Sustainable Campus: An Installation of Typographic Landscape Design in Outdoor Communal Space

Norita Abdul Kadir[1] , Norhafizah Abdul Rahman[2] , Nur
Hisham Ibrahim[1], Syahrul Nizam Shaari[1*]

[1] Department of Graphic Design and Digital Media, College of Creative Arts,
Universiti Teknologi MARA (Perak Branch) Seri Iskandar Campus, Seri Iskandar, 32610,
Perak, Malaysia
[2] Department of Built Environment Studies and Technology,
Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA (Perak Branch)
Seri Iskandar Campus, Seri Iskandar, 32610, Perak, Malaysia
`nizam198@uitm.edu.my`

Abstract. This paper aims to identify the preferred area for Typographic Landscape Design (TLD) in campus open spaces. 160 questionnaires were distributed to the Faculty of Art and Design (FSSR 2) at UiTM Seri Iskandar, Perak. The collected data underwent quantitative analysis and were summarized using IBM's "Statistical Package for Social Science" (SPSS) Statistics 25 software. The findings suggest that Area 1 is highly rated as a welcoming and refreshing environment. Installing a TLD (presumably a lighting or design element) in this area will enhance the campus's sustainability, potentially improving students' well-being and enhancing the university's image. This study is significant for academic institutions as it supports environmentally friendly practices that align with the UI Green Metric World University Ranking criteria.

Keywords: Sustainable campus, typographic landscape design, quality of life, campus outdoor space

1   Introduction

Sustainability has gained significant attention across various fields in recent times. In the realm of education, the importance of sustainability in addressing resilience challenges cannot be overlooked [1, 2, 3]. Among the topics frequently discussed is the provision of student gathering spaces for outdoor activities. It is crucial for universities to offer adequate spaces that benefit students' well-being and foster an environmentally conscious generation, aligning with sustainable campus initiatives. Achieving this goal requires functional design considerations for students' everyday facilities, as student activities heavily rely on existing resources and flexibility [4]. Additionally, the working environment within universities is vital in promoting sustainable innovation activities and enhancing university sustainability, as emphasized by reference [5].

To address the issue of insufficient outdoor communal space for students, the proposed design integrates typography and landscaping in open spaces, aiming to

support sustainable development within the campus community. This approach seeks to gauge students' perceptions of the proposed typographic landscape design as a solution. Reference [6] highlights that students often feel inconvenienced and uncomfortable with the outdoor environment on campus, leading to a reluctance to spend time outside classrooms due to the lack of appropriate facilities. Therefore, it is recommended that individuals responsible for campus planning should take into account the role of public open areas in supporting education, leisure, and environmental aspects during the initial campus planning phase [7].

In response, the researcher has proposed a design solution (Fig. 1) as a functional installation using FSSR letters that serve as benches for students to gather in faculty open spaces. This design, known as Typography Landscape Design (TLD), features large three-dimensional letters that interact with the surrounding landscape, creating a communal space for students to engage in outdoor activities. Three sustainable criteria—comfort, aesthetics, and amenities—have been considered to ensure that the proposed design incorporates sustainable landscape features. The purpose of campus landscaping extends beyond beautifying the environment and providing shade; it also aims to support students' learning processes and foster their love and appreciation for the environment. By reinforcing positive values and enhancing student satisfaction within the selected spaces, the design contributes to their overall well-being [8].

Fig. 1. Proposed typographic typeface
(Source: Author)

2 Literature Review

2.1 Integration of Typography and Landscape

Fig. 2 illustrates the integration flow between Typography and Landscape. In this context, a case study was conducted in an art faculty, where visual elements are crucial in distinguishing the faculty's identity from others. According to earlier study by reference [9], nurturing innovation skills through aesthetic education in universities has significant benefits, including personal growth, improved learning habits, enhanced aesthetic literacy, and overall competency. Therefore, it is important to visually

showcase the aesthetic aspect. Aesthetic value was a key factor in selecting the most popular campus space, as mentioned by previous study by reference [10].

The attractiveness and aesthetic value of green spaces depend on the diversity of plant species, which is why students suggested adding more flowers, trees, shrubs, and benches to enhance specific areas. Integrating functional and large typographic sculptures with the surroundings will enhance the sense of place. Earlier study in reference [11] suggested that typography ought to be viewed as a social construct, arising from the interconnectedness between a sign and the specific context in which it is employed. Such artwork can serve as functional public art placed in public areas. Public art comes in various forms, both permanent and temporary, and encompasses a wide range of materials and processes. Examples include monuments, freestanding sculptures, archways, artist-designed street furniture, and artwork integrated into buildings, such as digital displays, architectural details, and murals. Ultimately, this integration can give these places meaning, make them memorable, and restore cultural sensibility.

