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"Harmony in Spaces : Blending Heritage, Nature and Design"

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TALKS 2.0

THE ACCLAIMED LANDSCAPE OF KNOWLEDGE SHARING

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UNDERSTANDING USER CENTRIC DESIGN TROUGH DESIRE PATH IN CAMPUS

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ABSTRACT

Abstract Desire paths, also known as desire lines, are informal, user-created pathways that emerge in public spaces due to repeated, preferred movement, often in defiance of established walkways or official routes. These pathways represent a manifestation of human behaviors, driven by the innate desire for practicality and efficiency in navigating campus environment . This study to comprehensively understand and analyses desire paths on the campus grounds, exploring the factors influencing their formation, the impact on pedestrian behaviors, and the implications for campus planning and design. As individuals consistently opt for more direct or convenient routes, this mismatch can result in inefficient land use and a suboptimal user experience in campus. This study aims to investigate the factors contributing to the formation of desire paths, assess their impact on campus areas, and explore the potential consequences of ignoring or resisting these organic pathways in favour of strictly adhering to predetermined design schemes. By doing so, campus area can be made more functional and user-friendly to student, aligning with the natural flow of people. Through a comprehensive analysis of this phenomenon, this research seeks to address the challenges posed by desire paths campus and provide valuable insights into the future of walkability in campus.

Keywords: *walkability; comfortable; campus; desire; student*

INTRODUCTION

A desire path, often referred to as a desire line, is an unplanned and informal pathway created by the repeated and preferred movement of people or animals through a specific area. According Jeff Speck (2012), identifies four key factors that contribute to walkability is useful, safety, comfortable and interesting. Desire paths are reflection of human behaviors and a testament to the power of practicality and efficiency. They represent a form of silent and collective protest against rigid or impractical campus, demonstrating that individuals will adapt their environment to better suit their needs, even if it means straying from the intended paths.

In essence, the impact of desire paths on a college campus reflects a dynamic interplay between the practicality of user choices and the deliberate planning of the institution. Recognizing the value of user insights while maintaining the integrity of the campus environment is the key to fostering a harmonious relationship between desire paths and traditional planning. The campus becomes not just a physical space but a canvas that adapts to the ever-changing patterns of its vibrant community.

RESEARCH OBJECTIVES

To conduct a thorough investigation into desire paths within the campus environment with the overarching goal of gaining a comprehensive understanding of their formation, the influential factors shaping their trajectories, the behavioral patterns of pedestrians who utilize these paths, and the broader implications for effective campus planning and design.

1. To identify the specific pathways preferred by students within the campus environment.
2. To observe the various factors that influence students in choosing particular paths on campus.
3. To examine the criteria that define a path as "desired" by the student in campus.

LITERATURE REVIEW

Desire Path

Social desire paths are human behaviors that individuals engage in when existing formal structures do not meet their needs or desires. These paths emerge organically and can ultimately influence formal structures such as policies and programs.

The concept of social desire paths draws inspiration from landscape architecture, where desire paths are informal paths that develop over time as individuals bypass built paths or sidewalks. (Laura Nicols,2014) The concept of social desire paths has the potential to inform and shape structural change in society by capturing individual actions that collectively leave an imprint on social structures

(Harun Nor , Nashar Amanina , et al, 2022) focuses his research on walkability on campus. Derived from factors like street zoning and pedestrian conflict, it asserts that comfort surpasses safety, accessibility, and connectivity in significance. This shift is linked to strategic street zoning and amenity placement. The research underscores the impact of comfort on the overall pedestrian experience. For instance, well-designed rest zones contribute to a welcoming environment. While safety and accessibility remain crucial, prioritizing comfort can foster a sense of safety and inclusivity. The paper also highlights streets' potential in shaping successful open spaces, fostering social and physical activities. In essence, it advocates for a paradigm that places comfort at the forefront of campus walkability considerations. (Harun Nor , Nashar Amanina , et al, 2022)

Environmental Impact

Research towards footpath erosion typically observes the impact of sediment towards off- site, downstream ecosystems. One study from Rodway-Dyer & Walling (2010), used sediment catchments in protected nature parks to estimate erosion rates from foot traffic and found that the literature surrounding footpath erosion is mostly on the degradation of the environment by soil compaction, incision, and sediment pollution due to

short-term erosion. (Morgan , et al, 2017), found that sediment deposition rates resulting from the study were consistent with studies done in urban catchments elsewhere. In other words, the sediment from erosion on desire paths is also likely to contribute as a source for sediment deposition and pollution delivery to local watersheds.

Social Impacts

According to Marcus and Francis (2018), interviews with sampled students from various universities revealed that students believed the most unsafe areas on campus were heavily planted areas, dense landscaping, and infrequently used pathways. The places cited as the most Crime and fear of crime increase in places where the design of the landscaping creates hiding places for criminals where there is a lack of visibility. However, when a separate sample of students was asked to describe improvements to these areas, the most frequently described improvement was better lighting, while there were no suggestions to remove the vegetation (Marcus and Francis, 2008).

