

SPATIAL QUALITY IN SPACE DESIGN FOR PROMOTING SELF - HEALING
IN HEALTHCARE DESIGN

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To my dearest family and friends

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ABSTRACT

In most of the healthcare centres found in Malaysia, the buildings are designed with little therapeutic qualities in them, and studies have shown that the environment in those healthcare centres frequently heightens levels of stress in patients, staff and families. Besides, there are a lack of design considerations regarding spatial quality in restoring the occupants' mental wellness and reducing the stress which could help in fostering the recovery duration. Recent studies show that appropriate healing environment in healthcare settings could help enhance the sensory input to stimulate the body's capabilities to heal itself, also known as self-healing. The main focus of this study is to highlight the possible Architectural solutions in creating a healing environment through spatial quality in space design. The natural environment is frequently discussed in relation with the healing environment; daylight, ventilation, views and garden, thus enhancing the well-being of the occupants. Through a critical review of literature from secondary sources, examples of the implementation of natural environment into building design shows that there exists a strong connection between humans and the man-made environment in relation to spatial quality in space design. Some design considerations were identified for consideration in future design of healthcare building in promoting self-healing.

ABSTRAK

Dalam kebanyakan pusat penjagaan kesihatan yang terdapat di Malaysia, bangunan-bangunan ini telah direka kebanyakannya kurang terapeutik dan kajian telah menunjukkan bahawa suasana dalam pusat penjagaan kesihatan didapati sering meningkatkan tahap tekanan terhadap pesakit, kakitangan dan keluarga. Selain itu, terdapat kekurangan pertimbangan dalam reka bentuk kualiti ruang yang dapat memulihkan kesihatan mental penghuni dan dengan mengurangkan tekanan secara mental terhadap pesakit ianya dapat membantu dalam mengurangkan tempoh pemulihan. Kajian terbaru menunjukkan bahawa persekitaran sihat yang sesuai dalam suasana penjagaan kesihatan dapat membantu meningkatkan deria untuk merangsangkan keupayaan badan untuk memulihkan diri sendiri, ianya juga dikenali sebagai “*self-healing*”. Fokus utama dalam kajian ini adalah untuk mengetengahkan penyelesaian seni bina dalam mewujudkan persekitaran sihat melalui reka bentuk kualiti ruang. Alam semula jadi seringkali dikaitkan dengan persekitaran sihat; iaitu pengcahayaan, pengudaraan, pemandangan dan taman, di mana ianya dapat membantu dalam meningkatkan kesejahteraan penghuninya. Melalui kajian kritikal literatur daripada sumber sekunder, contoh-contoh alam semulajadi yang dilaksanakan ke dalam senibina bangunan telah disenaraikan dan ia menunjukkan bahawa wujudnya hubungan yang kuat di antara persekitaran manusia dan buatan manusia dalam hubungan dengan reka bentuk kualiti ruang. Beberapa pertimbangan reka bentuk telah dikenal pasti untuk dipertimbangkan dalam reka bentuk masa depan bangunan penjagaan kesihatan untuk menggalakkan penyembuhan diri.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	DECLARATION	vi
	DEDICATION	vii
	ACKNOWLEDGEMENT	viii
	ABSTRACT	ix
	ABSTRAK	x
	TABLE OF CONTENTS	xi
	LIST OF TABLES	xv
	LIST OF FIGURES	xvii
	LIST OF APPENDICES	xix
1	INTRODUCTION	1
	1.1 Introduction	1
	1.2 Problem Statement	2
	1.3 Research Aim	3
	1.4 Research Objectives	3
	1.5 Research Questions	4
	1.6 Scope of Thesis	4
	1.7 Significance of Study	4
	1.8 Research Methodology	5
	1.9 Expected Findings	5
	1.10 Structure of Thesis	6

2	LITERATURE REVIEW	7
	2.1 Introduction	7
	2.2 The Process of Healing	7
	2.2.1 The Healing Process in Built Environment	8
	2.2.2 The Healing Process in Natural Environment	10
	2.3 The Theory of Healing Environment	12
	2.4 Natural Environment Strategies that Affect Healing Process	14
	2.4.1 Daylighting	14
	2.4.2 Ventilation	16
	2.4.3 Views and Garden	18
	2.5 Summary	20
3	METHODOLOGY	21
	3.1 Introduction	21
	3.2 Research Paradigm	22
	3.3 Research Design	22
	3.4 Research Strategy: Case Study Based Research	24
	3.5 Various Case Study Research Procedure	24
	3.6 Case Studies: Healing Architecture	25
	3.6.1 Basis for Case Studies	25
	3.7 Summary	26
4	ANALYSIS, FINDINGS AND DISCUSSION	27
	4.1 Introduction	27
	4.2 Case Study 1: Khoo Teck Puat Hospital, Singapore	28
	4.2.1 Natural Environmental Strategies	28
	4.2.2 Daylighting	29
	4.2.3 Ventilation	32
	4.2.4 Views and Garden	36
	4.2.5 Health Benefits	39

