

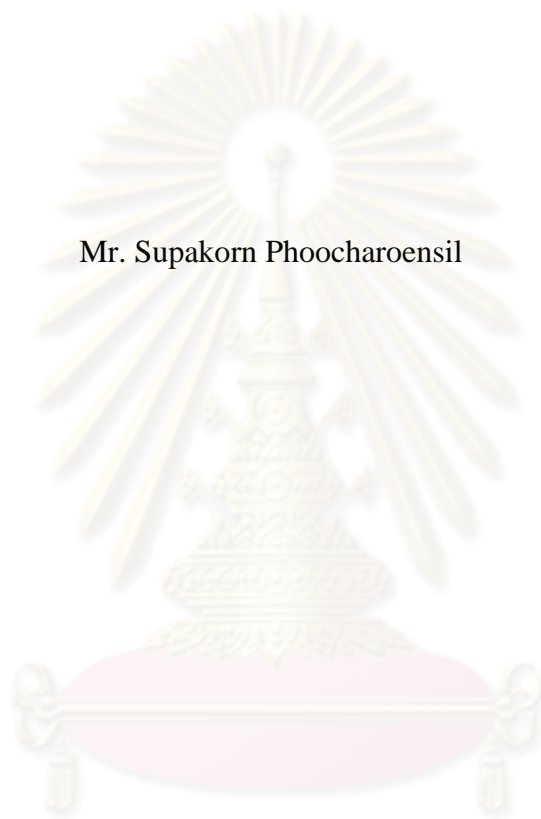
การศึกษาคูณานุกรมประโยคภาษาอังกฤษของภาษาในระหว่าง
ของผู้เรียนชาวไทยที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ

นาย สุภกรณ์ ภูเจริญศิลป์

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย
วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต
สาขาวิชาภาษาอังกฤษเป็นภาษานานาชาติ (สหสาขาวิชา)
บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2552
ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

A STUDY OF ENGLISH RELATIVE CLAUSES IN THE INTERLANGUAGE OF
THAI EFL LEARNERS

Mr. Supakorn Phoocharoensil



ศูนย์วิทยทรัพยากร

A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy Program in English as an International
Language
(Interdisciplinary Program)
Graduate School
Chulalongkorn University
Academic Year 2009
Copyright of Chulalongkorn University

ศุภกรณ์ ภูเจริญศิลป์: การศึกษาคูณานุกรมประโยคภาษาอังกฤษของภาษาในระหว่างของผู้เรียนชาวไทยที่
เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ (A STUDY OF ENGLISH RELATIVE
CLAUSES IN THE INTERLANGUAGE OF THAI EFL LEARNERS)
อ.ที่ปริกษาวิทยานิพนธ์หลัก : ศศ.คร.นिरดา สีมานุกุล, 291 หน้า

งานวิจัยนี้มุ่งศึกษาคูณานุกรมประโยคภาษาอังกฤษที่พบในภาษาในระหว่างของผู้เรียนชาวไทยที่เรียน
ภาษาอังกฤษเป็นภาษาต่างประเทศ ผู้เข้าร่วมงานวิจัยครั้งนี้เป็นนักศึกษาชั้นปีที่หนึ่งของมหาวิทยาลัยธรรมศาสตร์
แบ่งออกเป็นสองกลุ่มตามความสามารถในการใช้ภาษาอังกฤษเพื่อให้ผู้วิจัยสามารถสังเกตพัฒนาการของภาษาใน
ระหว่างของคูณานุกรมประโยคภาษาอังกฤษได้อย่างชัดเจน เครื่องมือหลักในการวิจัยได้แก่ เรียงความเชิงพรรณนา
และการพูดเชิงพรรณนา ผู้เข้าร่วมงานวิจัยยังได้ทำแบบทดสอบแปลประโยคที่มีคูณานุกรมประโยคจากภาษาไทยเป็น
ภาษาอังกฤษ แบบทดสอบแปลนี้ใช้เป็นเครื่องมือเสริมในการวิจัยเพื่อศึกษาพฤติกรรมกรรการหลีกเลี่ยงของผู้เรียน
การวิเคราะห์ข้อมูลเชิงปริมาณใช้ทั้งสถิติเชิงพรรณนาและสถิติเชิงอนุมาน ในขณะที่การวิเคราะห์ข้อมูลเชิง
คุณภาพอาศัยแนวคิดผสมผสานระหว่างลำดับการเข้าถึงนามวลี NPAH และ สมมติฐานความยากต่อการรับรู้
หรือ PDH

ผลการวิจัยพบว่าผู้เรียนชาวไทยทั้งสองกลุ่มความสามารถเรียนรู้คูณานุกรมประโยคภาษาอังกฤษในลักษณะ
ที่คล้ายคลึงกับผู้เรียนภาษาอังกฤษชาติอื่นที่พูดภาษาแม่ต่างออกไป กล่าวคือ ลำดับการเรียนรู้คูณานุกรมประโยคแบบ
ต่างๆสอดคล้องกับแนวคิดหลักของลำดับการเข้าถึงนามวลีโดยผู้เรียนสามารถเรียนรู้คูณานุกรมประโยคที่ประพันธ์
สรรพนามทำหน้าที่เป็นประธาน ทำหน้าที่เป็นกรรมตรง ทำหน้าที่เป็นกรรมของบุรพบท และทำหน้าที่แสดง
ความเป็นเจ้าของ ตามลำดับ นอกจากนี้ยังพบว่าผู้เรียนชาวไทยใช้สรรพนามที่ซ้ำซ้อนกับตัวบ่งชี้คูณานุกรมประโยค
แม้ว่าสรรพนามดังกล่าวจะไม่ปรากฏในภาษาไทย งานวิจัยนี้ยังพบว่าผู้เรียนได้เรียนรู้คูณานุกรมประโยคชนิดที่ปรากฏ
ท้ายประโยคหลักก่อนคูณานุกรมประโยคชนิดที่ปรากฏแทรกตรงกลางประโยคหลัก ผลดังกล่าวสอดคล้องกับแนวคิด
ของสมมติฐานความยากต่อการรับรู้ ในส่วนของการเรียนรู้ตัวบ่งชี้คูณานุกรมประโยคพบว่า that เป็นตัวบ่งชี้ตัวแรก
ที่ผู้เรียนเรียนรู้ได้ในขณะที่ whose เป็นตัวบ่งชี้สุดท้ายที่เรียนรู้ได้ ผลการวิจัยยังพบว่าปัญหาของผู้เรียนในการ
เรียนคูณานุกรมประโยคภาษาอังกฤษมีสาเหตุมาจากการถ่ายโอนจากภาษาที่หนึ่ง การถ่ายโอนจากการเรียน การสรุป
เกินการ และการหลีกเลี่ยง

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

สาขาวิชา ภาษาอังกฤษเป็นภาษานานาชาติ
ปีการศึกษา 2552

ลายมือชื่อนิสิค.....
ลายมือชื่ออ.ที่ปริกษาวิทยานิพนธ์หลัก.....

