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Landscape Architecture Seminar (LAN653)
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THE POTENTIAL OF THERAPEUTIC GARDEN IN PROMOTING STUDENT WELLBEING

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ABSTRACT

This research paper explores the therapeutic potential, specifically by healing gardens, in promoting physical and mental wellbeing among students in educational institutions, as well as in other institutional settings such as healthcare facilities, rehabilitation centres, and residential. A review of relevant literature suggests that therapeutic gardens can offer numerous benefits, including stress reduction, improved mood, and increased social interaction, as well as therapeutic properties of the plants used in the gardens, such as reducing anxiety, improving memory, and promoting relaxation. The design of therapeutic gardens, with features such as water elements and walking paths, can also contribute to their therapeutic potential. Educational institutions should prioritize the accessibility and effectiveness of these gardens, ensuring that all students have equal access to their benefits, while healthcare facilities and other institutions should also consider incorporating healing gardens as a therapeutic intervention for promoting physical and mental wellbeing among their residents or patients. To summarize, therapeutic gardens are a promising intervention for improving health and wellbeing in institutional settings. Further research is needed to fully understand their potential and effectiveness especially among institution community.

Keywords: *therapeutic, education, institution*

1.0 INTRODUCTION

The use of therapeutic therapies is widely exposed as a potential strategy for enhancing both physical and psychological wellness in the institutional environment including open areas, rehab centres, residential homes, and educational institutions. A therapeutic environment is described as a space designed to improve the physical, emotional, and social well-being of individuals. Therapeutic gardening is one such technique that has proven to attract more attention in years. This research entails creating and managing gardens to advance health and wellness. To improve physical and mental welfare in institutional settings, this study report explores the possibilities of therapeutic treatments, particularly therapeutic gardens. In addition to discussing the therapeutic characteristics of several plants frequently used in therapeutic gardens.

This research aims to understand how the potential of therapeutic gardens can contribute to promoting student well-being. The objective of this research is to identify the spatial characteristics of therapeutic gardens with potential, explore effective design elements of therapeutic gardens, and provide new design guidelines for the implementation of therapeutic gardens in the future. By examining the spatial character and design elements of therapeutic gardens, we can gain insights into how these gardens can serve as an important resource in promoting student well-being.

This research is significant in the context of Sustainable Development Goals (SDGs) and Landscape Architecture Agenda 2030 (LAA). The United Nations Sustainable Development Goals (SDGs) emphasize the need for global action to achieve a more sustainable and equitable world by 2030. Additionally, the Landscape Architecture Agenda 2030 (LAA) recognizes how important landscape architecture in promoting sustainable and resilient urban environments. The focus of this study is to explore and to prove the potential of therapeutic gardens to promote student well-being. Therapeutic gardens are designed spaces that offer opportunities for relaxation, connection with nature, and enhanced mental health. By investigating the impact of therapeutic gardens on student well-being, this research aligns with SDG Goal 3: Good Health and Well-being. It aims to contribute to ensuring healthy lives and promoting well-being for students of all ages. Moreover, this study aligns with SDG Goal 4: Quality Education. The goal emphasizes the importance of inclusive and equitable quality education and lifelong learning opportunities. Therapeutic gardens can provide and enhancing the educational experience and well-being of students. By examining the effects

of these gardens on student well-being, the study aims to contribute to the creation of quality educational environments.

Additionally, the research aligns with SDG Goal 11: Sustainable Cities and Communities. This goal emphasizes the creation of inclusive, safe, resilient, and sustainable cities. By incorporating therapeutic gardens within educational institutions, the study contributes to the development of sustainable and supportive communities. These gardens provide spaces for relaxation, connection with nature, and improved mental health, contributing to the overall well-being of students. Furthermore, the study aligns with SDG Goal 17: Partnerships for the Goals. This goal highlights the importance of global partnerships to achieve sustainable development. Collaboration between educational institutions, local communities, and relevant stakeholders is crucial for the establishment and maintenance of therapeutic gardens. By fostering such partnerships, the research supports collective efforts in promoting student well-being and sustainable development.

