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Bachelor of Science in Interior Design

Equity in Design Accessibility of Transitional Spaces in Selected College Buildings in UP Diliman: An Assessment Based on BP 344 and Universal Design

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CHAPTER 1

Introduction

Background of the Study

Education is a fundamental right that should be accessible to all people, regardless of their physical, cognitive, and learning abilities. An inclusive education ensures that all individuals, regardless of their backgrounds, have equal opportunities to learn, grow and participate in academic and social activities (UNICEF, n.d.). Beyond promoting academic achievement, it also fosters positive attitudes toward persons with disabilities (PWDs), encouraging understanding and acceptance within the community (*The power of letting children learn together*, 2019). However, accessibility in education goes beyond admission policies and academic accommodations. It requires a holistic approach that considers not only the curriculum but also the physical learning environment. A well-designed, inclusive built environment removes barriers that hinder students' participation and engagement, thereby advancing the broader goal of achieving quality education for all.

The physical environment of universities greatly influences how people experience and navigate their surroundings, shaping the way they work, interact, and carry out daily activities. To support these experiences, all areas within academic buildings should be thoughtfully designed to be accessible, comfortable,

and conducive to productivity, collaboration, and overall well-being. In this context, accessibility must extend beyond classrooms and other formal learning spaces to the circulation routes that connect them. These connecting areas, known as transitional spaces, play a crucial role in shaping daily interactions and movement within academic settings.

A transitional space functions as an area that facilitates the shift from one condition or activity to another. This includes main lobbies, hallways, staircases, elevators lobbies, and atriums. It acts both as a buffer and a physical connector, serving not only as a circulation route but also as an integral component that links different zones within a building. In academic environments, transitional spaces are characterized by their dynamic and flexible nature, as users typically occupy them for brief periods while moving between various activities or destinations (Nasar & Elsamaty, 2014). When designed with consideration for human diversity and accessibility, transitional spaces can enhance ease of movement, interaction, and engagement—contributing to a more inclusive and supportive educational environment for all building users.

One way to achieve this goal is through the concept of Universal Design (UD). Originating from architecture, UD promotes the creation of goods, services, and spaces that are accessible and usable by all people, regardless of ability, without the need for specialized modifications (Ostroff, 2011). When applied to education, UD becomes a vital framework for creating inclusive learning

environments that accommodate diverse needs. This principle is also recognized globally where the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) identifies UD as a key approach to ensuring accessibility and inclusivity, underscoring the right of all individuals to equal access to public spaces, including educational facilities. In the Philippines, this principle is reinforced through Batas Pambansa Blg. 344 (BP 344) or the Accessibility Law, which mandates that both public and private infrastructures integrate accessibility features, aligning with the core values of UD to foster a more inclusive and universal environment.

Incorporating these principles into the interior design of transitional spaces can significantly enhance the overall experience of all users, regardless of their background, age, or ability. By designing these spaces to be inclusive, designers do not only accommodate the needs of persons with disabilities but also elevate the quality, comfort, and functionality of the environment for everyone (Hidayetoglu & Muezzinoglu, 2018). Sensory Design (SD) is a multidisciplinary approach that integrates sensory experiences into the built environment. The design process aims to create environments that are not only accessible but create an engaging and stimulating environment for all users (Lehman, 2011). Studies in neuroscience and biophilic design regarding sensory and spatial stimuli have demonstrated that focusing on sensory integration have implications that may affect the behavior, well-being, and cognitive functions of the building occupants (Ghazali, R., et.al. . 2019). Therefore, fostering a healthier environment through

tuning into the daily rhythms of the human physiology, intellect, emotion, behavior, and even spirituality. Sensory elements such as smell, tactility, and visual can leave lasting impressions on users' well-being for all kinds of people. Related to occupant health are sensory related factors called architectural stimuli: Noise Levels (auditory) and Air Quality (tactility) affecting sleep and focus and the Daylight spectrum and light glare (visual) on biochemical responses such as vitamin d and serotonin production, to name a few (Lehman, 2011). A lot of sensory stimuli affects us either unknowingly or directly. For people with neurodevelopmental disorders like Autism, sensory design is a great integration for their spaces since they experience unusual sensory experiences (Henshall, 2008). Sensory Design for Autism from a case study on an Autism Center illustrated some design strategies for a low stimulus environment, such as the positioning of spaces where toilets and kitchens should be far from the classroom and therapy areas, architectural fixtures should avoid flickering lights, and good acoustics is a must for sound dampening (Ghazali, R., et.al. . 2019). But we also know that in normal environments, these design strategies are also being implemented but instead of calling it sensory design it is marked as good design overall. Pushing forward that designing for a universal space is beneficial for everyone involved. Whether you experience the world differently, buildings themselves can adapt to the users' needs, especially as technology progresses. Sensory design is an occupant/human-centered architectural approach that can be utilized further to develop the experience of the users of a space, aside from the

physicality of accessibility features, integrating sensory design would be a step further into a more equitable space, especially in learning environments.

Despite the presence of these frameworks and regulations, challenges in actual implementation persist. In the Philippines, while existing policies and guidelines, such as BP 344, along with the principles of UD, aim to create barrier-free spaces, the actual implementation and effectiveness of these accessibility measures remain a challenge. In an academic setting like University of the Philippines-Diliman, where diverse users navigate various campus facilities daily, it is essential to assess whether these measures adequately support an inclusive environment.

The University of the Philippines-Diliman (UP Diliman) serves as the main campus of the University of the Philippines System, which is recognized as the national university through Republic Act 9500. Located in Quezon City, the campus covers 493 hectares and features a combination of historic and modern buildings that house various academic disciplines. These disciplines offer a comprehensive education that addresses multiple aspects of human behavior and development at both the undergraduate and graduate levels (University of the Philippines-Diliman, n.d.). It accommodates an average of 24,000 enrolled students per semester, fostering a diverse academic community with a wide range of needs (UPD Office of the University Registrar, n.d.).

The 1940s marked the construction of several college buildings, many of which remain in use today. The planning and implementation of these campus infrastructures are handled by the Office of the Campus Architect (OCA), which is currently headed by Ar. Ringer Manalang. In response to the evolving needs of the academic community, the OCA has completed several infrastructure projects throughout the years and continues to undertake new developments. Notable examples include Palma Hall and Melchor Hall, both completed in the 1950s (University of the Philippines-Diliman, n.d.).

These buildings, while historically and architecturally significant, were constructed at the time when accessibility considerations were not yet a standard part of infrastructure design. It wasn't until July 26, 1982, 33 years after these buildings were constructed, that BP 344 was enacted. The law stipulates the need for infrastructures, such as educational institutions, to start implementing accessibility measures for inclusivity of those with disabilities. Although UP Diliman’s old buildings predate this regulation, they must still comply with this law, which also mandates renovations to address the lack of accessibility measures.

Following the enactment of BP 344, additional buildings were constructed across UP Diliman, resulting in a campus with a mix of old and new structures. However, despite the law’s mandate, accessibility issues still persist years later. Studies and testimonies surfaced highlighting the ongoing inaccessibility of the

campus. A 2015 award-winning thesis, *Padayon U.P. para sa P.W.D.: An investigative study on the admission and accessibility of the University of the Philippines Diliman for persons with disabilities* by Jhesset Enano, further supported this concern. Enano (2014) concluded that both old and newly constructed buildings lacked adequate structural accessibility measures, revealing shortcomings in the implementation of BP 344.

To address these issues, the university formulated a Master Development Plan (MDP) to standardize construction and development practices, which will build the framework for the development of university lands and infrastructure projects over the next 10 years. The MDP was officially approved last 30 June 2014 during the 1298th meeting of the Board of Regents (UPLB Legal Office, 2014). However, the effectiveness of this plan in addressing accessibility concerns remains uncertain, as more recent reports indicate persistent gaps in inclusivity across campus facilities. While there are efforts implemented by the OCA through ongoing projects to improve campus accessibility, including repair and renovation of sidewalks by adding ramps and tactile paving, certain issues still arise (Fernando, 2024). These issues include how the UP Diliman's funding is primarily sourced from the national government, meaning that infrastructure projects—including those meant to improve accessibility—are often subject to budgetary constraints, government priorities, and administrative delays. This concern is even further compounded by recent allegations of corruption involving infrastructure projects within the university. (DPWH, 2024; CHED, 2024; UP

Media and Communication Office, n.d.). This intensifies concerns regarding corruption, transparency, and accountability in the implementation of university infrastructure projects.

