# TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii  
SYNOPSIS iv  
SINOPSIS vi  
TABLE OF CONTENTS viii  
LIST OF FIGURES xv  
LIST OF TABLES xv  
LIST OF ABBREVIATIONS USED IN STUDY xviii  
LIST OF APPENDICES xix  

## CHAPTER 1: INTRODUCTION

1.1 Background to the study 1  
1.2 Theoretical background to the study 5  
1.3 Rationale for the study 13  
1.4 The proposed study 19  
1.5 Significance of the study 20  
1.6 Definition of terms used in this study 23  

## CHAPTER 2: REVIEW OF RELATED LITERATURE

2.1 Introduction 25  
2.2 Theoretical approaches to learning and second language learning 25  
   2.2.1 Behaviouristic approach 26  
   2.2.2 Cognitive approach 27
2.2.3 Humanistic approach 29
2.2.4 Current practice 30

2.3 Sociocultural approach to learning 30
  2.3.1 Social learning 31
  2.3.2 Mediation 32
  2.3.3 Genetic analysis 33
  2.3.4 Internalization of social processes 34
  2.3.5 Sociocultural approach and language learning 36

2.4 A case for collaborative learning 37
  2.4.1 Collaborative and cooperative learning 40
  2.4.2 Factors for successful collaboration 44
  2.4.3 Structuring groups for collaborative learning 47
  2.4.4 Collaborative learning and cognitive growth 50

2.5 Online collaboration 52
  2.5.1 Theoretical base of online collaboration 53
  2.5.2 Online collaboration and language learning 55
  2.5.3 Online collaboration and social interaction 59
  2.5.4 Online collaboration and tasks 61
  2.5.5 Tasks and reading performance 66
  2.5.6 Online collaboration and interaction analysis 70
  2.5.7 Related studies on interaction analysis 73

2.6 Studies on online collaboration carried out in Malaysia 80

2.7 Conclusion 85
CHAPTER 3: METHODOLOGY

3.1 Introduction 88
3.2 Research design 89
3.3 Subjects 91
   3.3.1 The ESL class 92
   3.3.2 The group members 94
   3.3.3 The instructor 98
3.4 Data collection 99
   3.4.1 Pretest and posttest 100
   3.4.2 Reading tasks 103
   3.4.3 Online transcripts 105
   3.4.4 Written assignments 107
3.5 Data analysis 108
   3.5.1 Pretest and posttest 108
   3.5.2 Reading tasks 112
   3.5.3 Online transcripts 115
      3.5.3.1 Qualitative analysis 118
         3.5.3.1.1 Stage 1: Coding 121
         3.5.3.1.2 Stage 2: Checking reliability 124
      3.5.3.2 Quantitative analysis 125
         3.5.3.2.1 Patterns of interaction 126
         3.5.3.2.2 Patterns of interaction and reading tasks 127
         3.5.3.2.3 Relationship between patterns of interaction and reading performance 128
3.5.4 Written assignments 129
3.5.5 Data analysis framework 129
3.6 Instructional design 132
3.6.1 Web design for RAP 132
3.6.2 Structure of the web 133
  3.6.2.1 RAPCourse 134
  3.6.2.2 RAPProfile 135
3.6.3 Instructional materials 136
3.6.4 Nature of RAP course 136
  3.6.4.1 Instructional strategy 136
    3.6.4.1.1 Preinstructional activities 137
    3.6.4.1.2 Content presentation 138
    3.6.4.1.3 Learner participation 138
    3.6.4.1.4 Assessment 139
    3.6.4.1.5 Follow-through activities 140
  3.6.4.2 Implementation of RAP course 140

CHAPTER 4: DATA ANALYSIS AND RESULTS

4.1 Introduction 142
4.2 Online collaboration and reading performance 146
  4.2.1 Performance of individuals in the pretest and posttest 146
  4.2.2 Performance of groups in the pretest and posttest 150
  4.2.3 Performance of individuals in reading tasks before and after online collaboration 154
4.6.2.3 Phase II: Discovering the inconsistency of ideas, concepts or statements 220
4.6.2.4 Phase III: Negotiating for meaning/Co-constructing knowledge 226
4.6.2.5 Phase IV: Making agreement statement(s)/Applying newly-constructed meaning 234
4.6.3 Patterns of interaction and reading tasks 237
  4.6.3.1 Frequency and percentage of operations used 237
  4.6.3.2 Operations used by interactive phase between different reading tasks 239
4.6.4 Patterns of interaction and reading performance 242
4.7 Chapter summary 247