4989697120: MAJOR ENGLISH AS AN INTERNATIONAL LANGUAGE
 KEYWORDS: ENGLISH RELATIVE CLAUSES/ SECOND LANGUAGE
 ACQUISITION / INTERLANGUAGE

SUPAKORN PHOOCHAROENSIL: A STUDY OF ENGLISH RELATIVE
 CLAUSES IN THE INTERLANGUAGE OF THAI EFL LEARNERS.

THESIS ADVISOR: ASST. PROF. NIRADA SIMARGOOL, PH.D., 291 PP.

This study examined the English relative clause (ERC) in the interlanguage of Thai EFL learners. The participants in the study were recruited from first-year students at Thammasat University, divided into two groups according to their English proficiency in order for the researcher to clearly observe the interlanguage development of ERCs. The major research instruments used to elicit ERCs were a descriptive essay and a descriptive speaking task. The participants were also asked to translate Thai sentences comprising a relative clause into English. This translation task was considered a supplementary tool for an investigation of the participants' avoidance behavior. The data were quantitatively analyzed through both descriptive and inferential statistics. Qualitative analyses were conducted as well based on a framework which is a combination of the Noun Phrase Accessibility Hierarchy (NPAH) and the Perceptual Difficulty Hypothesis (PDH).

The findings of this research demonstrate that Thai EFL learners in both proficiency groups seemed to acquire ERCs in a similar way as other English learners from different L1 backgrounds. Thai learners of English apparently had an order of ERC-type acquisition which followed the prediction of the NPAH in that the subject relative was acquired first and prior to the direct-object relative, which was in turn acquired earlier than the object-of-preposition relative. The genitive relative appeared to be the last type which they acquired. Furthermore, they were found to produce resumptive pronouns although their native language as well as the target language disallows them. In addition to the NPAH, the learners' development of ERCs also seemingly conformed to the PDH since the acquisition of right-embedded ERCs obviously preceded that of center-embedded ERCs. With respect to relative marker acquisition in both groups of proficiency, *that* seemed to be acquired first, whereas *whose* was viewed as the last. The results also reveal that the learners' problems in learning ERCs are attributed to first-language and previous-training transfer, overgeneralization, and avoidance.

ศูนย์วิทยทรัพยากร
 จุฬาลงกรณ์มหาวิทยาลัย

Field of study: English as an international language
 Academic year: 2009

Student's signature: *Supakorn Phoocharoensil*
 Advisor's signature: *Nirada Simargool*

ACKNOWLEDGEMENTS

I would like to express the deepest appreciation to a great number of people who were of assistance in conducting this research. This dissertation would not have been brought to its completion without their considerable support. First and foremost, my thanks go to the Office of the Commission on Higher Education under the Ministry of Education, Thailand for the financial grant under the Program Strategic Scholarships for Frontier Research Network for the Doctoral Degree in Thailand.

I also wish to express my gratitude towards my advisor, Assistant Professor Dr. Nirada Simargool, whose useful academic guidance and endless patience enabled me to surmount all the tremendous and arduous obstacles arising during the process of undertaking the study. Her helpful suggestions proved utterly invaluable to me, driving me towards the goal of the Ph.D. study.

My sincere thanks go to the committee members as well, i.e. Assistant Professor Dr. Kulaporn Hiranburana, Assistant Professor Dr. Pavinee Thirakupt, Assistant Professor Dr. Suda Rangkupan, and Dr. Passapong Sripicharn. I am particularly indebted to Assistant Professor Dr. Pavinee Thirakupt for her unending understanding and friendliness to me. It was her who broadened my horizons in the world of interlanguage studies as well as how to effectively search for Internet-based interesting academic articles. My special thanks are also given to Assistant Professor Dr. Sudaporn Luksaneeyanawin, who introduced me to longitudinal and cross-sectional studies in second language acquisition, providing me with good opportunities to carry out trial empirical research in her courses. The knowledge she imparted to me really helped expedite the subsequent study process for my doctoral dissertation. Furthermore, I feel grateful to the other professors in the EIL Program, who have been truly dedicated to their instruction and students.

With respect to the quantitative analysis of the linguistic data, I do appreciate the beneficial advice regarding statistical calculation offered by Assistant Professor Dr. Chatpong Tangmanee. In addition, I wish to thank Miss Orawan Rodtadtan for her impressive effort in giving me a thorough explanation of the Chi-square test.

I am also highly thankful to my colleagues at the Language Institute of Thammasat University, who have invariably given me great moral support and encouragement. Of all these people, I would like to express my thanks to Associate Professor Spong Tangkiangsirisin and Ajarn Monthon Kanokpermpoon, who always cheered me up when I was confronted with hardship and exhaustion along the way of my Ph.D. study. I also wish to thank Assistant Professor Vilaivan Arunmanakul, from whom I obtained plenty of linguistics books and articles. Likewise, I need to express my appreciation to Ajarn Upsorn Tawilapakul, who, while doing her M. Phil at the University of Cambridge, enthusiastically assisted me in downloading a number of articles upon my request.

And last but not least, I would like to show my gratitude towards my beloved parents, without whom I would never have been able to be successful. As the most caring thoughtful parents I have ever seen in my life, they always provide me with all the best things to make me one of the happiest persons.