This issue can be further supported by recent reports, including a 2024 article from the Philippine Collegian, titled *UPD PWDs Call for Accessibility Amid Lack of Inclusive Facilities, Services*, which emphasizes the call for accessibility. It indicates that PWDs of the campus continue to struggle with inaccessible infrastructure. Stating that "...UP Diliman infrastructure is not accessible to all" (Fernando, 2024). This ongoing issue underscores the need for stronger enforcement of accessibility policies, continuous assessment, and facility improvements to ensure that UP Diliman fosters a truly inclusive academic environment.

Despite the legal frameworks such as BP 344 and local institutional plans like the Master Development plan, there is a notable gap concerning the policy implementation and actual on-ground implementation. There should be more nuanced approaches to assessing aspects of a more equitable approach to accessibility design by incorporating universal and sensory design in the usual design process. Furthermore, the researchers have encountered a lack of research concerning a focus on interior transitional spaces, especially within university buildings. There is also a need for a standardized assessment tool aside from what

is provided by the law, such as Universal Design assessment tools and Sensory Design integration guidelines.

Statement of the Problem

This study seeks to examine whether there are interior mobility and accessibility measures in transitional spaces implemented in selected buildings within the University of the Philippines-Diliman, specifically the School of Statistic (New Building), Institute of Biology, & Institute of Mathematics (I-Math). It aims to determine whether these measures are effective in terms of user experience and if it aligns with established accessibility standards.

Research Questions

1. What are the characteristics of layout and design elements within the interior transitional spaces of the selected buildings in UP Diliman?
2. What interior mobility and accessibility measures are implemented within these transitional spaces, and to what extent do they comply with the guidelines set forth in Batas Pambansa Blg. 344?
3. How does the interior design of these transitional spaces support or hinder the mobility and accessibility experiences of various users within the university setting?

Objectives

1. Describe the interior transitional space of the selected buildings in UP Diliman, focusing on their layout and design elements.
2. Investigate whether there are interior mobility and accessibility measures implemented in the interior design of the selected buildings in UP Diliman based on the guidelines given in Batas Pambansa 344
3. Analyze how the interior design of the area addresses mobility, accessibility and user equitable experience through Universal Design parameters and Sensory design analysis, as the case may be.

Significance of the Study

This research is important in creating awareness of the efficacy and presence of accessibility interventions currently in place in the University of the Philippines Diliman campus' selected buildings. This study may determine the strengths and weaknesses in the university's newly constructed structures and offer insights into areas that need improvement for future construction with regards to accessible and equitable design integration. It is important that institutions of higher education ensure inclusivity and equal opportunities for every student and staff, regardless of their physical impairment (United Nations, 2019). This study may also provide insights on the enhancement of the mobility and learning experience of PWDs in the campus.

According to Republic Act No. 7277, or the Magna Carta for Disabled Persons, establishments are mandated to offer facilities conducive to the needs of

PWDs (Congress of the Philippines, 1992). By evaluating the compliance of the university with these rules, the research may become supplemental for future policy reforms and infrastructure planning in educational institutions. Moreover, the findings of this study can guide stakeholders such as architects, interior designers, planners, and administrators in understanding how accessibility measures function in real settings. Through this, they can apply evidence-based insights to improve future designs, renovations, and management decisions, ensuring that inclusivity and user-centered accessibility are consistently integrated into their professional practice. The results may also assist other schools wishing to increase their own accessibility awareness, thereby promoting a more equitable and inclusive learning and social environment in campuses.

Scope and Limitations

Scope

This study will focus on examining the mobility and accessibility of the transitional spaces of interiors of selected constructed buildings within the University of the Philippines-Diliman following the enactment of BP 344 into law. The buildings that will be included in the study are the School of Statistic (New Building), Institute of Biology, and Institute of Mathematics (I-Math), which are selected based on the set criteria by the researchers. It aims to evaluate their compliance with established interior mobility and accessibility standards, including adherence to standard measurements and clearances, space planning, wayfinding elements, and other mobility-friendly features. To further assess the

usability and accessibility of these transitional spaces, an experiential assessment will be conducted to observe and experience the movement and interaction of users within these areas. The participants of this assessment will be the stakeholders within the university, such as licensed campus architects, interior designers and other related professions. The assessment will determine whether these buildings provide an inclusive and barrier-free environment for all users, aligning with the principle of UD.

Limitations

This study is not going to cover all the buildings within the University of the Philippines-Diliman. This study is limited to the selected three buildings that were recently built after the implementation of the BP 344 and caters to a diverse student population as they are used not only by students from their respective colleges but also by students from other colleges due to the subjects offered. It focuses only on the interior mobility and accessibility measures and excludes exterior features such as pathways, roads and transportation aspects. The accessibility of transitional spaces assessment criteria is limited to the rules and regulations based on BP 344 and principles of Universal Design. The assessment of the analysis is limited to the principles of Universal Design, Thematic analysis, and Role-play simulation that will be conducted to analyze the equity in design of the accessibility of transitional spaces. Moreover, the study does not account for external factors that may influence the assessment, such as maintenance conditions, time constraints, and operational issues. The latter pertains to factors related to the day-to-day management and use of the facilities, including furniture

arrangement, temporary obstructions, or the availability and functionality of accessibility features such as elevators and ramps. As student researchers, the assessment is also subject to limitations in technical expertise, resources, and access to comprehensive building documentation.

Definition of Terms

Accessibility means ensuring the ability for everyone, regardless of disability, to have access, use, and benefit from their environment (Equitas, 2019).

Barrier means the difficulties or disadvantages an individual may have when functioning in a given environment (Equitas, 2019).

Batas Pambansa Blg. 344 (BP 344), also defined as the Accessibility Law, is a law enacted to enhance the mobility of persons with disabilities by mandating accessibility features in buildings, institutions, and public utilities.

Experiential Assessment is derived from the principle of Experiential Learning, which means learning from experience or learning by doing (Lewis & Williams, 1994). In this context, experiential assessment refers to the process of evaluating a subject or environment by experiencing it firsthand, allowing for a deeper understanding of its qualities.

Inclusive Design is the approach of designers similar to UD, where products and services are accessible and usable for the largest possible audience. Its difference lies in the implementation of design that creates variations of accessibility in design compared to UD's "one-size fits all" (Interaction Design Foundation, 2016)

Inclusive Education is when all kinds of students learn in the same classrooms in the same school to foster growth and interaction between all kinds of students (UNICEF, n.d.)

Mobility refers to the ability to move or walk around freely (Cambridge Dictionary, n.d.)

Sensory Design (SD) refers to the manipulation of spatial stimuli with regards to sensory experiences within built environments for the purpose of enhancing the quality of experience of the building occupants (Lehman, 2011).

Transitional Spaces (TS) refers to areas that facilitate movement between distinct environments, such as hallways, lobbies, and courtyards (Vaia, n.d.).

Universal Design (UD) is an approach for designers to make products and services accessible and usable for the largest possible audience without the need for adaptation or specialized design (Interaction Design Foundation, 2016).

Wayfinding is the process of orienting a person towards a path of travel from place-to-place (Exploring or Fluid Earth, n.d.). In interior design, wayfinding is aided by visual cues or tactile surfaces.

CHAPTER 2

Review of Related Literature

This chapter is divided into two main parts: Previous Studies related to Mobility and Accessibility in Interior Spaces and the Theoretical Framework. The first part will be organized into the following subtopics:

- Understanding Accessibility and Mobility in Interior Spaces;
- Understanding Sensory Spaces through Sensory Design
- Accessibility and Mobility in Interior Transitional Spaces
- Interior Barriers to Mobility and Accessibility;
- Philippine Standards and Policies on Accessibility of Interior Spaces;
- Mobility and Accessibility Experience in Higher Education Institutions;
- Simulation-Based Assessment of Accessibility

The second part of this chapter outlines the Theoretical Framework, which will serve as the foundation and guide for the development and direction of this study.

