THE EFFECTS OF MIND MAPPING STRATEGIES ON THE
DEVELOPMENT OF WRITING SKILLS OF SELECTED FORM THREE
STUDENTS

BY

JASVIR KAUR D/O K. AMAR SINGH

Thesis Submitted to the School of Graduate Studies Universiti Putra
Malaysia, in Fulfilment for the Degree of Master of Science

March 2004
DEDICATION

To my advisor, counsellor and friend, Associate Professor Dr. Shameem Rafik Galea, for being my inspiration and the force behind the determination and relentless perseverance in writing this thesis. I would like to dedicate this study to the students of 3 WIRA 1 (2002) of SMK Pendamaran Jaya for the way in which they accepted the challenge to change their study patterns and their ensuing enthusiasm on the successful outcomes of the effort. To my parents Mr. and Mrs. Amar Singh, my husband, Dr. K.S. Roy, my nieces, Harvin, Melvin and Raveena, my sister, Jasvinder and my brother Ravinder for being there when I needed them the most.
Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science.

THE EFFECTS OF MIND MAPPING STRATEGIES ON THE DEVELOPMENT OF WRITING SKILLS OF SELECTED FORM THREE STUDENTS

By

JASVIR KAUR D/O K.AMAR SINGH

MARCH 2004

Chairman: Ghazali Mustapha, Ph.D

Faculty: Educational Studies

Education is one of the most powerful mechanisms for developing intellectual prowness. Because the research in brain growth, development and functioning is exemplifying our understanding of the neuro-sciences. In order to nourish students with healthy learning strategies, this research is based on a technique that will prove to enhance students’ thinking and writing skills. This study intends to expose students to the approaches and methods of using mind maps and brainstorming strategies in developing their mental capacities. The research design used in this study was a nonrandomised control group; pretest-posttest quasi-experimental design on to groups of hetrogenous form three Malay students selected based on their form two final year examination academic performance on two classes of
students (25 students in the control group and 25 students in the experimental group). The instruments used were pretest composition questions and posttest composition questions, direct observations and in-depth interviews. The data and results collected were analysed using the SPSS for percentage, mean, standard deviation, t-tests and repeated-measures analysis of variance. The finding showed that there was no significant difference in the mean scores in the pretest between the two groups of subjects administered in the first semester of 2002 after the teaching of composition in the normal method. However, there was a significant difference in the mean scores in the experimental group as compared to the control group in the posttest administered in the second semester of 2002 after the treatment. The findings also showed that the subjects in the experimental group responded more positively to the technique of mindmapping and brainstorming. This study concluded that the teaching method, mindmapping and brainstorming strategies during the prewriting stage had a positive and consistent effect on this group of students' composition writing skills immediately after treatment as compared to the control group with the normal classroom teaching method.
Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia untuk memenuhi keperluan ijazah Master Sains.

KEBERKESANAN STRATEGI PETA MINDA KE ATAS PERKEMBANGAN KEMAHIRAN PENULISAN BAHASA INGGERIS DI KALANGAN PELAJAR MALAYSIA

Oleh

JASVIR KAUR A/P K. AMAR SINGH

MAC 2004

Pengerusi : Ghazali Mustapha, Ph.D.
Fakulti : Pendidikan

Pendidikan adalah salah satu mekanisme yang berkesan untuk meningkatkan perkembangan intelektual. Daripada kajian perkembangan minda, perkembangan dan fungsi minda mewujudkan pemahaman sains neuro. Untuk mengujudkan strategi pembelajaran yang berkesan di kalangan pelajar, kajian ini memberi penekanan kepada teknik yang terbukti akan mempertingkatkan perkembangan tahap kemahiran berfikir dan menulis di kalangan mereka. Kajian ini bertujuan untuk mendedahkan pelajar kepada kaedah dan pendekatan dengan menggunakan peta mind dan sumbang saran untuk perkembangan mental mereka. Rekabentuk kajian yang digunakan untuk kajian ini adalah rekabentuk kumpulan kawalan tidak rawak, prauijian-pascauijian eksperimen-kuasi ke atas kumpulan pelajar Melayu...
ACKNOWLEDGEMENTS

Working on this research has been extremely invaluable and a rewarding experience. This was made possible by the support, encouragement and guidance from many people. I would like to express my gratitude to Dr Ghazali Mustapha of Universiti Putra Malaysia for his undivided attention and guidance throughout this study; Associate Professor Dr Shameem Rafik Ghalea from the Faculty of Modern Language of Universiti Putra Malaysia, for her constant encouragement and views during our frequent brainstorming sessions; Associate Professor Dr Bahaman Abu Samah of Universiti Putra Malaysia, for making statistics a breeze and for his invaluable guidance and comments in the contents and statistics of this thesis; the Principal of Sek. Men Keb. Pendamaran Jaya, Pelabuhan Klang, Pn. Hjh. Salbiah Hj. Umar for her undivided support, concern and encouragement, Pn Tey Mei Lee for her invaluable help and cooperation in carrying out the field research Pn Jamaliah Hassan and Pn. Y.S.Lim for so kindly sacrificing their time and thoughts in rating the composition scripts; and finally to all my students and colleagues who have offered their help in one way or another to make this thesis possible.
I certify that an Examination Committee met on July 2003 to conduct the final examination of Jasvir Kaur d/o K. Amar Singh on her Master of Science thesis entitled “The Effectiveness of Mindmapping Strategies in the Development of Writing Skills of a Selected Malaysian Form Three Students” in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulation 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