CONTENTS

Abstract (In Thai).....	iv
Abstract (In English).....	v
Acknowledgements.....	vi
Contents.....	vii
List of Tables.....	xii
Abbreviations.....	xiv
CHAPTER I: INTRODUCTION.....	1
1.1 Background of the study.....	1
1.2 Research questions.....	9
1.3 Objectives of the study.....	9
1.4 Statement of hypotheses.....	9
1.5 Scope of the study.....	10
1.5.1 Bound relative clauses.....	10
1.5.2 Relative clauses introduced by relative pronouns.....	13
1.5.3 Descriptive essays and descriptive speaking task.....	14
1.6 Limitations of the study.....	15
1.7 Definitions of terms.....	16
1.8 Significance of the study.....	19
CHAPTER II: REVIEW OF LITERATURE.....	21
2.1 Relative clauses in English and Thai.....	21
2.1.1 Definitions of relative clauses.....	21
2.1.2 English relative clauses.....	22
2.1.2.1 Relative markers in English.....	22
2.1.2.2 Grammatical functions of ERCs.....	23
2.1.2.3 Grammatical functions of relative pronouns.....	24
2.1.2.4 Discourse functions of relative pronouns.....	25
2.1.2.5 Restrictive and non-restrictive ERCs.....	28
2.1.3 Thai relative clauses.....	30
2.1.3.1 Relative markers in Thai.....	30
2.1.3.2 Grammatical functions of Thai RCs.....	32

2.1.3.3 Grammatical functions of relative pronouns in Thai.	33
2.1.3.4 Discourse functions of relative pronouns in Thai.....	34
2.1.3.5 Restrictive and non-restrictive RCs in Thai.....	36
2.1.3.6 The deletion of relative pronouns in Thai.....	38
2.1.3.7 Reduced RCs in Thai	39
2.2 Interlanguage	43
2.2.1 Origins of the concept of interlanguage.....	44
2.2.2 Defining interlanguage.....	46
2.2.3 Revised interlanguage hypothesis.....	48
2.2.4 Interlanguage hypothesis in relation to Universal Grammar.....	49
2.3 First and second language acquisition of ERCs.....	51
2.3.1 L2 RC acquisition theories supported by those in L1.....	52
2.3.1.1 The Perceptual Difficulty Hypothesis.....	52
2.3.1.2 The SO hierarchy hypothesis.....	55
2.3.2 L2 RC acquisition and language typology.....	63
2.3.2.1 Defining language typology.....	63
2.3.2.2 Language typology of relative clauses.....	65
2.3.2.2.1 The position of the head in relation to the restricting clause.....	66
2.3.2.2.2 Relativization strategies.....	68
2.3.2.2.3 Accessibility to relativization.....	73
2.3.3 L1 acquisition theories.....	78
2.3.3.1 The NVN-schema hypothesis.....	78
2.3.3.2 The parallel-function hypothesis.....	80
2.3.3.3 The conjoined-clause hypothesis.....	81
2.3.4 Other major issues in second language acquisition of RCs.....	82
2.3.4.1 Markedness.....	82
2.3.4.2 L1 transfer.....	86
2.3.4.3 Avoidance	89
2.3.4.4 The effect of instruction on ERC acquisition	95
2.3.4.5 Corpus-based studies on RCs	98
2.3.4.6 RCs in spoken language	106

CHAPTER 3: RESEARCH PROCEDURE.....	115
3.1 Population and sample	115
3.2 Research instruments.....	118
3.2.1 Descriptive essay.....	118
3.2.2 Descriptive speaking task	119
3.2.3 Translation task.....	120
3.2.4 Questionnaire.....	122
3.3 Data collection.....	123
3.4 Data analysis.....	124
3.4.1 Framework for data analysis.....	124
3.4.2 Classification of ERC types.....	129
3.4.3 Types of data analysis	131
 CHAPTER IV: FINDINGS AND DATA ANALYSIS.....	 134
4.1 Analysis of learners' ERCs.....	134
4.2 ERCs in the written data.....	138
4.2.1 High-proficiency learners' use of ERCs.....	138
4.2.1.1 ERC embedding	138
4.2.1.2 ERC types.....	141
4.2.1.3 Use of relative markers	143
4.2.1.4 Resumptive pronouns.....	145
4.2.1.5 Non-restrictive RCs.....	147
4.2.2 Low-proficiency learners' use of ERCs.....	150
4.2.2.1 ERC embedding	151
4.2.2.2 ERC types.....	152
4.2.2.3 Use of relative markers	153
4.2.2.4 Resumptive pronouns.....	155
4.2.2.5 Non-restrictive RCs.....	157
4.2.3 Comparison between high-and-low proficiency learners in writing.....	 160
4.3 ERCs in the spoken data.....	173
4.3.1 High-proficiency learners' use of ERCs.....	173
4.3.1.1 ERC embedding	174
4.3.1.2 ERC types.....	174

4.3.1.3 Use of relative markers	177
4.3.1.4 Resumptive pronouns.....	180
4.3.1.5 Non-restrictive RCs.....	182
4.3.2 Low-proficiency learners' use of ERCs.....	184
4.3.2.1 ERC embedding.....	184
4.3.2.2 ERC types.....	185
4.3.2.3 Use of relative markers	187
4.3.2.4 Resumptive pronouns.....	190
4.3.2.5 Non-restrictive RCs.....	192
4.3.3 Comparison between high-and-low proficiency learners in speech.....	193
 CHAPTER V: DISCUSSION OF THE FINDINGS.....	204
5.1 Acquisition stages of English relative clauses of Thai EFL learners.....	204
5.1.1 Acquisition of ERC types.....	204
5.1.2 Acquisition of ERC embedding.....	208
5.1.2.1 Right-embedded ERCs attached to a subject Complement.....	211
5.1.3 Acquisition of relative markers.....	213
5.1.3.1 <i>that</i>	213
5.1.3.2 <i>who</i>	215
5.1.3.3 <i>which</i>	217
5.1.3.4 <i>zero</i>	218
5.1.3.5 <i>whom</i>	219
5.1.3.6 <i>whose</i>	221
5.2 Universality and Second language acquisition.....	222
5.2.1 The Perceptual Difficulty Hypothesis (PDH).....	222
5.2.2 The Noun Phrase Accessibility Hierarchy (NPAH).....	223
5.2.3 Resumptive pronouns.....	224
5.3 Learning strategies and learners' problems.....	228
5.3.1 First language transfer.....	228
5.3.2 Avoidance.....	236
5.3.3 Transfer of training.....	241
5.3.4 Overgeneralization.....	242

CHAPTER VI: CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS.....	244
6.1 Major findings of the study.....	246
6.2 Recommendations for further research.....	254
6.3 Pedagogical implications of the study.....	256
REFERENCES.....	261
APPENDICES.....	277
Appendix 1: Questionnaire.....	278
Appendix 2: Translation task.....	282
Appendix 3: Sample lesson plans.....	283
BIOGRAPHY.....	291