The landscape positively impacts human visual perception, and a highly aesthetic landscape can influence human psychology and behavior. Aesthetic values in the landscape play a significant role in attracting visitors to specific places. This is achieved through effective landscape designs based on fundamental principles. Understanding these principles prevents the creation of unattractive landscapes and promotes the creation of beautiful ones. Unity, simplicity, variety, balance, sequence, and scale are principles often associated with art. The design elements, such as form, line, texture, and color interact with these principles to achieve the desired design.
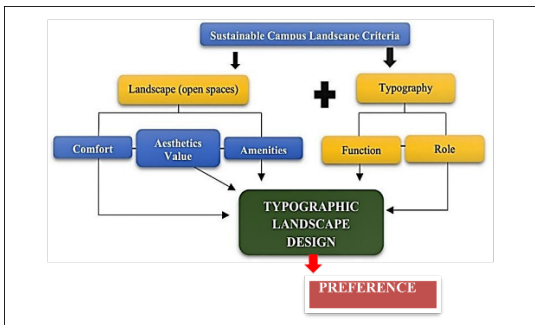

Fig. 2. Integration of Typography and Landscape
(Source: Author)

2.2   Landscape Preference

Numerous studies have been conducted regarding landscape preferences. Several researchers in the field of environmental psychology have noted that individual variations in landscape preferences are often influenced by personal and social experiences, such as beliefs, values, and past encounters [12]. The presence of high-quality visual attributes that promote greater engagement and improved social interaction among visitors lends support to the idea that visitation performance and a

sense of attachment to a particular place can be enhanced. Research conducted by reference [13] takes a perspective that advocates recognizing numerous landscape values associated with landscape preferences, all of which are relevant to the needs of the general public and the perceived benefits. As previously elucidated by several researchers, natural outdoor environments are commonly regarded as aesthetically pleasing, adaptable, and functional for individuals to explore [14].

In addition, reference [15] contends that the effective incorporation of art into public spaces elevates the quality of the environment and provides comfort. Figure 3 illustrates the successful integration that has resulted in an attractive and comfortable landscape space. Consequently, collaboration between experts in visual arts and professionals in the field of environmental design, to integrate functional elements into the area, can have a profound impact on the field of landscape architecture and design. Furthermore, by recognizing the significance of facilitating interactions among students and instructors, fostering peer connections among students, and establishing connections between students and administrative staff, it is possible to cultivate a vibrant and efficient campus environment where each group mutually supports and appreciates one another [16].

Fig. 3. Integration of visual art with landscape design
(Source: https://www.pinterest.com)

2.3   The Role of Typography as Public Art

In the past, numerous definitions of typography have been formulated, yet these definitions share a striking similarity. Typography, as described by reference [17], can be understood as a means of visual communication that brings language to life. Conversely, some scholars, such as Dicerto (2018) and Maledo & Ativie (2022) in reference [17, 18], contend that written texts encompass more than mere words.

One compelling illustration of functional typography is in the realm of public art, also called applied art. This form of artistic expression enhances convenience and comfort within urban environments, as expounded by reference [19]. Components like signage, kiosks, bus stops, and street furniture fall under the umbrella of public art. This art form places a significant emphasis on public art's aesthetic and utilitarian aspects, spanning the realms of three-dimensional (3D) and two-dimensional (2D) visual forms. Its primary mission revolves around enhancing quality of life and the urban landscape.

Typography, as a design practice, extends its influence not solely within indoor and outdoor spaces. As previous study by reference [20] articulated, typography's functions play a pivotal role in facilitating the comprehension and interpretation of written messages. In contemporary times, typography has evolved to encompass functional and

aesthetic compositions, often harnessed through technology. The concept of typography has transcended traditional techniques, with a growing number of public art designers incorporating interactive design elements into their creations. This transformation elevates public art from static entities into genuine art forms that actively engage and interact with the public, as highlighted by reference [21]

The creative incorporation of typography into outdoor spaces extends beyond aesthetic considerations. It directly impacts various dimensions of human well-being, including emotional, social, cultural, and psychological aspects. By infusing outdoor landscapes with typography, designers and artists create environments that inspire, inform, and connect people, ultimately contributing to healthier, happier, and more enriched lives.