In summary, this study on the potential of therapeutic gardens to promote student well-being aligns with the SDGs, particularly Goal 3: Good Health and Well-being, Goal 4: Quality Education, Goal 11: Sustainable Cities and Communities, and Goal 17: Partnerships for the Goals. By exploring the effects of therapeutic gardens on student well-being, the research contributes to creating inclusive, sustainable, and supportive environments for students, thus furthering the objectives of the SDGs and LAA 2030."

2.0 LITERATURE REVIEW

2.1 The Definition of Therapeutic Garden

Therapeutic gardens are designed spaces in healthcare terms that aim to improve the well-being and health outcomes of patients. These gardens serve to incorporate horticultural and non-horticultural activities, focusing on ameliorating diseases and improving psychological well-being (Kumari, 2018). The therapeutic garden has proven its ability to reduce stress, anxiety, and depression while helping in gaining a positive mood and relaxation. Therapeutic gardens are used in various healthcare contexts, such as hospitals, senior communities, and cancer centres. Additionally, horticultural therapy gardens specifically focus on the healing effects, providing accessible environments where patients can interact with plants and experience their therapeutic benefits (Kumari, 2018). Overall, therapeutic gardens play a vital role in healthcare by offering a green and soothing environment that contributes to the physical, emotional, and mental well-being of patients. Tracing back through history, therapeutic gardens have had a significant

historical background for years. The concept of therapeutic landscapes and healing gardens has been studied, revealing that they play a significant role in stress reduction and mood improvement. Research by Jiang (2014), psycho-evolution theories have shown that there is a perspective that suggests that environmental stressors such as crowding and noise, can lead to significant stress while visual access to nature helps in stress recovery.

Diverse designs cater to the specific needs of various student populations within therapeutic gardens. According to Li Y et, al. (2022), the research of Horticulture Therapy conducted on college students' mental health education in China shows a positive effect on improving the quality of life, anxiety, depression, and social relations. The research status of Intervention research has proven that the research gives positive effects on enhancing self-awareness and psychological adjustment that help to improve students' mental well-being (Li Y, et al. 2022).

Research has provided extensive evidence highlighting the significant positive impacts of therapeutic gardens on psychological well-being. In addition, according to Smith N (2022), the therapeutic landscape has broader concept of therapeutic landscapes, which include the understanding of how different environments contribute to healing and enhance sense of well-being. Blue spaces analysed as therapeutic, considering core dimensions such as material, social, spiritual, symbolic and activity (Volker, 2022). Therapeutic landscapes have evolved to focus on green and blue spaces and the positive and negative potentials of different environments.

Overall, a therapeutic garden can be defined as a specially designed space within healthcare environment that can improve wellbeing and health outcomes of individuals. These gardens have been found to reduce stress, anxiety and depression while improving positive mood and relaxation. According to the research, therapeutic gardens can create a green and soothing environment that gives impact to physical, emotional, and mental wellbeing of individuals. Nowadays, the concept of therapeutic experiences has been recognizing that it can be found in different area, such as parks, urban spaces, waterfront areas, cultural landmarks, and even virtual environments. In conclusion, the key aspect of a therapeutic landscape lies in its ability which to create a soothing environment regardless of its specific characteristics and location.

2.2 The Characteristic of Therapeutic Gardens

Therapeutic gardens have been proven throughout history as a strong catalyst of healing and recovery, with natural outdoor areas such as forests, parks, trees, and gardens offering opportunities to enhanced public health and wellbeing (Ahmet, 2017). Therapeutic gardens, characterized by their intentional design and focus on

well-being as the spaces that support healing and gives positive outcomes for individuals with various abilities and special needs (Kavanagh, 1995).

Therapeutic gardens offer a variety of spaces or areas with characters including to different activities and experiences. These spaces provide visitors and users with options for socialization, leisure walks and physical activities. Fragrant plants play an important role in therapeutic gardens, including the smell and evoking positive emotions. The example of fragrant plants commonly found in Malaysian Therapeutic Gardens are *Pandanus amaryllifolius* (Pandanus), *Etlingera elatior* (Torch Ginger), and *Jasminum sambac* (Jasmine) (Georgi & Anthopoulos, 2005).