CHAPTER 5: DISCUSSION AND CONCLUSION
5.1 Introduction 253
5.2 Online collaboration and reading performance 254
5.3 Patterns of interaction during online collaboration 257
5.4 Patterns of interaction and reading tasks 269
5.5 Patterns of interaction and reading performance 281
5.6 Pedagogical implications and recommendations 288
  5.6.1 Learning and instruction 288
  5.6.2 Structuring online discussions 297
5.7 Limitations and suggestions for further research 303
  5.7.1 Methodological issues 303
  5.7.1.1 Subjects and online transcripts 303
  5.7.1.2 Instrument and coding of the data 306
5.7.1.3 Analyses of data 309
5.7.2 Contextual issues 311
5.7.3 Support issues 312
5.8 Conclusion 313

REFERENCES 315
LIST OF FIGURES

Figure 3.1  RAP web structure 134

LIST OF TABLES

Table 3.1  Results of the Kruskal-Wallis test (mean rank) comparing the pretest reading scores between groups 96
Table 3.2  Sampling selection based on pretest and posttest scores by groups 97
Table 3.3  Data analysis framework 130
Table 4.1  Individual ESL students’ mean scores for pretest and posttest by question 147
Table 4.2  T-test results comparing individual ESL students’ posttest and pretest mean scores by question 149
Table 4.3  ESL groups’ mean scores for posttest and pretest by question 151
Table 4.4  T-test results comparing ESL groups’ posttest and pretest mean scores by question 153
Table 4.5  Individual ESL students’ mean scores by reading task before and after online collaboration 155
Table 4.6  T-test results comparing individual ESL students’ mean scores by reading task before and after online collaboration 157
Table 4.7  ESL groups’ mean scores by reading task before and after online collaboration 158
Table 4.8  T-test results comparing ESL groups’ mean scores by reading task before and after online collaboration 160
Table 4.9  Frequency, percentage and rank-order of operations of ESL students on the reading tasks of Previewing and Predicting, Identifying Sentence Patterns and Paraphrasing 165
Table 4.10 Frequency, percentage of operations by interactive phase for the reading tasks of Previewing and Predicting, Identifying Sentence Patterns and Paraphrasing 167
Table 4.11 Results of the Friedman analysis of variance by ranks comparing operations by interactive phase 168

Table 4.12 Results of the Wilcoxon signed-rank test comparing operations by interactive phase 169

Table 4.13 Results of the Friedman analysis of variance comparing operations between different reading tasks 173

Table 4.14 Frequency, percentage and rank order of operations for Previewing and Predicting, Identifying Sentence Patterns and Paraphrasing 176

Table 4.15 Results of the Spearman rank-order correlation comparing the patterns of operations used by interactive phase between Previewing and Predicting and Identifying Sentence Patterns 177

Table 4.16 Results of the Spearman rank-order correlation comparing the patterns of operations used by interactive phase between Previewing and Predicting and Paraphrasing 179

Table 4.17 Results of the Spearman rank-order correlation comparing the patterns of operations used by interactive phase between Identifying Sentence Patterns and Paraphrasing 182

Table 4.18 Means and standard deviations (in parentheses) of the reading scores by reading tasks 185

Table 4.19 Results of the Kruskal-Wallis test (mean rank) comparing the reading scores of Previewing and Predicting, Identifying Sentence Patterns and Paraphrasing 185

Table 4.20 Results of Spearman rank-order correlation between reading scores and frequency of operations used: Overall operation used by interactive phase 188

Table 4.21 Results of Spearman rank-order correlation between reading scores and frequency of operations used in Phase I: Sharing of Information 190

Table 4.22 Results of Spearman rank-order correlation between reading scores and frequency of operations used in Phase II: Discovering the inconsistency of ideas, concepts or statements 191

Table 4.23 Results of Spearman rank-order correlation between reading scores and frequency of operations used in Phase III: Negotiating for meaning/Co-constructing knowledge 193
Table 4.24  Results of Spearman rank-order correlation between comprehension scores and frequency of operations used in Phase IV: Making agreement statements/Applying newly-constructed meaning