3   Methodology

3.1   Case Study

This is descriptive survey research. The respondents for this research were selected by 'stratified random sampling', which means that the respondents were selected randomly but in the designated area. Over 400 students occupied this building comprising the Department of Graphic & Digital Media and the Department of Photography & Creative Imaging, Art & Design, (FSSR 2) UiTM Seri Iskandar Perak Campus, Malaysia. Therefore, 160 respondents have been chosen to get involved in completing the questionnaires. The reason for choosing the groups of students from FSSR 2 as the respondents in this survey is because they were the primary users of these areas. Residents in an area for a long time will be more familiar with the surrounding environment than other groups. They will have a broader subjective evaluation of the area [22]. These factors also influenced landscape familiarity and knowledge. The existing open spaces around the building can be utilized by providing sustainable landscape design for the students' purposes.

Unfortunately, these open spaces are left empty without any facilities for students. The faculty does not currently provide enough utilities for the student's needs, such as benches or seats to facilitate students', nor a proper landscape to support the agenda of the green environment around the faculty area. Due to this phenomenon, students face a problem spending quality time in the faculty area. The university is one of the starting points for implementing activities and programs to bring the university community about the existing campus assets and environment. Earlier study from reference [23] indicates the importance of institutional structures, policies, and practices to enhance students' sense of belonging and reduce the feelings of otherness that arise due to a lack of supportive campus structures. Therefore, based on these respondent inputs, the researcher explored the student's perceptions of campus open space around the faculty surroundings and saw the need for sustainable typographic landscape installation to enhance their quality of life on campus.

3.2   Data Collection

In this research, we have introduced a three-dimensional representation of TLD (Topographic Landscape Design) to assist survey participants in comprehending the five most favored areas. Subsequently, participants will opt for their preferred area based on their familiarity with each location. Respondents must have a clear understanding of the layout of each preferred area to make informed selections. Once the area selection is made, respondents are required to respond to three additional questions using the Likert scale methodology to provide a comprehensive explanation for their area preference. The questionnaire includes both current views and proposed designs, as depicted in Figure 4.

Fig. 4. (a) Area A; (b) Area B; (c) Area C; (d) Area D; (e) Area E
(Source: Author)

4   Findings

4.1   Highest Ranking of Selected Area

Respondents need to select a potential area based on sustainable criteria, considering their experience in the faculty surroundings. An evaluation of the preferred sustainable area is conducted using the Likert Scale, which includes ratings such as "Strongly Agree," "Agree," "Mixed Feelings," "Disagree," and "Strongly Disagree." This is done to capture the respondents' perceptions of the ideal location for the TLD (Typographic Landscape Design). Based on Table 1, the rankings indicate that more than half of the respondents (n=86, 53.75%) favored Area 1, followed by Area 2 (n=30, 18.75%), Area 5 (n=20, 12.5%), Area 3 (n=13, 8.12%), and the lowest preference was for Area 4 (n=11, 6.87%). The choice of preferred areas outside the classroom depends on several factors. Typically, students opt for functional spaces where they can easily carry out their daily activities. Exploring and effectively planning campus areas create a student-centered campus environment by examining how students perceive these spaces [24].

Table 1. Ranking of Respondents' Preferred Area

Rank	Current view	Proposed design	N (%)	
	Area 1			• Situated between the main building and a low hill slope with big trees and shrubs nearby makes it aesthetically pleasing.
1			86 (53.75)	• An active area because it is near to a printing kiosk, foodie pushcart, vending machine, lecturers' room, classes and washroom.
				• Most of the time this area is quite shady with the presence of building and big trees nearby.
	Area 2			• Near to faculty entrance
2			30 (18.75)	• Near to carpark • TLD is located under big trees which create sheltered • A spacious open area • Dim at noon due to the movement of the sun, which shielded behind the academic building
	Area 3			• Quite far from the academic building but nearer to the car park
3			20 (12.5)	• Surrounded by big trees • Spacious area with green spaces • On normal days, students do leisure activities • Shady because of the many trees around
	Area 4			• Located behind of a academic building but quite an active area because students often pass by from college to the academic building
4			13 (8.12)	• Covered pedestrian walkways provided

			• Near to Pusat Islam and UiTM main hall • Dim in the morning and evening due to the presence of academic buildings and trees nearby
5	**Area 5** 	11 (6.87)	• An active area for students to commute from college to the academic building • Pedestrian walkways provided • A spacious area which is near to car park • Near to Pusat Islam and UiTM main hall • No trees nearby