4.3	Case Study 2: Air Space Restaurant, Thailand	40
4.3.1	Daylighting	41
4.3.2	Views and Garden	42
4.3.3	Health Benefits	43
4.4	Case Study 3: Ng Teng Fong General Hospital	45
4.4.1	Daylighting	46
4.4.2	Ventilation	49
4.4.3	Views and Garden	51
4.4.4	Health Benefits	52
4.5	Discussion	53
4.5.1	Design Translation	54
4.5.2	Daylighting	56
4.5.3	Ventilation	59
4.5.4	Views and Garden	60
4.5.5	Health Benefits	62
4.6	Summary	63
5	CONCLUSION AND RECOMMENDATIONS	64
5.1	Introduction	64
5.2	Conclusion	64
5.2.1	Objective (a) : Identifying the casual relationship between human health and environment.	65
5.2.2	Objective (b) : Investigation on the effect of integrating the natural environment within the building design in order to create a healing environment.	67
5.2.3	Objective (c) : Outlining environmental strategies that can be apply in healthcare building to support healing environment.	67
5.3	Summary	67
5.4	Limitation of Research	68

5.5	Recommendations	67
-----	-----------------	----

LIST OF REFERENCES	70
---------------------------	-----------

APPENDIX A	73
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LIST OF TABLES

NO	TITLE	PAGE
2.1	Sunlight and Patient Satisfaction Survey conducted by BM Association.	15
2.2	Summary of major findings of human outcomes in reviewed studies.	18
4.1	The design considerations for the envelope design.	34
4.2	Health Benefits from the design features in KTPH.	40
4.3	Health Benefits from the design features in Air Space Restaurant.	44
4.4	Health Benefits from the design features in NTFGH.	53
4.5	Health Benefits from the design features in Design Thesis Project	62
5.1	Biophilic Design Patterns & Biological Responses.	65

LIST OF FIGURES

NO	TITLE	PAGE
2.1	The Healthcare Delivery System	8
2.2	The relationship between stress reduction and passive encounter with the natural environment	12
2.3	OHE model that focusing on three elements that is people, place and process.	13
2.4	Optimal Healing Environments framework	13
3.1	Research Methodology	23
3.2	Basis for Selecting Case Studies	26
3.3	Case Studies that apply Natural Environment Strategies	26
4.1	Ariel view of Khoo Teck Puat Hospital	28
4.2	Bioclimatic response of KTPH: prevalent wind direction.	30
4.3	The considerations in designing a window	31
4.4	Fully height louvered façade and light shelf maximizes natural ventilation and daylight.	32
4.5	The blocks massing were separated into two type ventilation, natural ventilation and mechanical ventilation.	33
4.6	The rooms design to compile with “Environmental Design Guide for Naturally Ventilated and Daylight Offices”	33
4.7	Design study 1 for façade shading of the naturally ventilated ward tower.	35
4.8	Design study 2 for façade shading of the naturally ventilated ward tower.	35

4.9	Design study 2 for façade shading of the naturally ventilated ward tower.	36
4.10	Views from Yishin Pond	36
4.11	KTPH layout with reference to its site context	37
4.12	Integrating healthcare, social and natural environments	38
4.13	Integrating healthcare, social and natural environments	39
4.14	Air space Restaurant, Huahin,2016	40
4.15	The interior of the restaurant shows the double height space that can create a bright environment.	41
4.16	The interior of the restaurant with the hanging plants.	42
4.17	The outdoor seating area of the restaurant	43
4.18	The restaurant serves comfort food for people	43
4.19	Ng Teng Fong General Hospital that located in Jurong East, Singapore	45
4.20	The complex consists of three tower blocks that connected with link bridges	46
4.21	The sun shading element	46
4.22	The sketch shows the proposed ward layout that is completely different with most existing hospital wards	47
4.23	The physical model used to study the angled ward layout designed by Studio505	48
4.24	Strategies to optimise natural light without glare	48
4.25	The interior of the wards in NTFGH	49
4.26	Natural ventilation shown in the typical floor plan	50
4.27	The ventilation flow inside the wards	50
4.28	The patient bed space proposed for NTFGH compare to the existing hospital bed layout.	51
4.29	Simulation on the patient’s field of view.	51
4.30	The greenery plant place at balcony area.	52
4.31	Design concept idea for Design Thesis Project.	54
4.32	Design concept idea on the use of double volume.	55
4.33	The pathway that provide a similar journey while being in a forest.	56
4.34	The shadow casting on the site in the morning.	57

4.35	The shadow casting on the site in the evening.	57
4.36	The shading devices design at the window and the simulation reading on the illuminance at four different periods, 0800, 1200, 1500 and 1700 hours.	58
4.37	The diagram above shows the implementation of huge window opening to maximize daylight and view.	59
4.38	Ground floor plan with the green highlighting area representing the area that are naturally ventilated.	59
4.39	The diagram above shows the implementation of natural environment at the Design Thesis Project.	60
4.40	The diagram above shows the implementation of gardens and the used of open plan layout inside the building design.	61
4.41	The diagram above shows the implementation of hanging gardens in order to create a direct connection with the nature.	61

LIST OF APPENDIX

APPENDIX	TITLE	PAGE
A	List of Compilation of Design Thesis Presentation Boards and Drawings	73

CHAPTER 1

INTRODUCTION

1.1 Introduction

The concept of healing environment is not a common thing, it has been around since 1859, first developed and introduced by Florence Nightingale, a nurse who came out with the theory that suggested manipulating the patient's environment to be therapeutic where she outlined the requirements in creating a healing environment in order to optimize the capabilities of the patient for self-healing. Among the criteria in creating a healing environment is to include warmth, light, clean air, quiet and good diet.