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

LIST OF TABLES

Table 1: Distribution of relativizers in different sentence positions (high group)...	140
Table 2: Distribution of relativizers in center and right embedding (high group)...	140
Table 3: Distribution of RCs in different RC types (high group).....	141
Table 4: Distribution of resumptive pronouns in different sentence positions in writing (high group).....	145
Table 5: Distribution of NRCs in different sentence positions in writing (high group).....	148
Table 6: Distribution of relativizers in different sentence positions in writing (low group).....	150
Table 7: Distribution of relativizers in center and right embedding in writing (low group).....	151
Table 8: Distribution of RCs in different RC types in writing (low group).....	152
Table 9: Distribution of resumptive pronouns in different sentence positions in writing (low group).....	156
Table 10: Distribution of NRCs in different sentence positions in writing (low group).....	158
Table 11: Comparison between the proficiency groups of the use of ERC types from the written data.....	162
Table 12: Results of a Chi-square test on the relationship between ERC types and learners' proficiency from the written data	162
Table 13: Result of a Chi-square test of the relationship between relative markers and ERC embedding from the written data of the high group.....	166
Table 14: Result of a Chi-square test of the relationship between relative markers and ERC embedding from the written data of the low group.....	167
Table 15: Comparison of the use of relative pronouns and ERC embedding in the written essays by the high and low proficiency groups.....	167
Table 16: Distribution of relativizers in different sentence positions in speech (high group).....	173
Table 17: Distribution of relativizers in center and right embedding in speech (high group).....	173
Table 18: Distribution of RCs in different RC types in speech (high group).....	174

Table 19: Distribution of resumptive pronouns in different sentence positions in speech (high group).....	180
Table 20: Distribution of NRCs in different sentence positions in speech (high group).....	182
Table 21: Distribution of relativizers in different sentence positions in speech (low group).....	184
Table 22: Distribution of relativizers in center and right embedding in speech (low group).....	184
Table 23: Distribution of RCs in different RC types in speech (low group).....	185
Table 24: Distribution of resumptive pronouns in different sentence positions in speech (low group).....	190
Table 25: Distribution of NRCs in different sentence positions in speech (low group).....	192
Table 26: Comparison between the proficiency groups in the use of ERC types from the spoken data.....	195
Table 27: Results of a Chi-square test of the relationship between ERC types and learners' proficiency from the spoken data.....	195
Table 28: Result of a Chi-square test of the relationship between relative markers and ERC embedding from the spoken data of the high group.....	199
Table 29: Result of a Chi-square test of the relationship between relative markers and ERC embedding from the spoken data of the low group.....	199
Table 30: Comparison of the use of relative pronouns and ERC embedding in the spoken data by the high and low proficiency groups.....	199
Table 31: Percentage of learners' accuracy in the translation task.....	204
Table 32: Distribution of <i>who</i> in different RC positions in the written data.....	215
Table 33: Distribution of <i>who</i> in different RC positions in the spoken data.....	216
Table 34: Use of overt relative markers as a RC object with a human head in writing (high group).....	238
Table 35: Use of overt relative markers as a RC object with a human head in writing (low group).....	239
Table 36: Use of overt relative markers as a RC object with a human head in speech (high group).....	240

ABBREVIATIONS

DO	direct-object relative
EFL	English as a foreign language
ERC	English relative clause
ESL	English as a second language
GEN	genitive relative
IGH	The Implicational Generalization Hypothesis
IL	interlanguage
IO	indirect-object relative
L1	first language
L2	second language
NL	Native language
NP	noun phrase
NPAH	The Noun Phrase Accessibility Hierarchy
NRC	non-restrictive relative clause
OCOMP	object-of-comparison relative
OBL	oblique relative
OPREP	object-of-preposition relative
PDH	The Perceptual Difficulty Hypothesis
PP	prepositional phrase
RC	relative clause
RRC	restrictive relative clause
SC	subject complement
SLA	second language acquisition
SOHH	The Subject-Object Hierarchy Hypothesis
SU	subject relative
TL	target language
UG	Universal grammar
VP	verb phrase

CHAPTER 1

INTRODUCTION

1.1. Background of the study

Relative clauses (RCs) in English are adjectival postnominal modifiers, which often pose problems for learners not only in English as a second language (ESL) but also in English as a foreign language (EFL) contexts. Even those who have learned English for several years are found not to be able to fully master English relative clauses (ERCs), thus producing certain types of persistent errors in their speech as well as writing (Doughty, 1991, 2003). Celce-Murcia and Larsen-Freeman (1999), in discussing the work of Schachter (1974), identify three major aspects which probably cause troubles for second language learners when acquiring target RCs. The first and foremost aspect deals with the position in which the RC occurs in relation to the head noun, i.e. the noun being modified. For instance, learners whose native language is Japanese are accustomed to prenominal RCs, so they are inclined to have problems with the different branching in English. Second, how RCs are marked differs from one language to another. If the learners' first language (L1) marks RCs in a way different from English, they could be easily confused about learning how to mark RCs in English. Third, the presence or absence of a pronominal reflex¹ plays a significant role. In English, pronoun retention and the existence of a relative pronoun are mutually exclusive. This may cause difficulties for non-native speakers whose L1 has a pronominal reflex.

The position of RCs is a very important factor that influences the L2 acquisition of RCs. ERCs are right-branching. This means RCs follow their head

¹ A pronominal reflex or a resumptive pronoun is a pronoun used after a noun to refer to that noun (Gass and Selinker, 2001), e.g. the pronoun *her* in "He cannot remember the lady whom he danced with *her* the other night."

nouns in English. This is also true of most RCs in European languages such as French, German, Spanish, etc. Not all languages, however, adhere to this syntactic structure. Some Eastern languages like Japanese, Chinese, and Korean require that the RC precede the head noun. Not surprisingly, a number of studies have revealed that English learners who are native speakers of these Eastern languages really have a problem in processing this ordering difference (Yip & Matthews, 2000, 2006; Ozeki & Shirai, 2007; Jeon & Kim, 2007).

Another problem involves the way RCs are marked. Different languages mark RCs differently. For English, relative pronouns, e.g. *who*, *whom*, *which*, are used to mark ERCs. Different relative pronouns are used depending on the preceding head noun. For instance, the relative pronoun *who* is applied when the head noun is human, whereas *which* is obligatory for a non-human head noun (Master, 1996). Some other languages, such as Persian, Arabic, French, also employ similar markers between the head noun and the RC (Comrie, 1989). These speakers are therefore likely not to have much difficulty using the markers in English. In other words, to these speakers, the concept of marking an ERC with a relative pronoun should not cause undue hardship in learning ERCs (Cook, 1993).