Previous Studies related to Mobility and Accessibility in Interior Transitional Spaces

Understanding Accessibility and Mobility in Interior Spaces

The human perception of interior spaces differs from one person to another. Some may be able to adapt to it, while others may have difficulty in

doing so, particularly people with special needs. This is where the power of interior design becomes essential. Thoughtfully designed spaces have the ability to enhance human capabilities, promoting a sense of security, comfort, and overall well-being (Hendy, 2020).

One of the core foundations of effective interior design is accessibility. Accessible interiors enable people of all abilities to navigate and use spaces safely and independently. The importance of accessibility is closely linked to functionality, as both determine how well a space supports its intended users. Haupt (2023) emphasizes that functionality plays a central role in user preference studies, influencing how individuals perceive and engage with interior spaces. Likewise, the study Interiors: A Meeting Place for Cultures and Generations (2023) highlights that spaces designed to encourage intercultural and intergenerational cooperation promote social attitudes such as respect and acceptance of diversity. Designing for varied cultural and generational users compels designers to consider diverse needs and preferences—an approach that also strengthens the case for accessibility. When designers intentionally create interiors that accommodate individuals with disabilities, they promote not only functional efficiency but also social inclusion and acceptance.

This approach falls under the concept of Accessible Design, which emerged from the disability rights movement. Accessible Design primarily focuses on designing spaces, products and systems that meet the specific needs of individuals with disabilities. Although it effectively enhances accessibility, it has been critiqued for unintentionally reinforcing segregation by emphasizing

disability rather than inclusion. In some cases, it highlights differences instead of integrating them into a unified design approach (Wong, 2014).

In contrast, UD shifts away from the kind of approach Accessible Design has by prioritizing equitable access and usability among all individuals, regardless of their abilities or backgrounds. Unlike Accessible Design, which often involves modifications to accommodate specific disabilities, UD integrates accessibility from the outset, ensuring that spaces are inherently inclusive. The core idea of UD lies in creating seamless and barrier-free designs that accommodate diverse users without the need for specialized modifications. By integrating accessibility into the design, UD ensures that spaces are inherently inclusive and functional for everyone (Hendy, 2020).

To provide a structured framework for implementing UD in interior spaces, a working group of professionals led by Ronald Mace at North Carolina State University developed the seven principles of UD in 1997. These principles serve as guidelines for designing functional, inclusive and adaptable spaces that cater to a wide range of users. The principles include equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance of error, low physical effort, and size and space for approach and use (Centre for Excellence in Universal Design, n.d.).

1. **Equitable use** emphasizes designing spaces that are accessible and usable by people with diverse abilities.

2. **Flexibility in use** ensures that interior spaces accommodate a wide range of preferences and abilities.
3. **Simple and intuitive use** focuses on designing spaces that are easy to navigate and understand.
4. **Perceptible information** highlights the importance of presenting essential information effectively regardless of the user's sensory abilities.
5. **Tolerance for error** minimizes hazards and unintended mistakes in interior spaces.
6. **Low physical effort** emphasizes navigation and utilization within interior spaces with minimal exertion.
7. **Size and space for approach and use** ensures spaces are designed to accommodate individuals of varying body sizes, postures and mobility capabilities.

Balancing the design is one of the critical humanitarian considerations, especially in public areas, where accessibility is essential for creating an inclusive environment for everyone. By incorporating these principles, UD ensures that accessibility is not treated as an afterthought but rather as an integral component of interior spaces.

Understanding accessibility and mobility within interior environments establishes the foundation for inclusive design practices. However, accessibility challenges extend beyond enclosed rooms or defined activity zones. They also manifest in the transitional spaces that connect these areas—such as corridors, lobbies, and passageways—where movement and interaction frequently occur.

Examining accessibility and mobility in these interior transitional spaces becomes essential, as these areas serve as the physical and experiential links that influence how users navigate, perceive, and engage with the built environment.

Understanding Sensory Spaces through Sensory Design

While accessibility and mobility is greatly influenced by physical infrastructure, sensory design elements also have a role in the perception and experience of accessibility within users (Galland & Stead, 2022). This perception and experience of a space is an added dimension to the traditional focus of technical aspects when it comes to accessibility. Sensory design revolves around the stimulation of the senses through the designed environment, furthermore it has a role in optimizing the health of individual occupant (Lehman, 2011). Based on neuroscience studies, the way a building ‘shapes’ their occupant is attributed to the sensorial stimuli that buildings impart on the users. The reason why people are shaped by the sensory stimuli is because of the predating knowledge of brain plasticity, which allows the person’s brain to adapt (never-ending process of change).

Lehman (2011) talks about how the perception of the occupant is properly described through the process of cognitive mapping, where sensory design can then tailor itself to the way the body processes external stimuli. Lenham (2011) lists processes as variables like the circadian rhythm, stress levels, productivity, emotional states, and intellectual and behavioral reactions.

When it comes to the more technical side of sensory design, architectural qualities such as noise, light, and air quality all have an effect on the occupant's health through their physiology. This is backed by the existence of a "Sick building syndrome", where it describes a situation where the occupants experience acute health- or comfort- related symptoms because of their time spent in the building. Some design factors that may cause such symptoms are poor air quality through inadequate ventilation, poor lighting through the absence of light, noise through bad acoustics, and poor ergonomic features (Joshi, 2008).

Lehman (2011) agrees with the previous listed design factors, as she validates those symptoms by stating that improper lighting has consequences on student learning, worker productivity, and healing behaviors in hospitals. Ghazali, R., et.al. (2019) says that the same design factors also affect people of neurodevelopmental disorders like Autism. Light (sun and glare and flickering lights), acoustics (reducing high stimuli noise), and smells that are strong and bad often affect the experience of those with neurodevelopmental disorders due to their either high or low sensory sensitivity (Ghazali, R., et.al., 2019). Ghazali, R., et.al. (2019) also talk about the internal environment for children with Autism (ASD) where they found that they need more personal space and movement due to their problems with proprioception (sense of location). Because of that, the case study recommends avoiding long corridors, complex layouts, and frequent changes of levels. Incorporating legibility of the space was recommended as a great way to access navigation within spaces for those with ASD.

These recommendations relating to sensory design not only cater to those with disabilities and disorders, but they also are beneficial to all the users of the buildings. There were a lot of similarities between Lehman's list of equitable sensory design considerations that are present in Ghazali, R., et.al.'s own recommendations for a better sensory experience, even if it was directed to ASD. Such similarities prove that equitable design is already an approach that is beneficial for all in terms of experiencing accessibility within a built environment.

Accessibility and Mobility in Interior Transitional Spaces

While accessibility and mobility in general interior spaces have been widely discussed in existing literature, there remains a need to examine how these principles are specifically applied to transitional spaces. Transitional spaces—such as corridors, lobbies, and stairways—serve as vital connectors between different functional zones of a building. Transitional spaces play a critical role in how people navigate and experience built environments, particularly in terms of cognitive mapping, spatial awareness, and movement efficiency (Kray et al., 2013).

Kray et al. (2013) emphasize that navigation through transitional zones differs from typical movement within fully enclosed or open spaces due to variations in environmental cues, enclosure, and visibility. Indoor environments usually rely on local landmarks and structured pathways, while outdoor navigation depends more on global references such as the sun or horizon.

Transitional spaces, meanwhile, demand a combination of both strategies, often challenging users' orientation and perception. These spaces therefore require deliberate design interventions that ensure ease of movement and accessibility for all users, including those with mobility impairments.

The same study identifies several defining characteristics of transitional spaces—such as partial enclosure, regulated access, and short duration of stay—that influence how people move and interact within them. The authors found that users often perceive these areas ambiguously, classifying them neither as strictly indoor nor outdoor. This ambiguity can impact wayfinding, particularly for individuals with disabilities who rely on clear spatial cues and consistent environmental information for navigation. Hence, accessibility measures like tactile indicators, visual contrasts, and appropriate spatial transitions become essential design considerations in ensuring inclusive mobility within these zones.