The research by Hebert (2003), the healing aspect of therapeutic gardens lies in their ability to support the healing process and improve overall well-being. The presence of nature, green landscapes, sunlight, and fresh air within these gardens creates an environment conducive to healing and recovery (Soderback, Soderstrom, & Schalander, 2004). Additionally, therapeutic gardens aim to stimulate the senses through elements that can be seen, smelled, heard, touched, and even tasted (Shahrad, 2013). They offer visual appeal, soothing sounds such as running water, tactile interactions with stones, and opportunities to engage the sense of taste through edible plants or herbs (Shahrad, 2013).

In conclusion, therapeutic gardens have its own characteristics that contribute their role in improving individual well-being. The design of spaces, sense of sensory, and incorporation of fragrant plants helps in contribute the therapeutic environments. Therapeutic gardens provide individuals a space for relaxation, connection to nature emphasizing the significant impact of wellbeing in various type of healthcare and community setting.

2.3 The Significant of Therapeutic Garden Toward Student Wellbeing

Including therapeutic treatments, especially therapeutic gardens, in institutions has the potential to enhance community wellness on a social level. Studies have demonstrated that therapeutic gardens may encourage social contact among people, increasing emotions of community and togetherness. For instance, research by Detweiler et al. (2012) discovered that a therapeutic garden at a mental health facility boosted patient social contact, increasing emotions of connectivity. As a venue for group activities and events, therapeutic gardens may also foster a sense of belonging and social involvement (Sung et al., 2012). As seating spaces and paths encourage social contact, the design of therapeutic gardens can also contribute to their social advantages (Bell et al., 2015). Overall, the incorporation of therapeutic interventions such as therapeutic gardens in

institutions has the potential to improve social aspects of community wellbeing, promoting social interaction and a sense of connectedness.

According to study by Relf (1992), Horticulture Therapy (HT) has shown potential in improving the psychological well-being of college student. Horticulture Therapy involves on engaging college students in horticultural activities for healing and personal development. Through contact with plants and nature environment, student can explore throughout their emotion and foster sense of harmony. Research on Horticulture Therapy among college students has shown positive outcomes. Horticulture Therapy intervention study has proven to significant improvement of students' mental health levels, including anxiety, depression, and emotion. Students' involvement in campus gardening activities has deepened students' connection with nature and enhanced their emotional bonding with the environment ((Xu, 2019; Beech et al., Shannon et al., Stigsdotter and Graham, 2019). According to study on college students' mental health, Horticulture Therapy have demonstrated the positive effect of therapeutic garden. The studies have been found to enhance students' self-awareness, teamwork skills and provide students with sense of purpose and achievement (Liu, 2018; Qi et al., 2019; Gao et al., 2019).

In conclusion, Horticulture Therapy studies shows promise in promoting psychological well-being of college students. Engaging students in horticultural activities can bring positive effect on their mental health and emotional well-being. Further research and practical implementation of Horticulture Therapy interventions are needed to substantiate and enhance the potential of therapeutic gardens in improving the well-being of college students.

3.0 METHODOLOGY

3.1 Quantitative Research Design

This study employed a quantitative research design to collect data on student perceptions of therapeutic gardens and their impact on well-being in institutional environments.

3.2 Sampling Technique

A stratified random sampling technique was employed in this study to select participants from different fields and levels of study within the institutions. A total of 30 respondents were included in the sample, with 20 respondents selected from Universiti Teknologi MARA (UITM) and 10 respondents selected from Universiti Teknologi PETRONAS (UTP).

To ensure representation from both institutions, an inventory analysis was conducted to identify suitable pictures for the survey questionnaire. Two pictures were sourced from UTM, specifically chosen to capture the elements of a therapeutic garden present within their campus. Similarly, two pictures were sourced from UTP, reflecting their unique therapeutic garden features. These pictures were selected to provide a diverse range of visual representations for participants to rate and express their preferences.