In contrast, speakers of some other languages mark RCs in a different manner. According to Yabuki-Soh (2007), Japanese, for example, does not have an overt marker like a relative pronoun. Instead, it uses particles in the RC itself to mark its function. For this reason, Japanese learners of English may require additional practice with English relative pronouns so that they will become comfortable in using RCs in English.

The other area of difficulty proposed by Celce-Murcia and Larsen-Freeman (1999) lies in the existence of a pronominal reflex. In English the relative pronoun substitutes for the identical noun/NP in the embedded clause.

- (1) Brian came across *the girl_i whom_i he admired t_i*.

For instance, in (1) the relative pronoun *whom* is equal to and replaces the NP *the girl* at the end of the embedded clause. It is then moved upwards to mark the RC and link this RC to the preceding proposition, leaving its trace (t) behind (Letourneau, 2001). Here the subscripted _i indicates coindexation. This means all the elements marked with _i have the same reference. However, ungrammaticality will come up if the NP *the girl* is retained as in (2).

- (2) * Brian came across the girl_i whom_i he admired *the girl_i*.

This NP is sometimes retained in a form of a pronominal reflex as in (3).

- (3) * Brian came across the girl_i whom_i he admired *her_i*.

Although such pronoun retention is not permitted in standard English, it is common in many languages, e.g. Welsh, Hebrew, Persian. Also resumptive pronouns or pronominal reflexes are extensively used in some Romance languages, e.g. French, Italian, Spanish, and even in some non-standard dialectal varieties of English (Comrie, 1989). This is why some English learners natively speaking these languages or dialects are prone to the use of pronoun retention in their ERCs.

In the study of second language acquisition (SLA) of RCs, language universals also come into play. Typological universals are claimed to affect the development of learners' RCs. The universals in question are implicational in the sense that if a language has feature x, it will also have feature y (Greenberg, 1963). The most well-known typological universal regarding RC acquisition is *the Noun Phrase Accessibility Hierarchy* (NPAH) proposed by Keenan and Comrie (1977). The basic principle is that it is possible to predict the types of RCs in a language on the following hierarchy:

subject (SU) > direct object (DO) > indirect object (IO) > object of preposition/oblique (OPREP) > genitive (GEN) > object of comparison (OCOMP)²

Two claims are worth being discussed here. First, all languages have subject relative clauses. Second, predictions can be made such that if a language has a relative clause type x, then it will also have any relative clause type higher on the hierarchy or to the left of type x. For instance, since Thai is a language that allows relativization of indirect objects (IO), it also allows relativization of direct objects (DO) and subjects (SU) – the less marked types on the left of the hierarchy (Gass, 1980). However, the reverse is not true. If a language can relativize IO, it will not necessarily allow relativization of NPs on the more marked end of the hierarchy.

There have been further claims that the NPAH reflects the relative psychological ease of relativization. To put it in a nutshell, relativization at positions on the right or lower on the hierarchy is claimed to be more difficult to process than that at positions higher on the hierarchy (Comrie, 1989).

² > means 'more accessible or less difficult than'

A second important aspect of the NPAH is the implication concerning the use of resumptive pronouns or pronominal reflexes in RCs. Keenan and Comrie (1977) remark that pronoun retention is unmarked, while pronoun deletion is marked, as in English. There is an inverse relationship between the hierarchy and resumptive pronouns in such a way that resumptive pronouns are more likely to be used in the lower or more marked positions than in the higher ones in the hierarchy. The fact that in languages all over the world there are more speakers whose mother tongues allow resumptive pronouns indicates that the speakers can be expected to have problems in learning RCs in English (Celce-Murcia & Larsen-Freeman, 1999; Braidı, 1999)

Many studies on first language acquisition of ERCs have found support for the NPAH (e.g. Tavakolian, 1981; Romaine, 1984; Bates, Devescovi & D'Amico, 1999; Diessel & Tomasello, 2000, 2005). Likewise, much research on ERC second language acquisition have also supported the NPAH (e.g. Gass, 1979, 1980, 1982; Pavesi, 1986; Doughty, 1988, 1991; Hamilton, 1994; Izumi, 2000, 2003, 2004).

In spite of the fact that findings of a considerable amount of research seems to support the NPAH, there are also some researchers who report their findings against this hierarchy (e.g. Maxwell, 1979; Gass, 1979, 1980; Hamilton, 1995), presenting orders of difficulty and acquisition different from what the NPAH suggests. Many recent studies, furthermore, on L2 acquisition of East Asian languages, namely, Japanese, Chinese, and Korean, all of which have pronominal RCs, report findings against the NPAH. That is, the predictions of acquisition and difficulty order proposed in the NPAH do not hold true in these studies (e.g. Hsiao & Gibson, 2003, Hasegawa, 2005; Ozeki, 2005, Ozeki & Shirai, 2007; Yip & Matthews, 2006, 2007; Jeon & Kim, 2007). Thus, the NPAH, though well accepted in the RC acquisition of English and

many other European languages, should not be applied to the acquisition of RCs in East Asian languages, most of which have different linguistic aspects.

In addition to language universals, second language acquisition of ERCs is also influenced by learners' native language. According to Odlin (1989, 2005), first language transfer has more tendency to be observed in the interlanguage of low proficiency learners. With regard to ERC acquisition, Chiang (1981) discovered L1 interference in ESL Chinese learners' writing. Similarly, Chang (2004) also found in his study that the ERCs used by Chinese learners reflect some influence from their native language. That is to say, Chinese learners commit errors that seem to be caused by major differences between Chinese and English. First, a RC in Mandarin Chinese occurs to the left of the head noun, whereas that in English follows the head noun. Such difference in the ordering of RCs could lead Chinese learners to confusion when using ERCs.

Second, in Chinese, RCs are always marked by the invariable relative marker *de* (Lau, 2006). English, by contrast, has many relative pronouns, such as *who*, *whom*, *which*, and *whose*, and also the complementizer *that* serving as another relative marker. The difference in how to mark RCs in the two languages can explain the difficulty with which Chinese learners are confronted. The third difference concerns the presence or absence of a resumptive pronoun. This kind of pronoun is commonly found in Mandarin Chinese in all RC types except subject RC (Yip & Matthews, 2007). On the other hand, an existence of such a pronominal reflex is considered ungrammatical in standard English. It is probable that EFL/ESL Chinese learners will transfer pronoun retention in their L1 to their ERC acquisition.

