AN EVALUATION OF CRITICAL THINKING SKILLS: 
A CASE STUDY

ABDUL SALIM BIN ABDUL KARIM

FACULTY OF LANGUAGE AND LINGUISTICS 
UNIVERSITY OF MALAYA 
2002
AN EVALUATION OF CRITICAL THINKING SKILLS:  
A CASE STUDY

Abdul Salim Bin Abdul Karim

A Thesis submitted to the Faculty of Language and Linguistics, 
University of Malaya, 
in partial fulfillment of the requirements, 
for the degree of Masters in English as A Second Language
ABSTRACT

This study aims to evaluate a critical thinking skills course which had been taught as part of the World Studies Component of the MPIK – UK link programme. On a broader perspective, the study aims to find out to what extent the critical thinking course has contributed to the development of critical thinking among the students.

The respondents were first year Matriculation students of the MPIK – UK link programme. These students had been exposed to critical thinking skills through the World Studies Component. The approach used in this study is both qualitative and quantitative. The research is based on two sets of questionnaires, the World Studies examination results and document evidence. As for the document evidence, the past four years, that is, from 1995 to 1998, World Studies Final Examination questions were analysed.

The data was analysed through SPSS (Statistical Package for Social Sciences) and the score of the students’ examination results were correlated with the data from the students’ perceptions of critical thinking skills. The analysis of data reveals answers to the four research questions.
The World Studies course was structured so as to achieve one of its objectives, that is, to develop analytical and critical thinking. The World Studies examination questions were written to challenge the students to think critically. These examination questions were analysed using Marzano's framework on critical thinking skills.

The study on the whole would provide an insight to teachers and educators who wish to include critical thinking skills in their teaching. The inclusion of critical thinking skills in teaching students in primary and secondary schools would prepare them for tertiary education. At tertiary level, students are trained to be independent learners. Therefore, at this stage of education, students need to be careful in selecting appropriate and meaningful information.
ACKNOWLEDGMENTS

This study would not have been possible without the support and cooperation accorded to me by several people. I, therefore take this opportunity to express my sincere gratitude to the following:

Pn. Narindar Kaur, my supervisor, for her invaluable advice and guidance and for giving her time for consultation and discussion in the planning and writing of this study. A very special thanks to her for being extremely patient throughout this long process of writing.

My sincere thanks are due to all the matriculation students who cooperated and answered my questionnaire and not forgetting fellow colleagues who were ever willing to help me in this study.

My sincere thanks and appreciation to the World studies examination panels of Maktab Perguruan Ilmu Khas for allowing me to analyse the examination questions.

I would like to express my appreciation to my wife Pn. Hawwa bte Abdul Majid for reading and giving me views on my dissertation.

Finally, to the Almighty ALLAH S.W.T the source of my life, wisdom and hope for giving me the strength and patience to pursue this study.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>ABSTRACT</th>
<th>ii</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xiii</td>
</tr>
<tr>
<td><strong>CHAPTER ONE:</strong></td>
<td></td>
</tr>
<tr>
<td>1.0 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Operational Definitions</td>
<td>3</td>
</tr>
<tr>
<td>1.2 Statement of problem</td>
<td>4</td>
</tr>
<tr>
<td>1.3 Rationale of the study</td>
<td>4</td>
</tr>
<tr>
<td>1.4 Research Questions</td>
<td>5</td>
</tr>
<tr>
<td>1.5 Significance of the study</td>
<td>5</td>
</tr>
<tr>
<td>1.6 Limitations of the study</td>
<td>6</td>
</tr>
<tr>
<td><strong>CHAPTER TWO: REVIEW OF LITERATURE</strong></td>
<td></td>
</tr>
<tr>
<td>2.0 Introduction</td>
<td>7</td>
</tr>
<tr>
<td>2.1 Definitions of Critical Thinking</td>
<td>7</td>
</tr>
<tr>
<td>2.2 What is thinking?</td>
<td>8</td>
</tr>
<tr>
<td>2.3 Teaching of Critical Thinking</td>
<td>10</td>
</tr>
<tr>
<td>2.4 What are reasoning skills?</td>
<td>19</td>
</tr>
<tr>
<td>2.5 The concept of argument</td>
<td>21</td>
</tr>
<tr>
<td>2.6 The relationship between argument and CT</td>
<td>23</td>
</tr>
</tbody>
</table>
CHAPTER THREE: METHODOLOGY