3.3 Data Collection

Data was collected through a structured survey questionnaire. The questionnaire assessed student views on various factors, including concentration, academic demands, fatigue, anxiety, social interaction, physical activity, connection to nature, satisfaction with the physical environment, seeking peaceful spaces, awareness and experience of therapeutic gardens, beliefs about their benefits, stress reduction, self-care, mental health, and institutional priorities. Participants provided ratings on a scale provided in the questionnaire, which was developed based on the ideas mentioned in the introduction.

3.4 Picture Rating

To enhance the understanding of student preferences, the survey questionnaire included a section where participants were asked to rate four provided pictures depicting therapeutic gardens. Two of the pictures were from Universiti Teknologi PETRONAS (UTP), while the other two were from Universiti Teknologi MARA (UTM). Participants indicated their preferences by ranking the pictures from most preferred to least preferred. Additionally, participants were given the opportunity to express their opinions on the characteristics they preferred in a therapeutic garden.



SOURCE 1: UNIVERSITI TEKNOLOGI



SOURCE 2: UNIVERSITI TEKNOLOGI



SOURCE 3: UNIVERSITI TEKNOLOGI MARA



SOURCE 4: UNIVERSITI TEKNOLOGI MARA

3.5 Data Collection Method

Data collection was conducted online, ensuring convenience and accessibility for participants while maintaining confidentiality and anonymity. Ethical considerations were thoroughly considered throughout the research process.

3.6 Data Analysis

Data analysis involved the use of descriptive statistics to summarize the ratings given by participants for the provided pictures, allowing for the identification of the most preferred and least preferred options. The qualitative feedback provided by participants regarding their preferred characteristics of a therapeutic garden was thematically analysed to gain further insights.

3.7 Limitations

It is important to acknowledge the limitations of the study, such as the specific location of the pictures and the potential for response biases. Additionally, the study design was cross-sectional, limiting the ability to establish causal relationships.

4.0 RESULT AND DISCUSSION



Figure 1 shows the most preferred picture from the respondents.

Most respondents (90%) expressed a strong positive emotional response to picture source 1 from Universiti Teknologi PETRONAS (UTP), citing feelings of calmness, happiness, and relaxation. The picture was consistently chosen because it evoked a sense of tranquillity and provided a peaceful environment for

individuals to unwind and release tension. The serene atmosphere, beautiful scenery, and the opportunity to connect with nature were common factors influencing their choice. Additionally, respondents appreciated the seating arrangement that allowed them to face the natural view, particularly the lake, and emphasized the importance of a calming private space for stress relief. The presence of a calming private space, as depicted in Picture 1, was perceived as suitable for promoting the release of negative emotions and achieving a sense of inner peace.

These findings suggest that the visual elements and ambiance depicted in Picture 1 align with the desired characteristics of a therapeutic garden for promoting student wellbeing. Creating a garden environment that incorporates calming scenery, ample seating options, and a tranquil atmosphere may effectively contribute to enhancing student mental health and overall wellbeing.

4.1 The Preferences of Pictures Ranking

Please rank the following pictures based on your preference. Sila susun gambar-gambar berikut mengikut keutamaan anda.(Example : 1,2,3,4)

30 responses

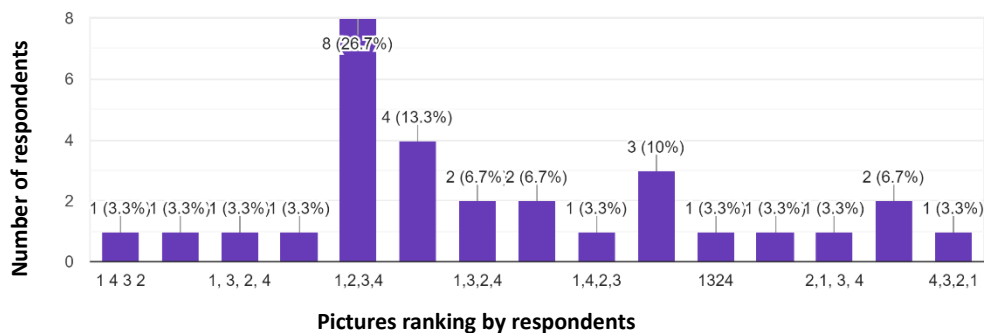


Figure 2 shows the ranking of pictures based on respondent's preferences.