Even though there have been several studies investigating ERC acquisition by learners of various L1 backgrounds (e.g. Gass, 1979, 1982; Pavesi, 1986; Hamilton,

1994, 1995; Izumi, 2003, 2004), research conducted with Thai learners is relatively rare. One of the very few studies was undertaken by Gass (1979), who examined the acquisition of ERCs by learners of nine different native languages, including Thai. She discovered that the unmarked positions in the NPAH are produced with more frequency and more accuracy than the marked ones. The study also revealed the use of resumptive pronouns by learners whose L1s allow them and even by those whose L1s prohibit pronoun retention. Thai learners are also found to produce pronominal reflexes although their native language does not allow them.

However, the above study only provides a broad overview of how L2 learners acquire RCs in English, focusing on two groups of participants: speakers of languages with pronoun retention and those without this feature. In this case, Thai is included in the latter together with French, Portuguese, Italian, Korean, and Japanese. The study places emphasis on reporting the overall findings from the two groups rather than paying attention to how learners from each L1 background acquire the ERCs.

Another study examining the use of English structures by Thai learners of English is Lekawatana et al (1969), which concentrated on a contrastive analysis of Thai and English. The research project indicated that RCs in English is among other complex structures that cause problems for Thai speakers. Nevertheless, this study did not pay attention to how the interlanguage ERCs of Thai learners of English was developed over time.

Satayatham and Honsa (2004) also studied Thai medical students' errors in writing. The participants were asked to translate sentences and a paragraph from Thai into English and to write an opinion paragraph in English on medical ethics. The error analysis showed that relative clauses in English seemed to trouble the students most in the sentence-level translation, followed by the paragraph-level translation and the

paragraph writing respectively. One of the significant errors is the overgeneralization of the relative pronoun *that* to non-restrictive RCs, as in (4), which leads to ungrammaticality in the target language.

(4) Bill, *that* had a great sense of unconventional morality...

(Satayatham and Honsa, 2004, p. 176)

As it is shown above that there has been almost no research to date that aims to investigate in depth the interlanguage of Thai learners of high and low proficiency in relation to the ERC acquisition, it was for this reason that the present study was carried out to do so. A cross-sectional study was conducted to compare and contrast the acquisition by a high-proficiency group and a low-proficiency one, coming up with the typical acquisition pattern of each group. The research methodology in the present study involved two major tasks: a descriptive essay and a descriptive speaking task. The former focused on eliciting written ERCs that the learners used, whereas the latter was intended to elicit spoken data of ERCs. The two tasks yielded substantial data, which would subsequently form a learner corpus. The spoken data of ERCs probably made this research project academically outstanding since few interlanguage studies on the ERC construction in relation to Thai learners have investigated oral ERCs.

It was found that the information from the Thai EFL learner corpus revealed their characteristics of ERC acquisition, many of which conformed to those of learners from other L1 backgrounds, while some exhibited special traits unique to Thai learners. The study also aimed at examining the common problems Thai learners had when dealing with ERCs. These problems, apparently, resulted from learning

strategies and first language transfer. The findings are expected to shed lights on the ERC acquisition by Thai as well as other EFL learners and help them surmount the difficulties found in their interlanguage development. Also the results would provide EFL teachers with a basis for ameliorating their instruction of ERCs.

1.2 Research questions

The research questions addressed in the study were:

- (1) What are the types of ERCs on the NPAH (Keenan & Comrie, 1977) used by Thai EFL learners?
- (2) What is the evidence of transfer found in the ERCs in Thai EFL learners' interlanguage?
- (3) What are the similarities and differences in the interlanguage of Thai EFL learners of high and low proficiency levels with respect to ERC acquisition?
- (4) What are the problems underlying the use of ERCs for Thai EFL learners?

1.3 Objectives of the study

The objectives of the study were:

- (1) To examine the ERCs used by Thai EFL learners.
- (2) To investigate the transfer in the ERCs used by Thai EFL learners.
- (3) To compare and contrast the interlanguage ERCs between Thai learners of high and low proficiency levels.
- (4) To identify and explain the problems of Thai EFL learners in using ERCs.

1.4 Statement of hypotheses

The formulated hypotheses were as follows:

Hypothesis 1:

The subject relative (SU) is the most common in the interlanguage of Thai EFL learners. Furthermore, the learners avoid using marked ERC types. Resumptive pronouns are also employed, especially in the marked types, to clarify the ERC meaning although these pronouns are allowed neither in the learners' native language nor in the target language.

Hypothesis 2:

Transfer facilitates and hampers the ERC acquisition of Thai EFL learners.

Hypothesis 3:

The ERCs produced by high-proficiency Thai EFL learners comprise more marked ERC types on the NPAH than those used by low-proficiency ones. Additionally, the learners with low level of proficiency produce more ERCs introduced by *that* and *who*, the salience of which is remarkable in English; furthermore, more resumptive pronouns are found in the interlanguage of low-proficiency learners.

Hypothesis 4:

The problems with which Thai EFL learners are faced are attributed to transfer, avoidance, and overgeneralization.

1.5 Scope of the study**1.5.1 Bound relative clauses**

The present research covered only bound relative clauses. According to Baker (1989), relative clauses are of two major types: *free relative clauses* (F-Rel) and *bound relative clauses* (B-Rel). A free relative clause does not have an antecedent right before it, as in (4).

(4) Karen ate [*what* Fred offered ___ to her].

(Baker, 1989, p. 165)

The function of the F-Rel in (4) is like that of a NP. That is, it serves as a direct object of the verb *ate*. Inside this F-Rel, there is a blank indicating the position of the missing noun phrase, which is equal to *what*. Apart from *what*, the only other two wh-words which can introduce free RCs are *where* and *when*. *Where* is joined to a sentence with either a missing locative phrase as in (5a) or a missing motion phrase as in (5b), while *when* is used to introduce a sentence with a missing time phrase as in (5c).

(5) a. Nathan put the money [*where* Billy told her to put it ___]

b. The admiral goes [*where* he wants to go ___]

c. The concert started [*when* the bell rang ___]

(Baker, 1989, p. 168)

Another requirement for an occurrence of a F-Rel is that it needs to be in a finite clause. Although (6a) and (6b) are similar in meaning, only the bracketed structure in (6a) is considered a F-Rel since its relative structure is finite.

- (6) a. Jacob always knows [*what* he should wear ___].
 b. Jacob always knows [*what* to wear ___].

(Baker, 1989, p. 169)

In contrast, the bracketed structure in (6b) is just an indirect question, not a F-Rel, because it contains an infinitival phrase.