The propose that the allure of desire paths, despite potential safety hazards, may stem from the same attraction people have to natural elements. Even though navigating these paths can be risky, individuals seem drawn to them, highlighting the enduring appeal of desire paths that transcends safety concerns. These social dynamics are not limited to campus environments but hold true across various landscapes (Marcus and Francis, 2008).

Social Impacts

According to research (Tatabatie, S. Litt , H.F. Muller, 2023) identified several environmental features that explain why urban residential streets are desirable for walking. Our focus was on characteristics contributing to the comfort, visual appeal, and safety of streets for pedestrians. We derived, developed, and organized these variables based on existing literature on walkability, landscape preference, and territoriality. To assess their alignment with planning policies and the potential for design interventions, we categorized them. This study utilized ten environmental indicators as constructs to evaluate the street photos through the Visual Landscape Assessment (VLA) instrument.

I.Side quality
II.Maintenance
III.Trees
IV.Shade
V.Landscape type
VI.Landscape diversity
VII.Openness and closeness of view

METHODOLOGY

Employing qualitative observation methods in research involves a nuanced approach that focuses on understanding and interpreting complex phenomena, human behaviors, and social contexts. This method is particularly effective in achieving research objectives that require in-depth exploration, uncovering meanings, and capturing the richness of experiences.

Study Design Structures Trough Checklist

In conducting research on desire paths, a comprehensive checklist proves invaluable in ensuring a systematic and thorough investigation. The checklist should encompass key components such as defining clear research objectives, selecting appropriate observation settings that align with the study's goals, and choosing suitable photographic equipment for visual documentation.

Study Design Structures Trough Checklist

Utilizing visual observation through photography in the research of desire paths offers a dynamic and illustrative approach to studying these informal trails. The method involves capturing the formation and evolution of desire paths over time, documenting user behaviors, and highlighting the environmental factors influencing their development.

Tools

For the visual observation of desire paths on campus, the tools at hand involve the use of a phone camera and traditional paper notes, seamlessly integrating analog and digital methods. Leveraging the phone camera's

capabilities, attention is given to capturing high- resolution images that offer a detailed portrayal of desire paths. Various angles and perspectives are explored to provide a comprehensive view, encompassing both wide shots for contextual understanding and close-ups to highlight specific features. Concurrently, the use of paper notes complements the visual data by allowing for on-the- spot sketching of desire paths, documenting patterns, intersections, and temporal observations. Annotations on paper notes include details about foot traffic intensity and environmental surroundings.

To bridge the analog-digital gap, captured paper notes are photographed using the phone camera, organized in folders, and later transferred to a laptop for more systematic analysis. This combined approach ensures a holistic understanding of desire paths, utilizing the convenience of phone cameras while preserving the tactile engagement of handwritten notes.

Times

To comprehensively document desire paths on a campus, it is advisable to conduct photography observations at various times throughout the day. Early morning observations, characterized by soft sunlight, can capture the initial foot traffic as students and faculty navigate their way to classes. The mid-afternoon period, representing peak campus activity, allows for the documentation of well-established desire paths and high foot traffic, providing a detailed understanding of the pathways' usage. Transitioning to late afternoon and early evening enables observers to witness how desire paths evolve during the changing light conditions of the day, adding an aesthetic dimension to the visual documentation. Finally, nighttime observations showcase the campus under artificial lighting, revealing distinct foot traffic patterns influenced by social or recreational activities. By strategically selecting observation times, ranging from morning to night, a holistic perspective on the dynamic nature of desire paths emerges, contributing to a more nuanced understanding of human movement within the campus environment.

Observation Site – Map

Figure 7. Shows Base map UiTM Seri Iskandar using Google Maps

The University of Technology Mara campus was selected as a study location for this research. This is because campuses are dense, pedestrian-centric environments, that contain similar elements to cities in a more walkable space (Coutts, et al. 2019). Universities, which are developed with pedestrians in mind, also could provide more opportunity for desire path encounters, and thus more data for collection.

Firstly, The UiTM Seri Iskandar campus covers an approximate area of 392.36 acres and exhibits a diverse topography and layout, providing an ideal environment for understanding how desire paths emerge and evolve.. The intricate network of walkways and green spaces invites an exploration of spontaneous foot traffic patterns influenced by the daily activities of students and staff.

Additionally, UiTM Seri Iskandar is a bustling educational institution with a significant population, contributing to the dynamic nature of desire paths. The campus's vibrant and active community ensures a rich source of data, capturing the nuances of pedestrian movement during different times of the day and academic semesters.