Expanding upon these general principles, Nassar and El-Samaty (2014) focused specifically on transitional spaces in higher-education buildings, identifying them as behavior settings that integrate movement, interaction, and learning. Their research revealed that such spaces serve multiple purposes beyond circulation, functioning as informal learning environments that facilitate social exchange, waiting, observation, and collaboration. According to their findings, accessibility within higher-education transitional spaces must be understood as both physical and social. It involves creating environments that enable equitable mobility for users of varying abilities while also promoting inclusivity and engagement within the academic community.

Nassar and El-Samaty (2014) further introduced the concept of interactive performance, which examines how spatial design influences users' behavioral and psychological responses. They argued that well-designed transitional spaces enhance users' overall experience by fostering comfort, engagement, and belonging. Inaccessible or poorly organized transitional areas, on the other hand, can disrupt circulation and diminish opportunities for interaction, particularly for individuals with mobility impairments. Consequently, the design of these spaces must balance functional accessibility with experiential quality to ensure that movement through the built environment is both efficient and meaningful.

The studies of Kray et al. (2013) and Nassar and El-Samaty (2014) highlight that accessibility and mobility in transitional spaces rely on thoughtful spatial design that balances function, perception, and user experience. When these areas are well-planned, they promote fluid movement, orientation, and inclusivity within interior environments. However, achieving such accessibility in practice often depends on how effectively design considerations are translated into built form. Certain aspects of interior environments may still pose challenges that limit ease of movement and comfort for some users. These considerations lead to a closer examination of the various factors and barriers within interior spaces that continue to influence accessibility and mobility.

Interior Barriers to Mobility and Accessibility

The accessibility of interior spaces plays a crucial role in ensuring inclusivity and ease of movement for individuals with mobility impairments.

However, various environmental and structural barriers continue to pose challenges for users, regardless of background, affecting their ability to navigate and interact with built environments independently.

Kapsalis, Jaeger and Hale (2022) conducted a study on the effects of inaccessible urban public spaces on users of mobility assistive devices. Their findings identified several factors that cause challenges in accessibility for people with mobility impairment. These include building approaches such as improperly built ramps which cause fatigue and physical pain for people using manual wheelchairs, and narrow doorways and manual doors which makes them feel excluded from commercial services.

Beyond building entrances, obstacles within indoor environments also present significant difficulties. Challenges within indoor facilities include confined spaces characterized by narrow corridors and restrooms, which were often mentioned as a burden for the users. Improper service surfaces and lack of elevators and lifts are also considered as barriers as it further impedes independent mobility, limiting users' ability to navigate the spaces freely and participate fully in daily activities (Kapsalis, Jaeger & Hale, 2022). These challenges underscore the need for interior spaces that prioritize accessibility and inclusivity, ensuring that physical environments support rather than hinder mobility.

Another crucial factor influencing mobility within interior spaces is wayfinding. Wayfinding refers to the cognitive and behavioral processes involved in spatial navigation (Jamshidi & Pati, 2020). Understanding this phenomenon is

vital for interior designers, as it bridges the relationship between spatial configuration and user experience. Jamshidi and Pati (2020) identified four key domains that shape how users perceive and interact with space. The first, *Wayfinding Cognition*, concerns how individuals mentally process spatial information—how they form mental maps, recognize paths, and interpret cues to orient themselves. The second, *Wayfinding Behavior*, refers to the observable actions users take while navigating, reflecting how design elements either facilitate or obstruct intuitive movement. The third, *Individual and Group Differences*, highlights how diverse users—differing in age, ability, or familiarity with the setting—experience and respond to spatial environments uniquely. Lastly, *Environmental Factors* include the architectural layout, lighting, signage, and landmarks that guide or confuse users as they move through interior spaces.

These domains collectively illustrate that accessibility is not limited to the physical dimension of space, but also encompasses the perceptual and experiential aspects of user interaction. A user's ability to move confidently, locate destinations, and feel oriented within a building is shaped by how well these cognitive and environmental factors are addressed in the design. When spatial layouts are legible, circulation paths are unobstructed, and sensory cues are consistent, users experience a sense of comfort, autonomy, and inclusion. Conversely, when these conditions are neglected, users—particularly those with mobility or cognitive impairments—may experience disorientation, anxiety, or dependency on others.

By acknowledging the structural and cognitive challenges associated with mobility and accessibility within interior spaces, interior design can move towards creating spaces that are more inclusive and supportive of diverse needs. Incorporating clear wayfinding strategies, optimizing spatial organization, and removing physical barriers can significantly improve mobility, allowing individuals with impairments to navigate with greater independence and confidence. The integration of thoughtful design solutions ultimately contributes to more inclusive environments, reinforcing the role of interior design in fostering accessibility and equal participation for all individuals.

Philippine Standards and Policies on Accessibility of Interior Spaces

Standards and policies are established to ensure that accessibility remains a fundamental consideration in the design and development of built environments, promoting inclusivity and equal access for all individuals. In the Philippines, Batas Pambansa Blg. 344 (BP 344), also known as the Accessibility Law, serves as the primary legislation that sets the foundation for accessible design in both public and private establishments. The law mandates the integration of accessibility features to create barrier-free environments, thereby ensuring that persons with disabilities (PWDs) can navigate and utilize spaces safely and independently.

To operationalize its provisions, BP 344 is supported by its Implementing Rules and Regulations (IRR), which provide detailed guidelines and standards for accessible design. These regulations outline the minimum requirements necessary

to accommodate the mobility and usability needs of PWDs, addressing a wide range of design considerations. Examples include specifications for ramps, accessible parking spaces, curb cutouts, tactile surfaces, and handrails, among others (BP 344, 1982). Collectively, these provisions aim to remove physical barriers and promote inclusive movement within both interior and exterior spaces.

Under the General Provisions, the IRR establishes a comprehensive set of accessibility standards designed to ensure safe, efficient, and inclusive movement within interior spaces. It begins by addressing signage and wayfinding, specifying requirements for letter and symbol sizes, directional signage, and mounting heights to ensure readability and visibility for all users. Lighting illumination is likewise regulated to enhance visual clarity and support orientation, reinforcing the importance of well-lit environments in promoting navigability.

In addition to visual accessibility, the IRR emphasizes tactile and physical guidance features to assist individuals with visual or mobility impairments. The use of tactile surfaces, handrails, and grab bars is mandated along circulation routes to provide both safety and spatial awareness. Furthermore, the IRR regulates floor and ground finishes, including channel covers and protrusions, to eliminate potential tripping hazards and maintain smooth, obstacle-free walking surfaces.

The standards also extend to vertical circulation, where the IRR prescribes specific guidelines for stairs, clearances, and obstruction-free movement. It likewise mandates the installation of vertical conveyance systems such as

elevators, platform lifts, wheelchair stair lifts, and escalators to facilitate movement between levels and promote independence among users. Within interior spaces, the IRR further details requirements that enhance usability and comfort, including accessible entrances, doors, and thresholds, as well as appropriate corridor widths, switch placements, and other design elements that support safe and convenient movement. Collectively, these provisions ensure that accessibility is not treated as an isolated compliance measure but as an integral component of interior design that upholds inclusivity and user dignity.

These detailed guidelines under the IRR of BP 344 not only the first and foremost source accessibility standards for designers, it also reinforces the commitment to creating inclusive built environments and reflects the efforts of the national government to ensure that all individuals, regardless of ability, can navigate and utilize spaces safely and comfortably.

Beyond BP 344, the Philippine's Magna Carta for Disabled Persons (or R.A. No. 7277), which postdates BP 344, strengthens the country’s commitment to inclusivity by recognizing the prevalence of persons with disability and ensuring they are not excluded from society. The law not only establishes their right to access public and private spaces but also underscores the broader impact of accessibility on their opportunities for employment, education, and participation in daily life.

For instance, Republic Act No. 10524, an amendment to the Magna Carta, requires both public and private corporations to reserve at least 1% of their

workforce positions for PWDs, ensuring that employment opportunities are available to them. Similarly, in education, the Magna Carta guarantees the right of PWDs to access all levels of education, mandating that both public and private institutions provide necessary assistance, including the physical accessibility of educational facilities (Magna Carta for Disabled Persons, 1992).