Most respondents (8 out of 30) ranked the pictures in the order of 1, 2, 3, and 4 as their preferred sequence. This indicates that Picture 1 was consistently the most preferred among the respondents, followed by Picture 2, Picture 3, and

finally Picture 4. Additionally, four respondents ranked the pictures as 1, 2, 4, and 3, while four other respondents ranked them as 1, 4, 3, and 2. These variations in ranking suggest that there might be some individual preferences and subjective interpretations of the pictures among the respondents.

4.2 The Preferences of Therapeutic Garden

The respondents shared various opinions regarding the criteria or characteristics of a garden that promote feelings of health and evoke positive emotions. However, common themes and preferences emerged from their responses. Many respondents emphasized the importance of aesthetics and visual appeal, expressing a desire for a colourful and well-organized garden with a variety of plants and pleasing arrangements. The use of bright colours, diverse plant species, and an attractive layout were seen as crucial elements that create a sense of excitement, amazement, and positive vibes.

Additionally, respondents highlighted the need for a tranquil and calming atmosphere, with features such as waterfalls, lakes, and the sound of flowing water contributing to a sense of peace and well-being. Large trees providing shade, spaces for reflection, and solitude were also mentioned as factors that promote relaxation and positive emotions. Privacy and balance were emphasized by some, with a preference for secluded areas shielded by trees and foliage. The balance between plant selection, a spacious layout, and carefully chosen flooring materials like grass or cement were seen as integral to creating a harmonious atmosphere. Moreover, respondents stressed the importance of a clean and well-maintained environment, with facilities such as seating areas that are safe and accessible. A beautiful landscape, free from unpleasant Odors or trash, was considered essential to evoke positive emotions.

Overall, a therapeutic garden designed to promote student well-being should incorporate colourful and well-arranged plants, tranquil features, private spaces for reflection, and a clean and well-maintained environment. Striving for a balanced and harmonious atmosphere, along with providing accessible facilities, can further contribute to the positive emotional experiences of individuals in the garden.

4.3 Therapeutic Garden: Concentration Level

Rate your level of concentration and focus during study or academics. Nilai tahap konsentrasi dan fokus anda semasa belajar atau dalam bidang akademik.

29 responses

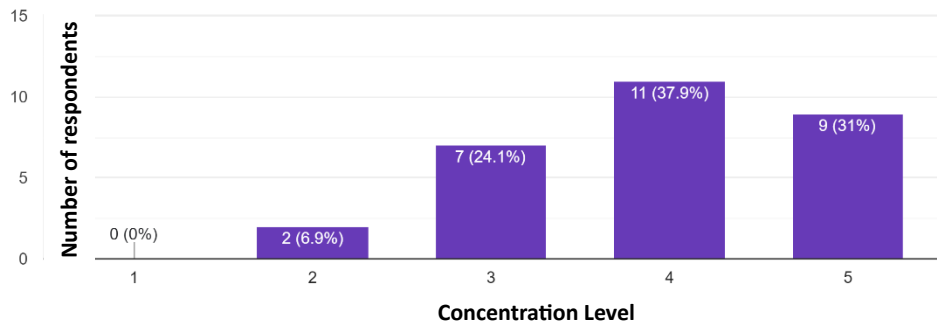


Figure 3 shows the level of concentration among the respondents.

Most respondents rated their level of concentration and focus during study or academics as relatively high. Specifically, 37.9% (11 out of 30) of the respondents rated their concentration and focus as a 4, while 31% (9 out of 30) rated it as a 5, indicating a high level of concentration and focus. Additionally, 24.1% (7 out of 30) of the respondents rated their concentration and focus as a 3, suggesting a moderate level. Only 6.9% (2 out of 30) of the respondents rated their concentration and focus as a 2, indicating a relatively low level. Interestingly, none of the respondents rated their concentration and focus as a 1.