3.0 Introduction 39

3.1 Teaching of WS 40

3.2 Approach 40

3.3 The Subjects of the study 41

3.4 Design and Instruments 42

3.4.1 Students’ Questionnaire 42

3.4.2 WS Tutors’ Questionnaire 45

3.4.3 Description of WS Examination questions from the years 1995 to 1998 48

3.4.3.1 WS Paper 1995 (Refer Appendix C) 51

3.4.3.2 WS Paper 2 1996 (Refer Appendix C) 53

3.4.3.3 WS Paper 1997 (Refer Appendix C) 55

3.4.3.4 WS Paper 1998 (Refer Appendix C) 56

3.4.4 Procedure 58

3.4.4.1 Pilot Study 58

3.4.4.2 Administering the questionnaire 59

3.4.5 Analysis of Data 59
CHAPTER FOUR: ANALYSIS OF RESULTS

4.0 Introduction 61
4.1 Analysis of results: Students' questionnaire 61
4.2 Analysis of results: Tutors' questionnaire 92
4.2.1 Section A: Strategies 93
4.2.2 Section B: Group work / Discussion 100
4.2.3 Section C: Resource Materials 109
4.3 Evaluation of World Studies Examination Questions 117
4.3.1 Analysis of 1995 WS Examination questions 118
4.3.2 Analysis of 1996 WS Examination questions 120
4.3.3 Analysis of 1997 WS Examination questions 121
4.3.4 Analysis of 1998 WS Examination questions 122
4.3.5 Tables showing Correlations 123

CHAPTER FIVE: CONCLUSION

5.0 Introduction 125
5.1 Implications of the study 127
5.2 Suggestions for further research 129
5.3 Conclusion 129

BIBLIOGRAPHY 131
### LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1: Students' ability to categorize the strengths of an issue.</td>
<td>62</td>
</tr>
<tr>
<td>Figure 2: Students' ability to categorize weakness of an issue.</td>
<td>63</td>
</tr>
<tr>
<td>Figure 3: Students' ability to consider others' views.</td>
<td>63</td>
</tr>
<tr>
<td>Figure 4: Students' skills of solving problems.</td>
<td>64</td>
</tr>
<tr>
<td>Figure 5: Students' ability to have an independent mind.</td>
<td>65</td>
</tr>
<tr>
<td>Figure 6: Students' ability to communicate ideas clearly.</td>
<td>65</td>
</tr>
<tr>
<td>Figure 7: Students' ability to communicate feelings clearly</td>
<td>66</td>
</tr>
<tr>
<td>Figure 8: Students' ability to evaluate arguments critically.</td>
<td>66</td>
</tr>
<tr>
<td>Figure 9: Students' ability to draw mind maps.</td>
<td>67</td>
</tr>
<tr>
<td>Figure 10: Students' ability to gather relevant information.</td>
<td>67</td>
</tr>
<tr>
<td>Figure 11: Students' ability to organize relevant information.</td>
<td>68</td>
</tr>
<tr>
<td>Figure 12: Students' ability to recognize a problem.</td>
<td>69</td>
</tr>
<tr>
<td>Figure 13: Students' ability to define a problem.</td>
<td>69</td>
</tr>
<tr>
<td>Figure 14: Students' ability to plan rebuttals.</td>
<td>70</td>
</tr>
<tr>
<td>Figure 15: Students' ability to monitor their performance.</td>
<td>70</td>
</tr>
<tr>
<td>Figure 16: Students' ability to revise plans.</td>
<td>71</td>
</tr>
<tr>
<td>Figure 17: Students' ability to evaluate performance.</td>
<td>71</td>
</tr>
<tr>
<td>Figure 18: Students' ability to improve both oral and written communication.</td>
<td>72</td>
</tr>
<tr>
<td>Figure 19: Students' ability to ask questions to seek clarification.</td>
<td>72</td>
</tr>
<tr>
<td>Figure 20: Students' ability to use previous knowledge.</td>
<td>73</td>
</tr>
</tbody>
</table>
Figure 21: Students’ ability to analyze problems into categories. 74
Figure 22: Students’ ability to search for information systematically. 74
Figure 23: Students’ ability to check data from other resources. 75
Figure 24: Students’ ability to translate problems into tasks. 75
Figure 25: Students’ ability to select and organize relevant information. 76
Figure 26: Students’ ability to read widely. 76
Figure 27: Students’ ability to speak up. 77
Figure 28: Students’ ability to work in pairs. 77
Figure 29: Students’ ability to participate actively in discussions. 78
Figure 30: Students’ ability to disagree. 78
Figure 31: Students’ ability to identify errors in tutors’ arguments. 79
Figure 32: Students’ ability to identify errors in tutors’ comments. 79
Figure 33: Students’ ability to contribute ideas. 80
Figure 34: Students’ ability to participate in class debates. 80
Figure 35: Students’ ability to participate in class forums. 81
Figure 36: Students’ ability to put ideas into graphics. 81
Figure 37: Students’ ability to criticize constructively. 82
Figure 38: Students’ ability to explain issues critically. 83
Figure 39: Students’ ability to justify their stand. 83
Figure 40: Students’ ability to compare cause and effect: social issues. 84
Figure 41: Students’ ability to compare cause and effect: economic issues. 84
Figure 42: Students’ ability to compare cause and effect: political issues. 85
Figure 43: Students’ ability to compare cause and effect: cultural issues. 86
Figure 44: Students’ ability to predict outcomes. 86
Figure 45: Students’ ability to draw conclusions. 87
Figure 46: Students’ ability to evaluate credibility of arguments. 87
Figure 47: Students’ ability to evaluate the significance of arguments. 88
Figure 48: Students’ ability to evaluate reports etc. 88
Figure 49: Students’ ability to react without thinking. 89
Figure 50: Students’ ability to evaluate the effectiveness of actions. 90
Figure 51: Opportunities given to students to think and solve problems. 93
Figure 52: Presentation of tasks as problems. 93
Figure 53: Statement of underlying issues to a problem. 94
Figure 54: Opportunity to decide on a problem. 94
Figure 55: Encouragement to look at resource materials critically. 95
Figure 56: Encouragement to plan their work. 95
Figure 57: Evaluation of students’ strategies. 96
Figure 58: Evaluation of evidence. 96
Figure 59: Help given to students in identifying strengths and weaknesses of an issue. 97
Figure 60: Enabling students to make judgements critically. 97
Figure 61: Enabling students to reflect on their achievements. 98
Figure 62: Opportunities for communication. 98
Figure 63: Encouragement to listen to each other. 99
Figure 64: Encouragement to seek clarification. 99
Figure 65: Giving students time for discussion.

