



Cairo University

# **A PROPOSED PSYCHOLOGICAL FRAMEWORK TO DESIGN MULTI-SENSORY GARDENS FOR CHILDREN WITH SPECIAL NEEDS**

By

**Fatma Magdy Hussein Hassan Mohamed**

A Thesis Submitted to the  
Faculty of Engineering at Cairo University  
in Partial Fulfillment of the  
Requirements for the Degree of  
**DOCTOR OF PHILOSOPHY**  
in  
**Architecture Engineering**

FACULTY OF ENGINEERING, CAIRO UNIVERSITY  
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Under the Supervision of  
**Prof. Dr. Ayman Hassaan  
Mahmoud**

Professor of Landscape Architecture  
Department of Architecture  
Faculty of Engineering, Cairo University

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Approved by the  
Examining Committee

---

**Prof. Dr. Ayman Hassaan Mahmoud,**

Thesis Main Advisor

---

**Prof. Dr. Ahmed Mohamed Salah El-Dien Ouf,**

Internal Examiner

---

**Prof. Dr. Sherif Mohamed Sabry El-Attar,**

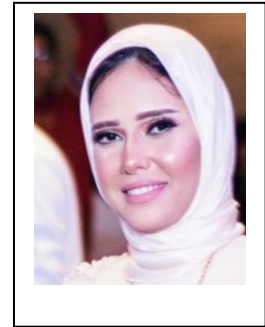
External Examiner

Professor of Architecture, Vice Dean for Community Service and  
Environmental Development, Faculty of Engineering, Fayoum University

FACULTY OF ENGINEERING, CAIRO UNIVERSITY  
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2019



**Engineer's Name:** Fatma Magdy Hussein Hassan  
**Date of Birth:** 29 /11 /1989  
**Nationality:** Egyptian  
**E-mail:** fatmaelmaghraby@gmail.com  
**Phone:** 01098305371  
**Address:** Cairo, Egypt  
**Registration Date:** 1/10/2014  
**Awarding Date:** ....../....../2019  
**Degree:** Doctor of Philosophy  
**Department:** Architectural of Engineering



**Supervisors:**

Prof. Dr. Ayman Hassaan Mahmoud

**Examiners:**

Prof. Dr. Sherif Mohamed Sabry El-Attar (External examiner)

Professor of Architecture, Vice Dean for Community Service and Environmental Development, Faculty of Engineering, Fayoum University

Prof. Dr. Ahmed Mohamed Salah El-Dien Ouf (Internal examiner)

Prof. Dr. Ayman Hassaan Mahmoud (Main Advisor)

**Title of Thesis:**

‘A proposed Psychological Framework to Design Multi-Sensory Gardens for Children with Special Needs’

**Key Words:**

Multi-Sensory gardens; Nature; Spatial Perception; Creativity; Cognitive.

**Summary:**

Remarkably, the general development programs don't take into account the disabled children requirements or participation and they are unable to make their future decisions. A multi-sensory garden is a self-contained region that concentrates an extensive variety of sensory experiences. Such a region, if designed well, gives a valuable asset for a wide range of users, from education to recreation. It is distinct since all these components, but have to be carefully chosen and designed to appeal to the senses in such a way that they give maximum sensory stimulation. This thesis focuses on the effect of multi-sensory gardens design on different aspects and their effects on disabled children, and grasp the influence of the physical environment on children and recognize environmental qualities that are linked with particular behavioral reactions. It's investigating by observing the regions and how they are utilized by disabled children. The methodology implanted here is based on observation, surveys, which were used in conjunction with theoretical theories. Finally, concluding the important role in increasing the communication between disabled children and nature, improving cognitive performance and promoting psychological recovery.





## **Disclaimer**

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Fatma Magdy Hussein Hassan

Date: 05/8/2019

Signature: Fatma Magdy



## **Dedication**

*To my Mom, Dad and Siblings*

*For all your Support, Encouragement and  
Unconditional love*



## Acknowledgments

First and foremost, I would like to primarily thank God for leading me to the path of knowledge. Wishing God to honour me by making this research “a knowledge which is beneficial” as our prophet PBUH said.

I would like to express my profound gratitude and appreciation to my supervisor **Prof. Dr. Ayman Hassaan Mahmoud** for their guidance, support, valuable advice, constant effort, and his continuous encouragement throughout the whole research. He taught me persistence to any research challenges and excellence seeking.

Finally, **my parents and siblings** deserve special mention for their continuous and unconditional support and prayers. This accomplishment would not have been possible without them. Thank you.



# List of Contents

<b>LIST OF TABLES .....</b>	<b>iv</b>
<b>LIST OF FIGURES .....</b>	<b>viii</b>
<b>LIST OF GRAPHS.....</b>	<b>xvi</b>
<b>CHAPTER 1: INTRODUCTION.....</b>	<b>1</b>
1.1 Introduction.....	1
1.2 Research Problem.....	2
1.3 Research Objectives.....	3
1.4 Research Question.....	4
1.5 Research Hypothesis.....	4
1.6 Methodology and Structure.....	4
<b>CHAPTER 2: DEFINITION OF HEALING AND MULTI-SENSORY GARDENS.....</b>	<b>7</b>
2.1 Introduction.....	7
2.2 The Healing garden and its History .....	7
2.3 The Feature of Healing Garden .....	10
2.3.1 Feeling of security.....	10
2.3.2 Understanding user groups and their needs .....	10
2.3.3 Different types of activities .....	10
2.3.4 Different rooms.....	11
2.3.5 Privacy and social interaction .....	11
2.4 Schools of the Healing Garden .....	12