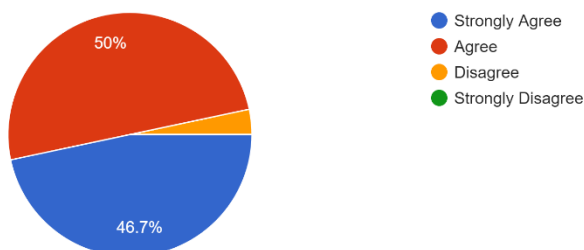
These findings suggest that a significant proportion of the respondents have a satisfactory level of concentration and focus during their studies or academic activities. However, it is important to note that there are still some respondents who may struggle with maintaining high levels of concentration and focus.

4.4 Therapeutic Garden: Preference for Tranquil Environments

A significant majority of respondents (96.7% or 29 out of 30) either agreed or strongly agreed that they often find themselves seeking peaceful and quiet spaces to relax. Specifically, 46.7% (14 out of 30) of the respondents strongly agreed with the statement, while 50% (15 out of 30) agreed. None of the respondents strongly disagreed or disagreed with the statement.

I often find myself seeking peaceful and quiet spaces to relax. Saya sering merasa ingin mencari tempat yang tenang dan sunyi untuk berehat.

30 responses

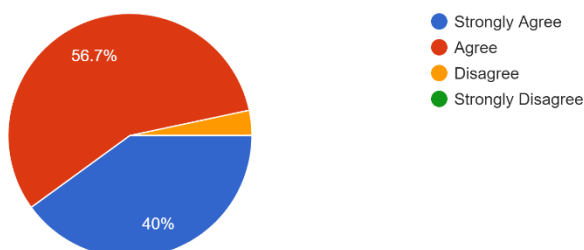


These findings highlight the strong inclination among students to actively seek out peaceful and quiet spaces for relaxation. The desire for tranquillity and calmness suggests a need for spaces that foster relaxation and provide respite from the demands of their academic lives.

4.5 Therapeutic Garden: Student Awareness

I believe that spending time in a therapeutic garden can positively impact my overall well-being as a student. Saya percaya bahawa menghabiskan masa ...raan keseluruhan saya sebagai seorang pelajar.

30 responses



Most respondents (56.7% or 17 out of 30) agreed that spending time in a therapeutic garden can positively impact their overall well-being as a student. This indicates that a significant proportion of students recognize the potential benefits of engaging with a therapeutic garden for their well-being. Furthermore, 40% (12 out of 30) of the respondents strongly agreed with the statement, emphasizing their strong belief in the positive impact of therapeutic gardens. Importantly, none of the respondents strongly disagreed with the statement, suggesting a consensus

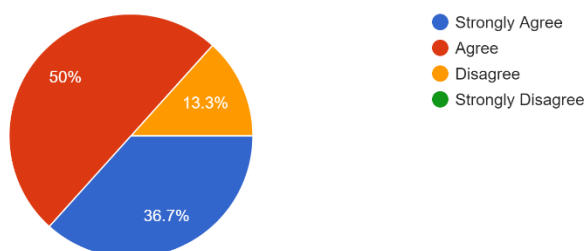
among the respondents regarding the potential positive influence of therapeutic gardens on their overall well-being.

These findings highlight the students' understanding and appreciation of the potential benefits of therapeutic gardens in promoting their well-being. It suggests that incorporating therapeutic gardens within educational institutions can serve as a valuable resource to enhance student well-being, providing them with a space for relaxation, stress reduction, and connecting with nature.

4.6 Therapeutic Garden: Interest Towards Therapeutic Garden

I would be more likely to engage in outdoor activities if my institution had a dedicated therapeutic garden. Saya akan lebih cenderung untuk terlibat ... saya menyediakan therapeutic garden yang khusus.