The implementation of these policies highlights that accessibility within interior spaces extends beyond compliance with legal standards—it is integral to enabling participation, independence, and equitable experiences. While such laws create a foundation for inclusivity, their true effectiveness lies in how they are reflected in the physical environment. In workplaces, for instance, meeting employment quotas alone cannot ensure equity if employees with disabilities continue to face barriers such as inaccessible entrances, restrooms, or workstations. Likewise, in educational institutions, guaranteeing the right to education requires more than policy acknowledgment. It necessitates the design and provision of classrooms, pathways, and facilities that actively accommodate diverse physical needs. Thus, achieving genuine inclusivity demands deliberate interior design strategies that translate policy into practice. By prioritizing mobility and accessibility in spatial planning, designers can create environments that allow PWDs to navigate, work, and learn with confidence and independence. Such approaches reaffirm that accessibility is not only a matter of compliance but a vital aspect of human-centered design that supports dignity and equal participation for all.

Focusing on the direction of this research, higher education institutions, in particular, serve as crucial environments where accessibility can significantly impact students' academic success and overall experience. Ensuring that universities and colleges implement mobility and accessibility measures is essential in fostering an inclusive learning environment. With these policies in place to safeguard the rights of PWDs, the next step is to assess how these measures translate into the physical design of campuses and facilities.

Mobility and Accessibility Measures Applied in Higher Education Institutions

Campus design and planning play a vital role in shaping how individuals experience and move through educational environments. As a long-term process, campus planning ensures that land and built resources are used effectively to support an institution's educational goals (SCUP, 2013). It encompasses architectural and civil elements such as open spaces, buildings, non-motorized circulation, and utilities—all of which influence how accessible and navigable a campus becomes. Within this scope, interior mobility and accessibility form essential components of inclusive campus development. Uyaroğlu (2017) emphasizes that "accessibility is a prerequisite tool towards the construction of an inclusive society", particularly in educational environments where diverse communities, including PWDs, must be equally supported.

Uyaroğlu (2017) further explains that genuine inclusiveness in campus design requires a multifaceted approach that integrates physical design, policy, social considerations, and coordinated planning. Their study proposes a five-stage

framework for accessibility planning consisting of: (1) institutional policy, (2) demographic assessments, (3) user consultations, (4) campus audits, and (5) inclusive design proposals developed collaboratively with all stakeholders. This framework emphasizes the importance of aligning spatial planning with the actual experiences of users, ensuring that accessibility principles are applied not only at the architectural scale but also within the interior design of learning spaces, circulation areas, and communal facilities. Uyaroğlu underscores that interior environments should enable all people, including PWDs, to engage in academic and social activities without restriction. By integrating accessibility in these spaces, designers can create interiors that encourage autonomy, comfort, and participation, fostering a more inclusive and equitable educational experience for all students.

Similarly, Sarkar (2016) reinforces the idea that accessibility and inclusion in higher education cannot be achieved through policy alone but must be embedded in the physical and interior design of learning environments. Sarkar (2016) examined how universities address accessibility as part of their institutional infrastructure. The findings revealed that despite the existence of national mandates and legal frameworks, many universities continue to fall short of providing truly accessible spaces. Facilities such as ramps, elevators, restrooms, and classroom layouts often failed to meet accessibility standards, while features that support sensory and cognitive navigation—such as tactile flooring, proper lighting, and wayfinding systems—were largely absent.

These gaps reflect a limited understanding of accessibility, one that treats compliance as a checklist rather than as an integral design philosophy. The study emphasizes that inclusive universities must go beyond structural modifications to embrace interior design interventions that prioritize equity and usability. Through this lens, accessibility becomes a measure of how effectively the interior environment supports all users, not only in movement but also in comfort, engagement, and participation. Sarkar's findings thus highlight that inclusive design must be viewed as a continuous process of improvement, ensuring that every interior space contributes to a learning environment where PWDs can thrive equally alongside their peers.

Building on these perspectives, Simonson, Glick, and Nobe (2012) examined the perceived accessibility of students with disabilities at a public university and found that physical accessibility often differs from users' lived experiences. Their research revealed that older university buildings lacked accessible features such as elevators, automatic doors, and appropriate restroom layouts, which made navigation physically and psychologically taxing for students. Even in buildings that complied with accessibility standards, students still perceived barriers due to narrow corridors, heavy doors, inadequate signage, and inconsistent interior layouts. These findings emphasize that accessibility cannot be measured solely by compliance but must consider user perception and experience. Simonson et al. (2012) recommend embedding universal design principles, including wide circulation paths, consistent wayfinding systems, and

adaptable furniture, into both new constructions and renovations to create learning environments that feel truly inclusive and empowering.

In a related assessment, Kowaltowski et al. (2021) evaluated the State University of Campinas using Universal Design principles to assess campus accessibility. Their findings revealed that the university's "spatial configuration poses numerous barriers to people with disabilities," including uneven sidewalks, lack of tactile flooring, improper ramp slopes, and the absence of visual and auditory signage. These deficiencies demonstrate how accessibility is often overlooked in planning, resulting in environments that exclude rather than empower. The study concludes that accessibility must be prioritized in all future architectural and planning projects, reinforcing that inclusive design is not merely beneficial but essential in educational settings. By applying Universal Design principles and adopting a holistic planning process, designers and planners can create both interior and campus environments that are inclusive, functional, and welcoming for all.

Mobility and accessibility plays a crucial role in the academic experience of individuals within the higher education institutions, where students of diverse backgrounds must navigate campus spaces to fully participate in academic and social activities. The design and layout of educational facilities can either support or hinder their ability to move independently, directly affecting their overall learning experience and campus participation.

Hadjikakou, Polycarpou and Hadjilia (2010) also explored their study on the experiences of students with mobility impairments in higher education institutions. Their study highlighted that accessibility is a very important consideration for students in selecting their university as it directly impacts their academic experience and daily campus navigation. A key issue for the successful inclusion of students with mobility disabilities in higher education institutions is physical access such as access to ramps, handrails, and barrier-free environments. Without these accommodations, students reported their significant struggles in navigating their campuses, which negatively impacted their overall academic experience. The study reinforces the idea that accessibility is not just about compliance with policies but is integral to creating an environment where all students can learn and engage without limitations.

In the Philippines, issues within educational institutions persist. This reality is evident in the findings of Davao, Jueves and Orlanes (2019), who investigated the experience of PWD Students within their school facilities through interviews in University of Mindanao. Their findings revealed several challenges these students encounter while navigating around their university. The absence of elevators was a significant concern, as it forced students with mobility impairments to take the stairs, which they found physically demanding. Other challenges included overcrowded hallways, distant classrooms, and inadequate lighting in some rooms. Despite these challenges, students demonstrated resilience by developing coping strategies to continue their studies, reflecting their determination to pursue education. The study underscores the vital role of

accessible facilities in creating supportive learning environments and improving the overall quality of student life.

Similarly, Paguio and Santos (2020) conducted a study on the compliance of higher education institutions in Bataan to a barrier-free school environment for PWDs. Their findings revealed that there is inadequate PWD-Friendly facilities and neglect in the needs of PWDs in school planning among the three universities they have examined. Among the primary challenges identified were the narrow hallways, which restricted circulation space for wheelchairs, causing difficulties in navigating around the school grounds. Additional barriers included the lack of ramp access and insufficient allocated, which are essential for assisting students with mobility impairments. Furthermore, elevators in these universities were either unavailable or only had restricted access, further adding to the mobility challenges encountered by the students. The study also highlighted issues in wayfinding, as the absence of clear directional signage made it difficult for students to locate and identify accessible spaces and facilities within the campus. These shortcomings indicate that many universities fail to adequately accommodate students with disabilities, highlighting the need for better planning and enforcement of accessibility policies.

In University of the Philippines-Diliman, the same mobility and accessibility concerns are brought up. Enano (2015) provides an empirical, campus-specific account of accessibility challenges and institutional responses. It was found that although university-level admission policies and reasonable-accommodation provisions have become more inclusive, the Diliman

campus itself continues to lag behind in physical and institutional implementation. The study documented multiple instances of noncompliance across campus facilities (including the absence of ramps, appropriate restrooms, and accessible signage), and noted that many constituent units lacked coherent, enforceable accessibility policies and practical accommodations for PWDs. Enano concluded that without a centralized, campus-wide accessibility policy and systematic enforcement, UP Diliman remained unevenly prepared to accommodate qualified students with disabilities, leaving daily navigation and full participation compromised for many PWD students.