Furthermore, the campus undergoes ongoing development and modifications, offering a unique opportunity to observe how desire paths adapt to changes in infrastructure and landscape. This aspect is crucial for understanding the resilience and adaptability of desire paths in response to evolving environmental conditions.

Lastly, the aesthetic and functional significance of the campus landscape makes it an intriguing case study. By choosing UiTM Seri Iskandar, I aim to contribute valuable insights into the complex interplay between human behavior, campus design, and desire path formation within the specific context of this educational environment.

ANALYSIS AND FINDING

The analysis of desire paths on a campus involves employing thematic analysis and coding as complementary methods to unveil patterns, themes, and meanings within observed behaviors. Thematic analysis is initiated by becoming familiar with the data, followed by open coding, theme organization, refinement, data mapping, and pattern identification. Coding, on the other hand, involves defining codes, applying them to specific behaviors, engaging multiple coders for reliability, iterative coding, grouping related codes, and identifying deviations.

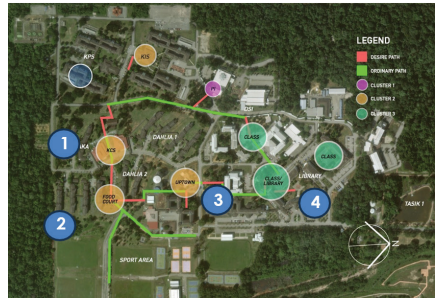

Figure 8. Shows the time of using the desire path

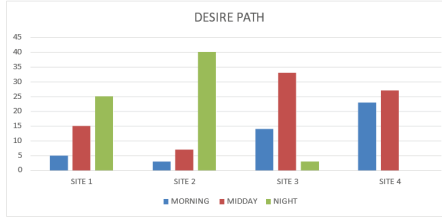

Figure 8. Shows the time of using the desire path

The selection of an observation site is a pivotal aspect of conducting research on desire paths. Careful consideration should be given to choosing locations that are likely to exhibit the spontaneous formation of informal trails, aligning with the research objective.

First Site Observation

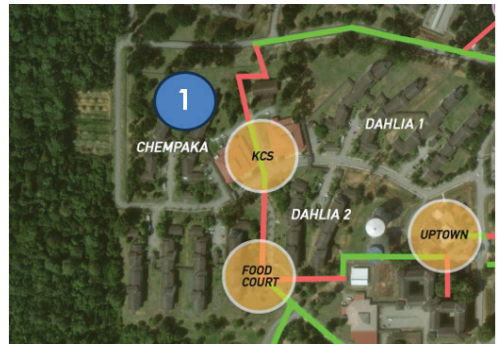

Figure 9. Location between Collage Pasir Salak and College Indera Sakti

Figure 9. Location between Collage Pasir Salak and College Indera Sakti

The lower percentage of green path usage in the morning suggests that students may prioritize other factors over side quality during this time, potentially favoring paths with open views and a serene environment. In contrast, the midday with a moderate (30%) usage, seems to strike a balance between side quality and accessibility, appealing to a larger student population.

During night (60%) usage, is indicative of a well-lit and safe environment, possibly with more trees providing shade for a sense of security during nighttime walks. These observed patterns hint at the importance of factors such as maintenance, tree cover, shade, landscape type, and openness in shaping student preferences for specific paths at different times of the day. Campus planners and administrators can leverage this analysis to enhance the overall campus experience by tailoring path features to align with student needs and preferences.

Second Site Observation

In the second site observation, the dominance (80%) during nighttime usage compared to (14%) during mid-day and (3%) when the morning. It shows suggests a distinct preference among students for the red path during the evening hours. This preference may be attributed to several factors, including the side quality characterized by appealing features or enhanced lighting at night, effective maintenance ensuring a welcoming atmosphere, the presence of trees along the red path offering a sense of tranquility and shade during the night, and a well-designed landscape that promotes a diverse and aesthetically pleasing environment. Additionally, the openness and closeness of views along the red path at night may contribute to its popularity, creating an atmosphere that resonates with students' preferences for nighttime walks or activities. Further investigations and student feedback could provide deeper insights into the specific elements that make the red path more appealing during the night compared to the blue path in the mid-day.

Thirds Site Observation

Figure 10. Location at College Indera Sakti and near of sport area

Figure 10. Location at College Indera Sakti and near of sport are

Conversely, in the third site observation, a more balanced distribution emerges, with 28% of students opting for the in the morning and the remaining 60% during midday, while 12% uses during night. This division suggests a conscious selection based on daylight conditions. Both the green and blue paths likely boast good side quality, and natural shade from trees, contributing to a pleasant daytime experience. The absence of red path usage during nighttime indicates that students may feel secure enough without the need for that particular route, perhaps relying on the well-lit and tree-lined characteristics of the green and blue paths. Overall, these observations underscore the nuanced preferences and considerations influencing students' choice of pathways on the campus.