30 responses



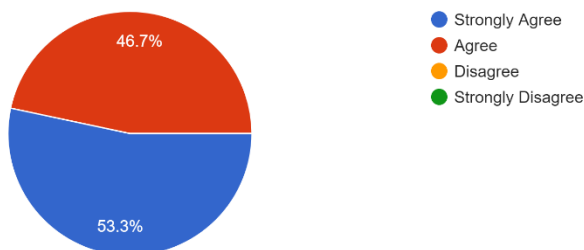
A significant majority of respondents (86.7% or 26 out of 30) expressed agreement or strong agreement with the statement, indicating that they would be more likely to engage in outdoor activities if their institution had a dedicated therapeutic garden. Specifically, 50% (15 out of 30) of the respondents agreed, while 36.7% (11 out of 30) strongly agreed. On the other hand, only 13.3% (4 out of 30) of the respondents disagreed with the statement, and none strongly disagreed.

These findings demonstrate a positive perception and willingness among students to participate in outdoor activities if their institution provides a dedicated therapeutic garden. It suggests that the availability of such a space can potentially encourage students to engage in outdoor activities, which can contribute to their overall well-being, relaxation, and stress reduction.

4.7 Therapeutic Garden: Opinion Towards Therapeutic Gardens in Institutions.

In my opinion, every institution should provide a therapeutic garden to enhance student well-being. Menurut pendapat saya, setiap institu... garden untuk meningkatkan kesejahteraan pelajar.

30 responses



Most respondents (53.3% or 16 out of 30) strongly disagreed that every institution should provide a therapeutic garden to enhance student well-being. Conversely, no respondents agreed or strongly agreed with the statement. Additionally, none of the respondents disagreed with the statement, and no respondents strongly agreed with it.

These findings indicate a lack of consensus among the respondents regarding the necessity of therapeutic gardens in every institution to promote student well-being. While more than half of the respondents strongly disagreed with the idea, it is important to further explore the reasons behind this response and investigate alternative perspectives.

5.0 CONCLUSION

The findings of this study provide valuable insights into the potential of therapeutic gardens in promoting student well-being. The respondents exhibited a strong positive emotional response to Picture 1, which depicted a serene and calming environment. They emphasized the importance of aesthetics, tranquility, privacy, and a well-maintained physical environment in a therapeutic garden. Additionally, most respondents acknowledged the prevalence of fatigue, feelings of being overwhelmed, and anxiety among students in relation to their academic demands. They recognized the potential benefits of therapeutic gardens in alleviating these challenges and enhancing concentration and focus during academic tasks. Furthermore, there was a high level of awareness among respondents regarding the potential benefits of therapeutic gardens for student well-being.

6.0 RECOMMENDATIONS

Institutions should consider the incorporation of therapeutic gardens on their campuses. These gardens should be designed to evoke feelings of tranquility and promote relaxation, with attention given to the aesthetics, variety of plants, and well-maintained physical environment.

Educational institutions should prioritize student well-being by implementing strategies and support systems to address fatigue, feelings of being overwhelmed, and anxiety. Therapeutic gardens can serve as one of these strategies, providing students with a conducive environment to relax and rejuvenate.

Further research should be conducted to explore the specific design elements and features that contribute to the effectiveness of therapeutic gardens in promoting student well-being. This research can inform the development and improvement of therapeutic garden spaces in educational settings.

Institutions should consider providing information and educational programs to increase awareness among students, faculty, and staff about the potential benefits of therapeutic gardens. This can help foster a greater understanding and appreciation for these spaces and encourage their utilization for stress reduction and well-being enhancement.

Collaborative efforts between institutions and relevant stakeholders, such as landscape architects, mental health professionals, and students themselves, can contribute to the development and maintenance of effective therapeutic gardens. Engaging students in the design and planning process can ensure that their needs and preferences are considered.

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2. Adalah dimaklumkan bahawa pihak kami ingin memohon kelulusan tuan untuk mengimbas (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.

3. Tujuan permohonan ini adalah bagi membolehkan akses yang lebih meluas oleh pengguna perpustakaan terhadap semua maklumat yang terkandung di dalam penerbitan melalui laman Web PTAR UiTM Cawangan Perak.

Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

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