However, the implementation of accessibility measures at UP Diliman faces unique challenges as a government-funded institution. Budget constraints often limit the scope and speed of infrastructure upgrades, making it difficult to renovate older buildings or install comprehensive accessibility features across the campus. Government procurement processes, prioritization of projects, and administrative procedures can further delay improvements, resulting in inconsistencies in the project implementation and accessibility provisions.

This concern is even further compounded by recent allegations of corruption involving infrastructure projects within the university. Under Special Provision No. 5 of the Fiscal Year 2024 General Appropriations Act (Republic Act No. 11975), infrastructure projects of state universities and colleges exceeding ₱5 million are mandated to be implemented by the Department of Public Works and Highways (DPWH). Between 2018 and 2024, DPWH carried out various University of the Philippines (UP) infrastructure projects funded

through the General Appropriations Act. While these collaborations facilitated the construction of new facilities, several structures have exhibited defects that require immediate attention (DPWH, 2024; CHED, 2024; UP Media and Communication Office, n.d.). This intensifies concerns regarding corruption, transparency, and accountability in the implementation of university infrastructure projects.

However, these limitations should not justify the neglect or removal of accessibility measures in campus planning. Accessibility must not be the first consideration to be excluded when resources are limited. Instead, it should remain a non-negotiable and integral aspect of design and development. By prioritizing accessibility even amid institutional and financial constraints, universities like UP Diliman can set a precedent for inclusive campus environments, demonstrating that true academic excellence includes providing equitable spaces where all students can learn, participate, and thrive.

These studies highlight the critical role of mobility and accessibility measures in higher education institutions, revealing the gaps in existing infrastructure and their direct impact on students with disabilities. In the Philippines, while policies such as BP 344 and the Magna Carta for Disabled Persons set standards for inclusivity, their implementation within university environments remains inconsistent. Addressing these challenges requires a commitment from educational institutions to integrate accessibility into campus planning, ensuring that students with mobility impairments can navigate their academic journey without unnecessary barriers.

Simulation-Based Assessment of Accessibility

Role-play and simulations are forms of experiential learning that allow students to explore concepts, practice skills, relate to others, see multiple perspectives, and engage in various models of learning in the classroom. In the context of accessibility, simulation-based assessments provide a valuable methodology for evaluating how individuals with diverse needs interact with and navigate transitional spaces, offering insights beyond static compliance checks (Kray et al., 2013). This approach allows for a dynamic evaluation of user experience, revealing nuanced challenges and opportunities for design improvements that might be overlooked by conventional assessment methods.

Role-play simulations is a trans-disciplinary method that is used to engage stakeholders in understanding the stakes of the project they are involved in. The experiment is used to influence traditional policy- and decision- making by allowing them to experience first-hand the role of a particular person in a particular situation (Schinko, T. et. al., 2022). Such influence in decision making is possible through the Conviction Narrative Theory (CNT) where people's emotional responses to their simulation experience inform their choices. Kray et al. (2013), proposes that the act of simulation has the power to change one's choices, especially when the simulation features those of an imagined future. By adapting the perspective of designers, they can gain a deeper understanding of the practical challenges encountered within transitional spaces, fostering empathy and

leading to more inclusive design solutions in the future. This integration of simulation-based assessments with experiential design principles allows for a more comprehensive evaluation of accessibility, moving beyond mere adherence to regulations to truly understand and cater to the diverse needs of users within complex built environments (Ricci et al., 2024) (Kray et al., 2013).

Theoretical Framework

Social Model of Disability

The Social Model of Disability is suitable to this study as it frames the environment as the limitation imposed on the individual. This model asserts that individuals with disabilities are restricted in their full participation in society due to inaccessible spaces and discriminatory design choices, rather than their physiological condition (Traci et al., 2024). Applying this perspective allows the study to critically examine how the built environment either enables or hinders mobility and accessibility. The model works for this study because the research will only touch on the physical built environment, and it provides a strong foundation for analyzing the extent to which interior design contributes to inclusivity or exclusion.

Universal Design Theory

Universal Design Theory (UDT), which originated from architecture, is connected to the disability rights movement according to Jain, N. R., & Varpio, L. (2023), and offers a strong foundation for identifying the accessibility challenges in the selected buildings of this study. Given that past articles and study previously stated in this research have evidence of the struggles of users with limiting mobility within structures in UP Diliman, applying UDT can help the study describe and identify the proactive interior design choices that the selected buildings have put in place. UDT lists the seven design principles of UD, namely: Equitable Use, Flexibility in Use, Simple and Intuitive Use, Perceptible

Information, Tolerance for Error, Low Physical Effort, and Size and Space for Approach and Use, which can guide the researchers in their identification of accessibility measures present in the interior spaces (Jain, N. R., & Varpio, L., 2023).

CHAPTER 3

Conceptual Framework

This study examines the presence of interior mobility and accessibility measures in transitional spaces of selected buildings at UP Diliman, focusing on their compliance with Batas Pambansa Blg. 344 (BP 344) and Mace's (1997) Principles of Universal Design (UD). The conceptual framework illustrates the relationship between the existing interior design derived from the selected buildings and its contribution to the mobility and accessibility within these existing transitional spaces.

The existing interior design of the selected buildings serves as the derivative component of the framework. The design elements of interior transitional spaces—such as clearances, wayfinding and accessibility aids— are examined through the implementation of BP 344, the country's primary legislation on accessibility in the built environment, the 4 Parameters of Universal Design, and Experiential Assessment Analysis from the later part of data analysis. Positioned above the design element component, BP 344 and selected UD Principles serve as both guidance and criteria when exploring and evaluating the interior design elements in the existing interior transitional spaces of the selected buildings.

The 4 Parameters of Universal Design was derived from Farahat & Helga (2023)'s paper on *Improving assessment criteria of universal design: Towards an equitable approach*. The principles—equitable use, flexibility in user, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and size and space for approach and user— are the basis for their assessment tool called the 4 Parameters for Universal Design. The experiential assessment analysis is derived from Lehman (2011) and Ghazali, R., et.al. (2019)'s literature review and recommendations for design implementation. In relation to the component above the analysis is a connection for a guide during the analysis part, showing a connection between the UD design analysis and the Experiential Assessment Analysis.

By structuring the inquiry around these components, the study establishes a basis for assessing the mobility and accessibility measures of selected buildings and identifying areas where improvements may be necessary. This framework underscores the role of interior design and its contributions to an inclusive environment, ensuring that mobility is not hindered by spatial limitations.