Forth Site Observation

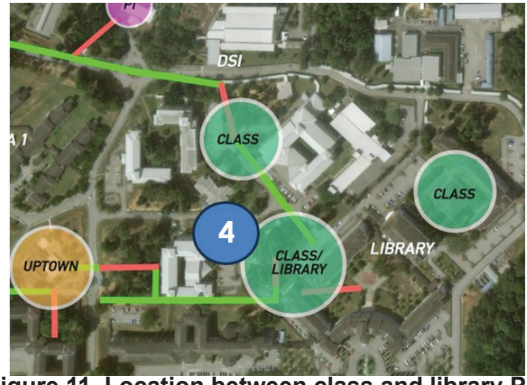

Figure 11. Location between class and library PITAR

Figure 11. Location between class and library PITAR

The fourth site observation, with (46%) morning and (54%) during night , further underscores the importance of environmental diversity. Morning paths maintain a focus on natural elements, including a considerable presence of trees and shaded areas for a serene experience, while midday paths integrate a mix of natural and built environments. These variations highlight the dynamic interplay between safety, natural elements, and the overall experiential quality of desire paths on campus, offering insights into how students navigate and interact with their surroundings throughout the day.

CONCLUSION

The primary objective of this study is to ascertain and comprehend the pathways favored by students within the campus environment. By identifying these preferred routes, we aim to gain insights into the underlying reasons and patterns that guide students in selecting specific paths over others. Understanding the intricacies of these pathways will contribute to a more comprehensive knowledge of campus navigation and potentially inform future campus planning.

This research aims to systematically observe and analyze the diverse factors influencing students when choosing paths on the campus. Factors such as convenience, proximity to key areas, visual appeal, and environmental conditions may all play a role in shaping students' preferences. By examining these influences, the study seeks to uncover the multifaceted decision-making processes that guide students in navigating their way across the campus.

Another crucial aspect of the study involves examining and establishing the criteria that define a path as "desired" by the student within the campus

context. This entails investigating aspects such as side quality, maintenance, presence of trees, availability of shade, landscape type and diversity, as well as the openness and closeness of views. By establishing a set of criteria, we aim to provide a structured framework for identifying and categorizing desire paths on campus, contributing to a more informed understanding of student behavior and preferences in the built environment.

SUMMARY OF FINDING

Research Objective 1 Discussion

To determine and understand the specific pathways preferred by students within the campus environment.

Shade

Appeal and Comfort: Pathways with ample shade are often preferred by students as they provide relief from direct sunlight, especially during hot or sunny days. The presence of trees, awnings, or buildings that cast shadows creates a more comfortable walking environment.

Seasonal Considerations: The availability of shaded pathways becomes particularly desirable in warmer climates or during the summer months, enhancing the overall walking experience and encouraging students to choose routes that offer shelter from the sun.

Landscape Diversity

Pathways that showcase landscape diversity, including green spaces, flowerbeds, or other visually appealing features, are often favored by students. The aesthetic appeal contributes to a more pleasant and enjoyable journey across campus.

Natural elements, such as trees, flowers, or water features, can enhance the overall sense of wellbeing. Students may be inclined to choose paths that offer a more serene and relaxing environment, providing a break from academic demands.

Crossroads

Crossroads on campus, where multiple pathways intersect, can be significant hubs of student activity. These areas often become focal points, and students may prefer paths leading to or from crossroads due to the convenience and the potential for social interactions. Crossroads can serve as natural points for orientation and wayfinding. Students might choose paths leading to crossroads because they provide clear landmarks, making it easier to navigate the campus efficiently.

Research Objective 2 Discussion

Field observation of desire path characteristics and using descriptive statistics as an analysis tool, helped to inform the answer to Research Objective 2 (To observe and analyses the various factors that influence students in choosing particular paths on campus) Three key findings from the analysis can be summarized.

1. Efficiency : Students are influenced by the desire for the most direct and time- efficient routes, choosing paths that help them reach their destinations without unnecessary detours.
2. Accessibility : students are inclined to choose paths that are more accessible, well-maintained, and free from obstacles, reflecting a preference for ease of navigation.
3. Social Factors : Desire paths may be influenced by social dynamics, with students choosing routes that facilitate interaction, socialization, or the possibility of encountering friends.

Research Objective 3 Discussion

To examine and establish the criteria that define a path as "desired" by the student in campus.

1. Directness : A desired path is often the most direct and efficient route to reach a destination, allowing students to save time and effort compared to official, longer routes.
2. Consistency in Use : Path becomes desired when there is consistency in its use over time, demonstrating that it has become a reliable choice for students navigating the campus.
3. Integration with Campus Culture : Desired paths often integrate with

the campus culture, reflecting the way students naturally navigate and interact with their surroundings.

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Sekian, terima kasih.

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Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

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