**ROSINI ABU, Ph.D.**
Department of Education
Faculty of Educational Studies
Universiti Putra Malaysia
(Chairman)

**GHAZALI MUSTAPHA, Ph.D.**
Department of Education
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

**SHAMEEM RAFIK-GHALEA KHAN, ASSO. PROF.**
Department of Languages
Faculty of Modern Languages
Universiti Putra Malaysia
(Member)

**BAHAMAN ABU SAMAH, ASSO. PROF.**
Department of Professional Development and Continuing Education
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

________________________

**MOHD. GHAZALI MOHAYIDIN, Ph.D.**
Professor
Deputy Dean of Graduate School
Universiti Putra Malaysia
This thesis submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee are:

**GHAZALI MUSTAPHA, Ph.D.**
Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia
(Supervisor)

**SHAMEEM RAFIK-GHALEA KHAN, Ph.D.**
Associate Professor
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Member)

**BAHAMAN ABU SAMAH, Ph.D.**
Associate Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

**AINI IDERIS, Ph.D.**
Professor/Dean
Dean of Graduate School
Universiti Putra Malaysia

Date:
DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I declare that this thesis has not been previously or concurrently submitted for any other degree at UPM or other institutions.

JASVIR KAUR D/O K.AMAR SINGH

Date : 27 June 2004
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDICATION</td>
<td>ii</td>
</tr>
<tr>
<td>ABSTRACTS</td>
<td>iii</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>viii</td>
</tr>
<tr>
<td>APPROVAL</td>
<td>ix</td>
</tr>
<tr>
<td>DECLARATION</td>
<td>xi</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xvi</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xvii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xviii</td>
</tr>
</tbody>
</table>

# CHAPTER

## I INTRODUCTION

- Background Information 2
- Theoretical Framework 6
- Statement of the Problem 22
- Identification of Research Problem 37
- Research Questions 37
- Purpose for the Study 38
  - General Objectives 38
  - Specific Objectives 39
  - The Research Hypothesis 39
- Significance of the Study 40
- Definition of Terms 42
  - English as a Second Language 42
  - Descriptive Writing 43
  - Mind Mapping 44
  - Radiant Thinking 46
  - Brainstorming 46
  - Basic Ordering Ideas (BOI’s) 47
  - The Human Brain 49
  - Association 50
- Limitations Of The Study 51
- Conclusion 53
II LITERATURE REVIEW

Writing 56
  Descriptive Writing 71
  Functions of the Brain In Teaching Writing 86
Mind Mapping 93
  The Advantages Of Mind Mapping Over
  Linear Note Making/Taking. 101
Brainstorming 112
  Individual Brainstorming 115
  Group Brainstorming 115
  Steps In The Brainstorming Procedure 117
    Preparation 118
    Fact Finding 118
    Warm-Up 119
    Idea-Finding 119
    Solution Finding 120
    Implementation 121
Scaffolding 121
Note Taking 123
Clustering 127
The Role Of Thinking Skills In Writing 135
  Creative Thinking Mind Maps 137

III RESEARCH METHODOLOGY

Introduction 141
Research Design 142
  Aim Of This Research 143
Rationale For Using Other Fieldwork Methods 147
  Place Of Research 148
  Suitability Of Subjects 149
Administration and Management of the Research 151
  Time Schedule 154
Subjects Of Research 155
  Population 155
  Samples/Subjects 156
Research Instruments 159
  Research Instrument A 159
  Aims for conducting the interviews 160
    Validity Of The Interview 161
    Reliability Of The Interview 161
IV RESULTS AND DISCUSSION

Introduction 177
Statistical Tools 180
Findings and Discussion 181
Interviews 181
Report: Informal Interview with the Teacher 183
Report: Informal Interview with Subjects form The Experimental Group before the Treatment (Semester 1). 188
Report: Informal Interview with Subjects from The Experimental Group after the Treatment (Semester 2). 191
Pretest 193
Posttest 199
Comparing the Pretest and Posttest Composition Scores Between the Two Groups. 201
Paired Sample t-test 201
Independent Sample t-test 203
Repeated-measures Analysis of Variance Procedure. 205
Observations and Reflections 207
Pretest 207
Posttest 209
Writing Samples 211
Overview and Discussion 214

The Effects of Mind Mapping and the Normal Classroom Teaching Method in the
V CONCLUSION

Introduction 226
Purpose of this Research 226
Findings of Study 228
Recommendations for Future Research. 232
Conclusion 234

BIBLIOGRAPHY 236
APPENDICES 250
BIODATA OF THE AUTHOR 281