Figure 66: Enabling students to participate in discussions.

Figure 67: Drawing upon the personal experiences of students.

Figure 68: Opportunities for cooperation.

Figure 69: Chances for students to develop social skills.

Figure 70: Handling of students' misunderstandings positively.

Figure 71: Handling of students' misunderstandings constructively.

Figure 72: Provision of problem-solving tasks by tutors.

Figure 73: Inclusion of open-ended tasks.

Figure 74: Emphasis on small group work.

Figure 75: Development of students' oral skills.

Figure 76: Tutors' feedback to students' answers.

Figure 77: Integration of aspects from topics of discussion.

Figure 78: Tutors' summary of a topic.

Figure 79: Chance to see peers' written assignments.

Figure 80: Provoking students to talk.

Figure 81: Monitoring of oral discussions.

Figure 82: Encouragement to plan answers.

Figure 83: Provision of visual aids.

Figure 84: Preparation of materials by tutors.

Figure 85: Adapting and adopting materials.

Figure 86: Encouragement to read widely.

Figure 87: Encouragement to do library research.

Figure 88: Bringing of own materials.
Figure 89: Discussion of excellent work. 112
Figure 90: Encouragement to keep a portfolio. 112
Figure 91: Discussion of previous years' test papers. 113
Figure 92: Use of newspapers and magazines for discussion. 113
Figure 93: Providing correct answers. 114
Figure 94: Model answers for students. 114
LIST OF TABLES

Table 4.3.1: Analysis of 1995 WS Examination Questions.  
Table 4.3.2: Analysis of 1996 WS Examination Questions.  
Table 4.3.3: Analysis of 1997 WS Examination Questions.  
Table 4.3.4: Analysis of 1998 WS Examination Questions.  
Table 4.3.5: Table Showing the Correlations.  

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 4.3.1: Analysis of 1995 WS Examination Questions.</td>
<td>118</td>
</tr>
<tr>
<td>Table 4.3.2: Analysis of 1996 WS Examination Questions.</td>
<td>120</td>
</tr>
<tr>
<td>Table 4.3.3: Analysis of 1997 WS Examination Questions.</td>
<td>121</td>
</tr>
<tr>
<td>Table 4.3.4: Analysis of 1998 WS Examination Questions.</td>
<td>122</td>
</tr>
<tr>
<td>Table 4.3.5: Table Showing the Correlations.</td>
<td>123</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Appendix A: Students’ Questionnaire.</td>
<td>135</td>
</tr>
<tr>
<td>Appendix B: Questionnaire for WS tutors.</td>
<td>138</td>
</tr>
<tr>
<td>Appendix C: WS Examination Papers.</td>
<td>141</td>
</tr>
<tr>
<td>Appendix D: Analysis of Students’ Questionnaire in Percentages.</td>
<td>146</td>
</tr>
<tr>
<td>Appendix E: Analysis of Tutors’ Questionnaire in Percentages.</td>
<td>148</td>
</tr>
</tbody>
</table>