It should be noted that the previously discussed constructions are specifically called *definite free relative clauses*. The other subcategory of F-Rels is an *indefinite F-Rel*, which always has the suffix *-ever* attached to the wh-word, e.g. *whatever*, *whichever*, *whoever*, etc. Here (7a)-(7c) are examples of indefinite F-Rels.

- (7) a. Fred will say [*whatever* you tell hm to say ___].
 b. Keith will read [*whichever* book you leave ___ for him].
 c. Rhoda dances with [*whoever* ___ asks her to dance].

(Baker, 1989, p. 170)

The present study, however, did not deal with free relative clauses. Rather, it aimed to investigate the other type of RCs defined by Baker (1989) as bound relative clauses (B-Rels). A B-Rel refers to and modifies the antecedent that precedes it. This kind of RC can be introduced by three types of element: *wh-words* as in (8a), *that* as in (8b), and *zero or nothing* as in (8c).

- (8) a. The journalists [*who* ___ exposed the fraud] are being sued.

(Baker, 1989, p. 236)

b. We read the article [*that* Smith recommended ____].

(Baker, 1989, p. 235)

c. The problem [ϕ you told us about ____] has been resolved.

(Baker, 1989, p. 235)

These three examples, (8a)-(8c), also show that B-Rels, like F-Rels, also have missing NPs inside. Additionally, the relative structure of B-Rels must be finite as well. B-Rels, as opposed to F-Rels are in fact what people in general refer to as relative clauses or adjective clauses modifying their preceding heads. For this reason, when this study mentions the term *relative clause*, it always refers to a bound relative clause.

1.5.2 Relative clauses introduced by relative pronouns

English relative clauses can begin with two main types of relative words: *relative pronouns* and *relative adverbs*. A relative pronoun is defined as a pronoun that links a RC to the head being modified (Richards, 2002). A relative pronoun, in addition, is coreferential with the particular head which the ERC modifies (Master, 1996). English has five relative pronouns, i.e. *who*, *which*, *whom*, *whose*, and *that*, to be thoroughly discussed with examples in 2.1.2.1.

It is also found that nouns denoting a place, a time, or a purpose can be followed by OPREP (object-of-preposition) RCs, as illustrated in (9).

(9) a. That's the gas station *at which* I am working now.

- b. How well I remember the day *on which* he was born.
- c. I have forgotten the reason *for which* the trust fund was established.

(adapted from Cowan, 2008, p. 434)

The combinations of the preposition and the relative pronoun *which* in (9a), (9b), and (9c) can be replaced by *where*, *when*, and *why* respectively, as shown in (10).

- (10) a. That's the gas station *where* I am working now.
- b. How well I remember the day *when* he was born.
- c. I have forgotten the reason *why* the trust fund was established.

(adapted from Cowan, 2008, p. 435)

In (10), the wh-word relative markers, referred to as relative adverbs, fulfil adverbial functions. That is, they modify the verb phrases within the RCs. In (10a), the relative adverb *where* modifies the verb phrase *am working*. Likewise, the relative adverbs *when* in (10b) modifies the verb phrase *was born*, whereas *why* in (10c) modifies the verb phrase *was established*.

The RCs which relative adverbs introduce are known as *adverbial relative clauses*. Relative adverbs differ from relative pronouns in that while the functions of relative pronouns in RCs are like those of nouns in general (e.g. a subject, a direct object, an indirect object, or an object of preposition), relative adverbs, used to reinforce the meaning of the preceding head, cannot have these functions within RCs (Crystal, 2004). Rather, relative adverbs modify the following verb phrases in the RC.

It is worth noticing that, regarding ERCs, such adverbial functions are unique to relative adverbs as opposed to relative pronouns (Cowan, 2008).

1.5.3 Descriptive essays and descriptive speaking task

The type of writing used to elicit data from the participants was a descriptive one. As experimented by plenty of researchers (e.g. Gass, 1979; Doughty, 1991; Sadighi, 1994; Sakamoto & Kubota, 2000; Izumi, 2003; Chiang, 2004; Yip & Matthews, 2007), this sort of writing, in comparison with others, is the most capable of making learners come up with RCs. In writing descriptive essays, the participants were supposed to define, modify, or identify someone or something, so they should find it useful to incorporate RCs in their work. Furthermore, in the present study, a survey was also made to find out which type of writing could elicit the highest number of RCs (to be discussed in 3.2.1). The result was in line with the previous studies'. That is, the RCs used in descriptive essays selected from online English articles outnumber those in narrative and argumentative ones. This should confirm the idea that descriptive writing is the most appropriate tool for the present study of ERCs (see more details in 3.2.1).

Apart from the writing task, a speaking task was also used in the present study. The type of speaking task used in eliciting data from the participants was descriptive in nature. The topics controlled and assigned in the study corresponded to those used for descriptive writing so that as many ERCS as possible would be elicited. Assigning the same topics for the writing and the speaking tasks should facilitate the participants in the sense that they would be familiar with the topics they had written and then capable of talking about such topics with less difficulty. Details of the speaking task will be supplied in 3.2.2.

1.6. Limitations of the study

Even though the present study aimed at investigating the use of ERCs by Thai learners and providing a clearer picture of their ERC acquisition, there are some limitations as follows:

1.6.1 Because in the present study the data were collected from the learner corpus derived from the descriptive essays and stories about which the learners could write and speak freely with no worry about being assessed, it was highly probable that they would use the ERC types to which they were most accustomed, e.g. the subject relative, which is the most basic and least marked. Extremely marked types were hardly found. In other words, using descriptive writing and speaking tasks, which were aimed at eliciting naturally-occurring linguistic data of ERCs, might not have reflected the learners' entire knowledge of ERCs. Only the RC types they were used to showed up, while more marked types tended to be avoided.

1.6.2. With respect to the descriptive essays, the participants were allowed two-week time to produce each of their work outside class. This means they could consult dictionaries or others to improve the quality of their writing. Probably their production of ERCs might not represent entirely spontaneous language use as they had time to reconsider and revise their essays before submission.

1.7. Definition of terms

1.7.1 English as a foreign language (EFL)

Learning EFL refers to English language learning in a country where the population does not speak English as the mother tongue, and where learners have few

opportunities to use English outside the classroom. English is not an official language, nor is it used widely for communication among the people in the country. An EFL situation is common in a country where there is only one official language, such as Thailand, Japan, or Korea. Therefore, in this study, Thai learners are considered EFL learners.

1.7.2 First language acquisition

The term *first language acquisition*, sometimes known as *child language acquisition*, is the process of learning and development of a person's native language. In first language acquisition, children are claimed to subconsciously develop the rules of their mother tongue by being exposed to examples of the language and by using the language for communication.