However, in Malaysia the typical healthcare settings nowadays were not designed with therapeutic qualities in mind. As a result, it increases the levels of stress in patients instead of reducing it. Hence, a lot of people would complain that most of them had bad experiences within these common buildings (clinics and hospitals). In this typical setting, we would normally see a huge open space with beds side by side and long corridor connecting them, which looks depressing and increases the stress of those in the building.

Healing environments have always been integrated with nature and other natural elements, such as fresh air, daylight and quietness (Berg, 2005). Normally, humans spend almost 86.9% of their lifetime indoors, at home or school (Klepeis, 2001). Thus, the indoor environment quality is very important in relation to the health and well-being of the occupants.

The research explores more on the relationship of indoor environment quality (IEQ) with healing environment through spatial quality in space design in healthcare buildings.

1.2 Problem Statement

Spatial quality is defined as strategies in designing spaces. The spatial qualities of form, colour, texture, sound and light will affect the human behaviour in an enclosed space. In architecture, a space is not just a simple physical space; the Architects take a lot of consideration in designing a space that had the spatial quality whether it is a good space or bad space.

In relation of creating a space that can influence people psychologically, it is called experiential or sensory space by enhancing all five senses through visual, acoustic, olfactory, thermal or tactile.

Hence, in designing a space there are a lot aspects to be consider such as the location of windows, type of materials for walls and floors, lighting and depth of the space. Thus, the research will focus on:

- a) The appropriate healing environment in urban setting which could help reduce the stress and enhance psychological health and well-being.
- b) Integrating elements of nature in healing environments promote “self-healing”.

1.3 Research Aim

The research aims is to apply the natural environment; such as day lighting, water element, and views and garden, to enhance the spatial quality of healthcare design to support healing environment.

1.4 Research Objectives

The research objectives for this study are:

- i) To identify the relationship between human health and environment.
- ii) To find out the effect of integrating the natural environment within the healthcare facilities in order to create a healing environment.
- iii) To outline environmental strategies that can be applied in healthcare buildings to promote a healing environment.

1.5 Research Questions

The research questions use to conduct the study are;

- a) What are the environmental factors that influence the people psychologically?
- b) How does the natural environment can affect the indoor environmental quality and human wellbeing?
- c) What are the architectural design guidelines for space planning to support a healing environment?

1.6 Scope of the Thesis

The current design of healthcare buildings are mostly described as harsh and rigid, rarely designed as therapeutic and causes the occupants to become depressed and stressed. The study focuses on spatial quality of the space design that can affect human wellbeing.

1.7 Significance of Study

The significance of the study is to find out what elements that can enhance healing environment, more specifically, methods in which to provide Architectural solutions in space design that can transform the spatial quality to create a healing environment that could promote self-healing through the application of natural environment in healthcare building.

1.8 Research Methodology

The research methodology used in this study is aimed in identifying and collecting the data regarding the application of natural environment in space design that promotes healing environment. The study starts with collecting data on environmental factors that affect human health psychologically. This is to identify the spatial qualities needed in space design to achieve a healing environment. Subsequently, the issues are further derived based on the objective of outlining the relationship of natural environment with human health through literature reviews of natural environment and effect of plants on indoor environmental quality. The research focuses on selected case studies to understand the design principles and design approach and also identifies the architectural solutions on the spatial quality of space design that promotes “self-healing”.

1.9 Expected Findings

The factors that influence human wellbeing which will become the guideline in designing healthcare buildings with healing environment will be identified. From the study on existing hospital buildings and understanding the function of the building, list of needed spaces will be identified. Thus, through spatial quality in space design and implementation of natural environment, or so-called green spaces would be able to promote “self-healing”. From the literature reviewed, it is expected that the natural environment has a positive effect on indoor environment quality and will improve the wellbeing of the occupants.

1.10 Structure of Thesis

The research consist of five main chapters, basically the Chapter 1 covers the overview of the study that includes introduction, problem statement, research aim, research objectives, research questions, scope of thesis, significance of study, research methodology and expected findings. Chapter 2 presents the case studies on the issues related to the spatial quality of healthcare building space design, as well as the relationship of the natural environment with human health. Chapter 3 discusses the methods used in this dissertation, covering the explorative study on the existing healthcare building and discussion on the research design. In Chapter 4, case studies and data collected are recorded and analysed to result in the findings. The chapter ends with the discussion on the collected data to provide architectural solutions that respond to the research aims and objectives. Chapter 5 summarizes the thesis which includes; discussion and suggestions on the previous chapter and highlights the significance of this study.

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