Table 4.25  Range of improvement of ESL students for pretest and posttest

Table 4.26  Range of improvement of ESL students before and after collaboration
## LIST OF ABBREVIATIONS USED IN THIS STUDY

<table>
<thead>
<tr>
<th>ABBREVIATIONS</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>OC</td>
<td>Online collaboration</td>
</tr>
<tr>
<td>OCL</td>
<td>Online collaborative learning</td>
</tr>
<tr>
<td>CALL</td>
<td>Computer-assisted language learning</td>
</tr>
<tr>
<td>SLA</td>
<td>Second language acquisition</td>
</tr>
<tr>
<td>ESL</td>
<td>English as a Second Language</td>
</tr>
<tr>
<td>e.g.</td>
<td>For example</td>
</tr>
<tr>
<td>SCT</td>
<td>Sociocultural theory</td>
</tr>
<tr>
<td>CL</td>
<td>Collaborative learning</td>
</tr>
<tr>
<td>ZPD</td>
<td>Zone of proximal development</td>
</tr>
<tr>
<td>L2</td>
<td>Second language</td>
</tr>
<tr>
<td>i.e.</td>
<td>that is</td>
</tr>
<tr>
<td>CMC</td>
<td>Computer–mediated communication</td>
</tr>
<tr>
<td>HACL</td>
<td>Heterogeneous-ability cooperative learning</td>
</tr>
<tr>
<td>FCL</td>
<td>Friendship cooperative learning</td>
</tr>
<tr>
<td>PBL</td>
<td>Problem-Based Learning</td>
</tr>
<tr>
<td>TESL</td>
<td>Teaching English as a second language</td>
</tr>
<tr>
<td>CGPA</td>
<td>Cumulative grade point average</td>
</tr>
<tr>
<td>RAP</td>
<td>Reading for Academic Purposes</td>
</tr>
<tr>
<td>UiTM</td>
<td>University Teknologi MARA</td>
</tr>
<tr>
<td>SDL</td>
<td>Self-directed learning</td>
</tr>
</tbody>
</table>
### LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Bachelor Of Accountancy Course Structure</td>
<td>340</td>
</tr>
<tr>
<td>B</td>
<td>Reading for Academic Purposes (RAP) Course Outline</td>
<td>342</td>
</tr>
<tr>
<td>C</td>
<td>UiTM Grade Bands</td>
<td>343</td>
</tr>
<tr>
<td>D</td>
<td>Pretest and Posttest</td>
<td>344</td>
</tr>
<tr>
<td>E</td>
<td>Bloom’s Taxonomy</td>
<td>350</td>
</tr>
<tr>
<td>F</td>
<td>Categories of pretest and posttest questions based on the six levels of cognitive domain in Bloom’s Taxonomy (1956)</td>
<td>351</td>
</tr>
<tr>
<td>G</td>
<td>Specification matrix matching pretest and posttest questions to RAP course content</td>
<td>352</td>
</tr>
<tr>
<td>H</td>
<td>Reading task descriptions</td>
<td>353</td>
</tr>
<tr>
<td>I</td>
<td>Written assignments of Group A: Previewing and Predicting</td>
<td>359</td>
</tr>
<tr>
<td>J</td>
<td>Adapted version of the Interactive Analysis Model</td>
<td>360</td>
</tr>
<tr>
<td>K</td>
<td>Interactive Analysis Model (Gunawardena et al., 1997)</td>
<td>361</td>
</tr>
<tr>
<td>L</td>
<td>Interactive Analysis Model (Sringam and Geer, 2001)</td>
<td>362</td>
</tr>
<tr>
<td>M</td>
<td>Specific examples of coding for patterns of interaction using the adapted version of the Interaction Analysis Model</td>
<td>363</td>
</tr>
<tr>
<td>N</td>
<td>RAP web page</td>
<td>367</td>
</tr>
<tr>
<td>O</td>
<td>Sample of RAP Instructional Materials</td>
<td>369</td>
</tr>
<tr>
<td>P</td>
<td>References for instructional materials</td>
<td>370</td>
</tr>
<tr>
<td>Q</td>
<td>Sample marked copy of reading task by Group D</td>
<td>371</td>
</tr>
</tbody>
</table>