.	S	The hierarchy of the main prayer area is good.
School Area	Located at the side of the mosque/different floor with clear access separation.	TK Karya Abadi is behind the mosque, in a separate building.	S	Physical separation of the school building and mosque has been achieved.
S : selaras (aligned) PS : potensi selaras (aligned potential)				

Source : Personal Documentation

The matrix analysis, which compares the ideogram and typogram of Miftahul Hidayah Mosque, reveals several key design concepts within both its environmental and site scopes. In the **environmental scope**, the mosque effectively integrates itself into the surrounding urban context. Its **main access from Jalan Mangga aligns with the ideogram**, making the mosque easy to identify and access. The **physical separation of the TK Karya Abadi (kindergarten) building behind the mosque** also supports a clear delineation of access between the worship and educational functions. This is a successful design concept that helps prevent conflicts in user flow. Furthermore, the mosque is **well-integrated into its dense urban environment**, surrounded by residential and commercial buildings. The design concept here is to leverage its strategic location for visibility and accessibility, while ensuring clear functional separation for different areas within the complex.



### Site Scope: Strengths and Areas for Refinement

Within the **site scope**, most aspects show strong alignment with the ideogram, though some areas require refinement. Successful design concepts observed include:

- **Clear physical site boundaries** (square shape, bordered by roads on all four sides) support good functional isolation.
- The **open areas around the mosque building** support social activities, demonstrating a successful concept for multifunctional communal spaces.
- The **transition area, a veranda, functions well** as a buffer between the ablution area and the main prayer hall, with a well-established spatial hierarchy.
- The **main prayer area holds a central, high-hierarchical position** with good segregation for men and women, supporting devotion during worship.
- The **school area (TK Karya Abadi) is physically separate** from the main mosque building, an effective design concept for achieving functional separation and minimizing disruption to mosque activities.

However, two areas within the site scope have potential for improvement:

- **Site Entrance Boundary and Qibla Orientation:** While the site entrance access is relatively linear, the visual axis explicitly strengthening the Qibla direction isn't highly prominent. The design concept here is to **reinforce the visual axis towards the Qibla from the site's entry point** to enhance congregants' spiritual experience.
- **Ablution Area:** Although separated for men and women, post-ablution circulation still allows for encounters. The necessary design concept is to **improve post-ablution circulation** to ensure consistent gender separation and maintain ritual purity.

Overall, this matrix analysis yields design concepts that emphasize a **harmonious functional and spatial integration** between the mosque and the PAUD. It focuses on **clear access, a hierarchical arrangement of ritual spaces, and appropriate segregation**, while pinpointing specific areas for design enhancement to optimize user experience and ritual adherence.

## 4. CONCLUSION

This research effectively demonstrates that the architectural ideogram provides a robust framework for analyzing and designing multifunctional mosque complexes. The case study of Miftahul Hidayah Mosque reveals a generally strong alignment with ideogrammatic principles, particularly in establishing clear site boundaries, creating effective transition spaces, and hierarchically organizing the main prayer area. This indicates a successful implementation of spatial principles that support both ritual and social functions. The physical separation of the PAUD (Early Childhood Education) facilities from the main mosque building highlights a pragmatic approach to integrating secular educational functions while respecting the mosque's sanctity and primary purpose, potentially simplifying compliance with strict educational regulations. Nevertheless, the study critically identifies specific areas where Miftahul Hidayah Mosque's design can be improved, notably the visual axis towards the Qibla from the site entrance and the post-ablution circulation paths for gender separation. These "Potentially Aligned" aspects represent opportunities to further refine the user experience and ritual adherence through targeted architectural interventions.

The research consistently highlights the historical multifunctional role of mosques, citing their use as schools, courts, and social centers. The contemporary integration of PAUD is framed as a continuation or evolution of this core Islamic tradition. This suggests that religious architecture, particularly mosques, is not a static but a dynamic typology that adapts to changing societal needs. The study implicitly advocates for a proactive approach to design that recognizes and embraces this evolution, moving beyond a purely ritualistic interpretation



of mosque function. It implies a shift in architectural discourse from viewing religious buildings merely as sacred spaces to acknowledging them as adaptive community infrastructure. Architects must approach such projects with a mindset that integrates diverse programmatic needs while maintaining spiritual integrity, potentially leading to new hybrid typologies that serve broader societal functions.

Overall, this research makes a significant contribution to the understanding of integrated religious and educational architecture, offering empirical validation of the architectural ideogram theory in a real-world context. It provides a practical framework for assessing and enhancing the design of multifunctional mosque complexes in dense urban environments.

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