4.2   Sustainable Area for TLD

Table 2 shows the results of the survey questionnaire where respondents were asked what elements of sustainability exist in their preferred area. It shows the variables of sustainable criteria of the TLD area. Three categories have been listed representing the sustainability criteria. Data shows that under the comfort category, 'fresh air' has become the most selected element. High ranking values on Area 1 (4.08), Area 3 (4.23), Area 4 (4.36) and Area 5 (4.00) proved that this element is essential and should be present in a sustainable space. The existing 'fresh air' element is the reason why respondents choose their favorite space on campus rather than easy internet access (WIFI) [25]. Following this, Area 1(3.87), Area 3 (4.00) and Area 5 (4.09) show the following ranking of 'vegetation' as the main element of sustainable criteria. The least is 'privacy' with Area 1 (3.48), Area 2 (3.53) and Area 3 (3.46).

For the aesthetic value category, 'welcoming' has become the favorite element in open landscape spaces except for respondents who chose Area 3. Most respondents considered the element of 'welcoming' in the particular open space, which is vital for the sustainable campus landscape. Lawns and green spaces add aesthetic value to the campus fabric, creating a welcoming environment [26] (Pannone et al., 2019). The following elements preferred by respondents are 'attraction scenery', which were selected by the respondents in Area 3 (4.17), Area 4 (4.18) and Area 5 (4.05). As for the amenities category, respondents from Area 2 (4.30), Area 3 (4.38) and Area 4 (4.55) chose 'memorable spaces' as sustainable landscape design criteria on the campus. An open space is vital in the campus landscape because it can create a memorable first of the campus environment and experience [27]. The following sustainable element is 'functional', which was selected by the respondents in Area 2 (4.13) and Area 3 (4.08) and Area 4 (4.45).

Table 2. Results of Area Ranking that Meets the Campus Sustainability

CRITERIA		AREA 1 (n=86)			AREA 2 (n=30)			AREA 3 (n=13)			AREA 4 (n=11)			AREA 5 (N=20)		
Main	Sub-Criteria	Mean	SD	Rank	Mean	SD	Rank	Mean	SD	Rank	Mean	SD	Rank	Mean	SD	Rank
COMFORT	Shading	3.63	1.096	4	3.63	1.033	4	3.85	0.555	3	3.82	1.200	5	3.90	1.071	2
	Breezing	3.84	0.796	3	4.00	0.643	2	3.54	0.776	4	4.00	0.894	3	3.70	0.865	5
	Privacy	3.48	0.996	5	3.53	0.860	5	3.46	1.127	5	3.94	0.831	4	3.85	1.089	4
	Fresh Air	4.08	0.803	1	4.00	0.643	2	4.23	0.599	1	4.36	0.505	1	4.00	0.795	1
	Vegetation	3.87	0.852	2	4.17	0.699	1	4.00	0.816	2	4.09	0.830	2	3.90	1.373	3
	Group Mean	3.78	0.909		3.866	0.776		3.816	0.775		4.042	0.852		3.87	1.039	
AESTHETIC VALUE	Attraction Scenery	3.88	0.914	3	4.13	0.776	3	4.17	0.835	2	4.18	0.982	2	4.05	1.234	2
	Uniqueness	4.08	0.819	2	4.23	0.728	2	4.31	0.630	1	3.82	0.874	3	3.70	1.380	3
	Welcoming	4.10	0.832	1	4.24	0.774	1	4.05	0.801	3	4.55	0.688	1	4.20	1.240	1
	Group Mean	4.02	0.855		4.197	0.759		4.177	0.755		4.183	0.848		3.983	1.285	
AMENITIES	Better Wayfinding	4.05	0.918	3	4.07	0.740	3	3.92	0.760	3	4.00	1.000	3	3.80	1.281	3
	Functional	4.18	0.981	1	4.13	0.730	2	4.08	1.188	2	4.45	0.688	2	4.35	1.040	1
	Memorable Spaces	4.17	0.856	2	4.40	0.563	1	4.38	0.768	1	4.55	0.522	1	3.95	1.146	2
	Group Mean	4.13	0.918		4.200	0.678		4.127	0.905		4.333	0.737		4.033	1.156	

Note: 1.00 1.49=Strongly Disagree, 1.50-2.49=Disagree, 2.50-3.49=Mixed Feeling, 3.50-4.49=Agree, 4.50-5.00=Strongly Agree

5 Discussion

5.1 Ranking of the Area

Three factors were: comfort, aesthetic appeal, and amenities derived from the fundamental principles of sustainability, encompassing environmental, social, and economic aspects. These were used as criteria for assessing the issue. A photo questionnaire was administered to one hundred sixty participants, featuring five areas recommended by the researcher to accomplish the study's objectives. Including detailed visuals in the questionnaire was intended to provide a realistic representation of the researcher's ideas, enabling students to make precise evaluations. Additionally, elements like navigation, contextual context, level of detail, interactivity, viewpoints, and auditory components enhance comprehension of a location and offer distinctive interactions with its surrounding elements [28]. Furthermore, this contribution in landscape ecology aesthetics provides valuable insights into approaching integrated landscape management. It emphasizes the alignment of visual and ecological objectives to advance landscape sustainability.