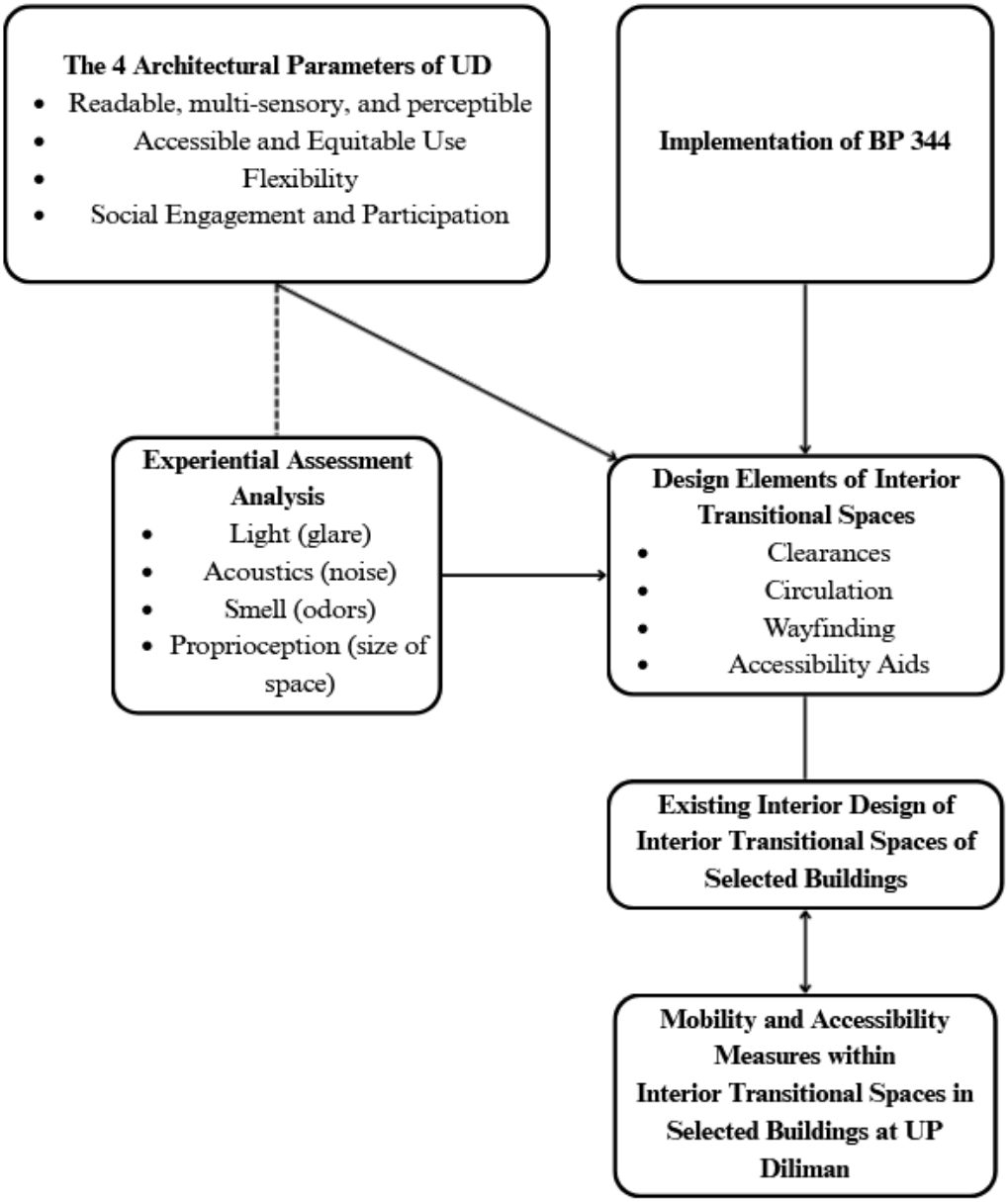

Figure 1. Conceptual Model.

Chapter 4

Methodology

Research Design

This study adopts a ***qualitative research approach***, which seeks to understand the meaning and characteristics of real-world phenomena through detailed analysis rather than through quantifiable data (Stake,1995). This approach is appropriate for investigating the contextual and spatial characteristics of built environments that cannot be quantified. Qualitative research allows for a detailed exploration of interior accessibility and mobility features, particularly in relation to compliance with accessibility standards and design principles.

Aligned with this approach, a ***multiple case study*** will be utilized. A multi case study is a qualitative approach that involves the in-depth investigation of several bounded cases, allowing researchers to compare, contrast, or analyze characteristics and draw insights across diverse contexts to better understand phenomena or problems (Adams et al., 2022; Baxter & Jack, 2008; Thomas, 2011). Stake (1995) emphasizes that this method can help enhance the understanding through "instrumental study of individual cases in order to provide insight into an issue or refinement of theory." It will allow for a detailed examination of interior mobility and accessibility measures present in the transitional spaces of the selected samples (buildings) in the study. With that, the study's intent is to gather detailed and contextual observations to understand a

phenomenon or problem, which in this case, is about the accessibility compliance with BP344 through assessing interior mobility and accessibility measures of transitional spaces within each selected building in UP Diliman.

Sampling Design

Sampling Method

This study will utilize ***purposive sampling***, a method that intentionally selects cases or participants that align closely with the research objectives (Campbell et al., 2020). Specifically, ***criterion purposive sampling*** will be employed, where the researchers establish a set of predefined criteria that the selected cases must meet in order to ensure their relevance and suitability for the study (Nyimbili & Nyimbili, 2024). This method is appropriate because it allows the researchers to focus on buildings that are likely to provide the most relevant data regarding the accessibility of interior transitional spaces in University of the Philippines-Diliman.

Sampling Frame

This study will purposively select **three buildings within the UP Diliman** campus, focusing specifically on the transitional spaces found within them. The assessment will be limited to these identified buildings. The selection criteria for choosing the five buildings include the following:

- **Post-BP 344 Construction.** Only buildings established after the enactment of BP 344 (the Accessibility Law) will be included in the study.

This criterion ensures that the interior mobility and accessibility measures of the selected buildings are assessed in accordance with the requirements of BP 344, as well as principles of UD to ensure inclusivity for all users.

- **High Student Utilization**. The building must regularly serve a large number of students. This criterion ensures that the interior mobility and accessibility measures being assessed are relevant to a significant portion of the student population. By focusing on buildings with high student traffic, the study aims to evaluate how well these accessibility features, in accordance with BP 344 and UD principles, function in spaces that are frequently used, thereby providing insights into their effectiveness in real-world campus environments.

Furthermore, this study will purposely select a total of **nine (9) participants** who will be participating in the experiential assessment. This will be based on the following criteria:

- **Physical fitness and capability**. Participants must be in adequate physical condition to safely perform the simulation tasks using assistive devices such as a wheelchair, crutches, or a blind stick. The following sub-criteria must be observed:
    - **General Health**: The participant must not be experiencing any form of illness (e.g., fever, flu, dizziness) during the experiential assessment.

    - **Musculoskeletal Condition**: Must not have any injury or condition that affects movement, balance, or coordination (e.g., sprains, fractures, muscle strain).
    - **Cardiorespiratory Readiness**: Should have no breathing difficulties or heart-related concerns that may be triggered by physical exertion.
    - **Stamina and Endurance**: Must be capable of performing light to moderate physical activities such as propelling a wheelchair, maneuvering with crutches, or walking with limited vision for short periods.
    - **Rest and Nutrition**: Must have adequate rest and nourishment prior to the experiential assessment to ensure alertness and physical stability.
- **Ethical awareness and sensitivity**. All participants must be willing to attend a mandatory orientation session before the assessment. This session will include:
    - Proper and safe use of the wheelchair, crutches, and blind stick.
    - Ethical considerations of simulating mobility and sensory limitations, emphasizing empathy, respect, and awareness rather than imitation.
    - An overview of the activity's objectives, observation methods, and safety guidelines.

- **Voluntary participation and informed consent**. Participants must voluntarily agree to participate and sign an informed consent form prior to the simulation. The consent form will outline the activity's purpose, procedures, potential risks, and the confidentiality of the participants' reflections and data.
- **Commitment to observation and documentation**. Participants must be willing to take notes and complete post-assessment reflection forms regarding their spatial experiences, challenges encountered, and observations on accessibility features and barriers.

Sample Size

The study will focus on **three (3) buildings**, selected as they satisfy the criteria set by the researchers. These buildings are:

- School of Statistics (New Building)
- Institute of Biology
- Institute of Mathematics (I-Math)

This study will also include a total of **nine (9) participants** for the experiential assessment, selected as they satisfy the criteria. The nine (9) participants will be divided into ***three (3) groups***, each group will be assigned to ***one (1) building***. Within each group, the three (3) participants will simulate different impairment categories to represent diverse mobility and accessibility conditions. This approach allows for a more comprehensive understanding of spatial usability from multiple perspectives. This sample size is appropriate for a

multiple case study, allowing for in-depth analysis of each case while still providing enough variation across cases to identify trends and patterns in accessibility.

Instrumentation

This study will utilize several instruments to gather data on the accessibility of transitional spaces in selected buildings within the University of the Philippines Diliman campus, namely: document request forms, annotation tools, a structured observation checklist derived from BP 344 standards and Universal Design assessment tool from Farahat & Helga (2023), measuring tools, experiential assessment and a camera for photo documentation.

Document Request Forms and Annotation Tools

To support the document study, formal requests will be made to access working drawings or blueprints, such as floor plans, of the selected buildings. Once obtained, printed or digital copies of the plans may be annotated using highlighters, pens, or digital markup tools. These annotations will help identify and analyze the layout of transitional spaces, providing context to the physical observations and highlighting design elements relevant to accessibility.

