UNIVERSITI TEKNOLOGI MARA

IMPROVING INTERFACE DESIGN OF GAME-BASED LEARNING COURSEWARE

Nur 'Atiqah Bahirah Raidah Binti Ahmad Zubaidi

Dissertation submitted in partial fulfillment of the requirements
for the degree of
Master of Science in Information Technology
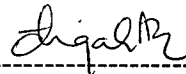
Faculty of Computer and Mathematical Sciences

May 2011

CANDIDATE'S DECLARATION

I declare that the work in the thesis was carried out in accordance with the regulation of University Technology MARA. It is original and the result of my own work, unless otherwise indicated or acknowledge as referenced work. This topic has not been submitted to other academic institution for any other degree or qualification.

In the event that my thesis found to violate the conditioned mentioned above, I voluntarily waive the right of conferment my master's degree and agree be subjected to the disciplinary rules of University Technology MARA.

May 2011

Nur 'Atiqah Bahirah Raidah Binti Ahmad Zubaidi

2008312429

ACKNOWLEDGEMENT

First and foremost, praise to Allah the Almighty for allowing me to complete this research and for everything that He has given me.

Sincere of appreciation to my supervisor, Dr Fariza Hanis Abdul Razak for her patience supervision, advice and guidance from the early stage until I finish my research. Above all and the most needed, she provided me unflinching encouragement and support in various ways.

My greatest gratitude also goes to my beloved parents and family, Ahmad Zubaidi Sabri and Selamah Hamdan for their inseparable supports and prayers. I also wish to convey my special thanks to Hanayanti Hanit, Ph.D's student under supervision of Dr. Fariza Hanis Abdul Razak for their steadfast encouragement and sincere help along the accomplishment of this research. Special thanks also to my lecturers, classmates and friends who supported me in any respect to the successful realization of thesis, as well as expressing my apology that I could not mention personally one by one.. .

TABLE OF CONTENTS

Content   **Page**

Chapter 1 : Introduction

Chapter 2 : Literature Review

ABSTRACT

Game has traditionally been used in learning, particularly in preschool education. There are many game-based courseware applications available and have been included as part of the children's syllabus to support learning these days. However, most of these game-based learning coursewares have not been tested for learnability. The paper focuses on to find out whether the game-based learning courseware is supporting learnability to preschool children or not. To conduct the study, a method of usability testing that allows preschool children ages 5 to 6 years old to play with the game-based learning courseware was used. From the usability testing, the interface design problems in the game-based learning courseware have been analyzed and improved based on literature reviews of previous researchers and SEM model. After the improvement done, the game-based learning have been tested again and findings gained. The findings show that the game-based learning courseware has the learnability element but yet there were few issues have to be improved. For future study, a few suggestions of effective interface and interaction design for game-based learning courseware have been given based on the findings.

Keywords
Learnability, interface design, game-based learning courseware