5.2 Sustainable Criteria of Area

These findings indicate that the open spaces of the landscape on campus have sustainability characteristics. Each open space proposed for the TLD installation can be a sustainable gathering space for respondents to conduct outdoor activities. It was found that the respondents' favorite area, which is Area 1, had received the highest rating for the TLD installation. This study indicates fresh air, with a study made from reference [29]. They identified that natural ventilation, sun shading, outdoor lighting and bench seating are essential for space users. Therefore, the installation of the TLD on the

particular space will complement the sustainability element of the campus landscape, which can work well for the benefit of students and local users. Incorporating typography into outdoor spaces allows for creative expression, turning the landscape into a canvas for artistic statements and expressions of identity.

5.3   Details on the Most Preferred Area

The finding shows that the most preferred area for TLD is Area 1 (n=86). The respondents prefer Area 1 as the most appealing area to integrate the TLD into the faculty campus. By referring to sustainability criteria, three elements, comfort, aesthetic value and amenities, have been used as a guideline to facilitate the respondent's perception of TLD. Fig. 6 (a) shows the visual of Area 1. Most respondents preferred Area 1 as it is an area which is accessible for them to carry out daily activities on campus as students because it is close to the Printing kiosk, foodie pushcart, vending machine, lecturers' room, Co-Ordinator office, classes and washroom located around this area. People prefer to be in their well-being and pleasant emotion of active space.

The topography of the area, which is slightly hilly and shaded by large trees, makes this space dim most of the time. Referring Fig. 6 (b), shows that Area 1 meets the sustainability characteristics of the campus based on the findings obtained. It seems that this space is in a strategic area. In addition, this area is sheltered between two academic buildings, namely FSSR 2 and FSPU (Building Survey Department). Therefore, the environment in this area is comfortable with fresh air because it is protected from pollution and surrounded by the natural green space of the campus.

(a)   (b)

Fig. 5. (a) Area TLD; (b) View of Area 1
(Source: Author; Google Map)

6   Conclusion and Recommendation

This paper has uncovered the integration of Typography (art) and Landscape Design (TLD) on campus and how it will solve the lack of space for outdoor activities among students. These findings have been able to identify suitable preferred locations for TLD

installations for which area sustainability factors are considered. In addition, the proposed installation of TLD is seen as essential for students as they see it as a solution to the lack of space for activities outside the lecture room. Based on the findings, it can be concluded that a physical structure with an artistic value can create a difference in the environment. An added value with sustainable features can provide comfort and facilitate the daily affairs of students on campus. Students preferred an area with good sustainable features in terms of clean ventilation with large trees, shrubs, and natural plants around it because it can contribute to a fresh and comfortable environment. In addition, areas that are relatively isolated from the hustle and bustle, such as those located far from the main road, are suitable as a gathering space because it avoids noise and air pollution.

As an element of typographic art, transforming it into a three-dimensional communal space indirectly makes it functional and benefits those around it. The function as a seat for students to gather and do outdoor activities may be convenient for a meeting, discussing, socializing, and others. Integrating this installation can beautify a natural setting (landscape) while providing comfort and convenience, creating collaborations between the campus community.

To sum up, the integration of typography in outdoor settings transcends mere aesthetic concerns. It profoundly influences diverse facets of human well-being, encompassing emotions, social connections, cultural appreciation, and psychological elements. When designers and artists infuse typography into outdoor landscapes, they craft environments that serve as sources of inspiration, education, and connection for individuals. This, in turn, contributes to the promotion of healthier, more joyful, and more fulfilling lives.

Based on the findings, several recommendations can contribute to the issue of sustainability. It is suggested to use semiotic typography where the letters represent the background of a university discipline according to the anatomy of the letters to reflect the identity of a faculty. For example, in the Faculty of Engineering, the use of hard fonts such as iron and steel, and mechanical and technical elements application can shape the identity of the faculty. All these details carry their meaning. As semiotics in typography have not yet been widely implemented in the landscapes of universities in Malaysia, it is important to unravel this issue.

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