Observation Checklist and Notes

A structured observation checklist will be developed based on the provisions of Batas Pambansa Bilang 344 (BP 344) and the principles of UD. The checklist will guide

the evaluation of transitional spaces such as hallways, corridors, lobbies, staircases, ramps, and elevator waiting areas. Notes may come from both observation checklists, from interviews that will be conducted with the management and officials and from the experiential assessment that will be conducted.

Measuring Tools

Tools such as a tape measure, laser distance meter, or any other appropriate measuring instrument may be utilized to record dimensions and verify if spatial provisions meet required accessibility standards.

Camera for Photo Documentation

A digital camera or high-resolution smartphone will be used to take photographs of the observed transitional spaces. These images will serve as visual evidence of accessibility conditions and support the observational data.

Voice Recorder for Experiential Assessment

A voice recorder from a smartphone with/without a mic attachment will be used to record voice in real time during the experiential assessment. Later on the voice notes will be transcribed and labeled as notes for interpretation during the analysis phase.

Assistive Devices and Tools for Experiential Assessment

The following assistive devices and tools will be used for the experiential assessment:

- **Wheelchair** – to represent users with lower limb mobility impairments and assess the adequacy of circulation routes, door clearances, and turning radii.
- **Crutches** – to simulate users with temporary or partial mobility limitations and evaluate walking surfaces, ramp inclines, and transition ease between floor levels.
- **White cane (blind stick) and blindfold** – to simulate individuals with visual impairments and assess tactile cues, signage legibility, lighting adequacy, and wayfinding elements.

First-Aid Kit

A first aid kit will be prepared to ensure participants' safety during the experiential assessment. It will be available throughout the activity to provide immediate response to any minor injuries or health-related concerns that may occur while conducting the experiential assessment.

Data Gathering Procedure

The data gathering process for this study will follow a triangulated approach, having three phases which will begin with both ***document study and interview***, followed by ***ocular observation***, and lastly, ***simulation in form of experiential assessment***. The ***photo documentation*** will be implemented throughout the whole procedure and ***follow-up interviews*** may also be implemented as researchers may deem fit. This sequence ensures a comprehensive evaluation of the interior accessibility and mobility measures found in transitional spaces within selected buildings in UP Diliman.

The initial phase will focus on ***document study and preliminary interview***. In this stage, the researcher will gather and examine available architectural documents, specifically working drawings or blueprints such as floor plans of the selected buildings. These materials will be requested from the Office of the Campus Architect. The document study will provide a foundational understanding of the original spatial layouts, particularly the transitional areas, and will also serve as a basis for the creation of the observation checklist. This ensures that the checklist is tailored to the specific spatial conditions and design intentions of each building, allowing for a more targeted and informed on-site evaluation. Alongside the document requests, initial interviews may also be conducted with building management and relevant campus officials to gather insights regarding the buildings' design, usage, and existing accessibility measures.

The second phase will involve ***ocular observation***. The researcher will visit each building to assess the actual condition and implementation of accessibility and mobility features in transitional interior spaces. Using the structured observation checklist, which will be developed based on the reviewed documents and guided by the provisions of Batas Pambansa Blg. 344 (BP 344) and the principles of Universal Design (UD), the researcher will evaluate design elements such as corridors, ramps, lobbies, and doorways for their usability and inclusivity.

To supplement the observational data, the final phase of the study will involve an **experiential assessment** designed to gain a deeper understanding of how individuals navigate and experience interior transitional spaces. This phase will include the voluntary

participation of a total of **nine (9) selected participants** for all three (3) selected buildings who will each simulate one of three mobility conditions: **the use of a wheelchair, crutches,** and **a white cane**. The simulation will be voice recorded in real time and then transcribed for further analysis of the experience during the thematic analysis phase. The simulation aims to provide experiential insight into spatial layout, accessibility barriers, and ease of movement within the transitional spaces of the selected academic buildings.

Prior to the assessment, participants will undergo an orientation and safety briefing to ensure they understand the purpose, procedures, and potential challenges involved in the simulation. They will be guided on how to properly use the assistive devices to minimize risk and ensure accurate representation of each mobility condition. Furthermore, the assessment will be conducted in a controlled and supervised environment, with researchers closely monitoring the participants throughout the process to ensure their safety and well-being. Participation will also be entirely voluntary, and each participant will be required to provide informed consent before joining the activity. They will also be assured of their right to withdraw at any time without any consequence. No physically strenuous or unsafe tasks will be required, and the activity will be adjusted to ensure that participants do not experience fatigue, discomfort, or undue stress. All procedures will adhere to ethical standards for research involving human participants.

Finally, the ***experiential assessment*** will not aim to replicate the lived experiences of persons with disabilities, but rather to allow participants to empathically understand

the spatial challenges that arise from mobility restrictions. The findings will be treated respectfully and used solely to improve spatial accessibility and inform interior design practices aligned with the principles of Universal Design and Batas Pambansa Blg. 344.

For all the phases, ***photo documentation*** will be implemented. This method will provide visual evidence of the existing conditions of the transitional spaces, supporting the assessment and helping to capture specific accessibility features or barriers. These photographs will serve as a visual reference and will enhance the credibility of the findings by illustrating actual examples from the site visits. During the experiential assessment, participants will have the option to decline being photographed. In cases where their images are captured, their faces will be blurred to maintain anonymity. All photographic data will be treated with strict confidentiality and used solely for research purposes, ensuring that the privacy and dignity of all participants are fully respected.

Follow-up interviews may also be conducted with key stakeholders to clarify observed issues or to gain deeper insight into the rationale behind certain design choices. These interviews will help contextualize the findings and offer perspectives on the challenges and efforts related to implementing accessible design in campus infrastructure.

Data Analysis Procedure

A ***Thematic and Content Analysis*** will be employed to examine the qualities of the data collected from the observation checklist, photo documentations, and document studies. The qualitative data analysis method aims to identify patterns, strengths, and

challenges that the buildings exhibit in the implementation of interior mobility and accessibility measures through transitional spaces, but also to help understand how these elements contribute to—or hinder—accessible design within the built environment of UP Diliman.

Thematic Analysis will look at textual and visual data derived from observational notes, post simulation interviews, and photo documentation during the ocular visits. The text will be simplified though codifying keywords and identifying the emergent themes from them. The analysis will follow a systematic five-step process adapted from Naeem et al. (2023):

1. **Transcription, Familiarization, and Selection of Quotations** – Researchers will transcribe and review the data to become deeply familiar with it and begin identifying initial themes.
2. **Selection of Keywords** – Important words, terms, and visual cues will be highlighted.
3. **Coding** – Keywords will be grouped into categories based on shared meanings or contexts.
4. **Theme Development** – Coded data will be organized into broader themes representing different aspects of accessibility.
5. **Conceptualization and Interpretation** – Researchers will interpret the themes to explore how the identified patterns align with or diverge from the principles of BP 344 and Universal Design (UD).

This method allows researchers to explore questions such as: ***Are the accessibility features usable? Are there obstructions?*** It focuses on how accessible features function in practice, going beyond the binary yes-or-no format of the checklist to explore the quality and usability of those features.

Content analysis will draw data from the created checklist which is structured binary data coming from the "yes" or no" answers and the photo documentation and document study that are both visual in nature for supporting the checklist items. The checklist will provide quantifiable patterns, such as the frequency of the accessibility measures per building. The study is limited to only looking at frequency patterns and not determining its relationship to the effectiveness of the accessibility measures in place.

The study uses a ***directed content analysis approach***, using pre-established codes from BP 344, Social Model of Disability, and Universal Design Theory (UDT). Emphasizing the integration of pre-coded frameworks into content analysis is appropriate for accessibility research using the directed approach (Hermosa-Ramirez, 2022). Content analysis will be a systematic deduction of the categories (interior accessibility measures) and codification of the binary data for the presence or absence of these categories. Terashima et al. (2018) did similar methods in their research where they incorporated photo elicitation to highlight infrastructure barriers not evident through spatial data alone.

The content analysis and thematic analysis is triangulated to validate the data that emerges from the data collection methods with each other. The analysis will be done by deducing if a certain measure is present or absent. According to that answer, there will be cross-checking with the textual, visual, and document evidence, comparing them to each other. This cross-checking process ensures that the analysis is comprehensive and grounded in multiple forms of evidence, allowing for a complete qualitative analysis.

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