1.7.3 Second language acquisition

The term *second language acquisition*, referred to in plenty of research as *SLA* or *L2 acquisition*, is the process by which one develops proficiency in a second or foreign language. It is acquisition of another language after the first or native language has been acquired. In this study, L2 acquisition refers to Thai learners' acquisition of the English language.

1.7.4 Interlanguage (IL)

In this study, the term *interlanguage* refers to the linguistic system evidenced when adult L2 or foreign language learners try to express meanings in the target language (Selinker, 1992). It is the system created by the learners during their L2 learning, and this system is clearly different from both the learners' native language (NL) and the target language (TL) being learned. However, IL is linked to both NL

and TL by interlingual identifications in the perception of the learners. According to Corder (1981), the interlanguage rules, which merge from the stage of development of the learners, can be changed over time as the learners continuously revise them in their learning process.

1.7.5 English relative clause (ERC)

An English relative clause is defined as a subordinate or dependent clause that modifies a preceding noun within a noun phrase in the main clause. A relative clause is introduced and linked to the head noun, known as an antecedent, by a relative pronoun, such as *who* and *which* and the complementizer *that* (Cook, 1993). The relative pronoun can function differently in the RCs, such as subject, direct object, indirect object, etc. RCs are usually placed in subject or object positions (Swan, 2005). In the present study, the terms *relative pronoun*, *relative marker*, *relative word*, and *relativizer* are interchangeably used.

1.7.6 Resumptive pronoun

A *resumptive pronoun* is a pronoun occupying the position that the NP replaced by the relative pronoun had before it was moved to the beginning of the RC (Cowan, 2008). For example, the pronoun *it* in “Usually they give you a thing that you don’t want *it*.” (adapted from Cowan, 2008, p. 426) is a resumptive pronoun, which is coreferential with the head *a thing* and the relative pronoun *that*. In the current study, the term *resumptive pronoun* is interchangeable with *resumptive*, *pronominal reflex*, *pronoun copy*, and *pronominal copy*. In addition, the abstract noun referring to using resumptive pronouns is known as *pronoun retention*.

1.7.7 Marked and unmarked features

In languages around the world, some linguistic features are marked, whereas certain others are considered unmarked. *Unmarked features* are more common, basic, and frequent than those referred to as *marked features*, which are rare, unnatural, and difficult to acquire (Richards, 2002). In second language acquisition of RCs, an example of an unmarked feature is a subject relative (SU), which is found in every language and easy to acquire. By contrast, an object of comparison (OCOMP) is an example of a marked feature since it occurs only in some languages and is much more difficult to acquire than SU.

1.8. Significance of the study

The present study is significant for the following reasons:

1.8.1 There has been no study to date that examines in a thorough manner the ERC acquisition by Thai learners of high and low proficiency. Although Gass (1979) included Thais as her subjects of her study, she only presented her findings regarding the acquisition of L2 learners in general. It did not discuss in detail the characteristics of the acquisition by learners whose L1 is Thai. Neither did it show and fully analyze the arising problems pestering Thai learners. The present study therefore aimed to bridge these gaps. It was expected to investigate how native speakers of Thai acquired ERCs and how they used ERCs in authentic contexts such as descriptive writing and speaking. Additionally, the study demonstrated a list of real problems occurring in Thai EFL learners' interlanguage, providing explanations for the major sources of errors and avoidance.

By far no study has been carried out to explore the acquisition of ERCs by Thai learners with high proficiency in comparison with low-proficiency ones. Chang (2004) observed that Chinese learners differing in English-proficiency levels exhibited different ways of ERC acquisition. According to Liu (1998), who studied the ERCs produced by low-proficiency learners, L1 interference was perspicuous and accounted for several errors. By contrast, Chiang (1981) and Yip and Matthews (1991) reported different findings that their advanced learners' ERC acquisition corresponded to the universals that account for other L2 learners' acquisition. Little L1 evidence was observed.

However, the above observation was made across studies. There has probably been no single research work that compares and contrasts in depth the ERC acquisition by Thai EFL learners of different proficiency levels. This was why the present study was aimed at examining such ERC acquisition by high and low proficiency learners whose L1 is Thai. It is hoped that the findings of the study will really benefit English teachers in Thailand, who need to know how differently high and low proficiency learners acquire ERCs. With the findings of the present study, they can prepare their lessons or materials which best suit each type of learners.

1.8.2 Not only does the present study reveal the acquisition of ERCs by Thai learners, but it also helps pinpoint the major problems that confront them in learning the RC system in English. The errors found in the learners' speech are real problems which teachers should take into consideration in ERC instruction. Once they are aware of what the real problems look like, they should be more capable of focusing on coping with these problems and finding the best exercises or some other solutions to enhance their students' linguistic competence in relation to ERC.

CHAPTER 2

REVIEW OF LITERATURE

In the previous studies on L2 ERC acquisition, there were attempts to identify the causes of problems L2 learners have. It has been claimed that such difficulty is created as a result of the followings. First, the degree of markedness of RC types proposed in the NPAH (Keenan & Comrie, 1977) determines the degree of difficulty of each RC type. Second, the center-embedded RC is said to be more difficult for learners to comprehend and use than the right-embedded one (Kuno, 1974). Third, transfer of some linguistic features or properties of learner's L1 also plays a role in leading learners to commit some kinds of errors.

In order to clearly understand the SLA of ERCs, it is advisable that the first language counterpart be taken into account as well. Furthermore, the RC systems in Thai and English should also be discussed in detail. The interlanguage concept is important to be reviewed as well. In short, the literature review will be divided into three major parts:

- i. Relative clauses in English and Thai
- ii. Interlanguage
- iii. First and second language acquisition of English relative clauses

2.1 Relative clauses in English and Thai

2.1.1 Definition of relative clauses

A *relative clause* (RC) is a subordinate or dependent clause which modifies a noun, a noun phrase (NP), and a pronoun. In English and Thai, relative clauses follow

the head noun or head NP they modify. Because of this noun or NP modification function, relative clauses are sometimes known as adjective clauses (Letourneau, 2001). Occasionally a RC can also modify a sentence that precedes it (see more details in 2.1.2.4). RCs in English and Thai are introduced by *a relative pronoun* which helps link them to the main or matrix clause.

2.1.2 English relative clauses

2.1.2.1 Relative markers in English

A relative marker or relativizer is an element that introduces and links a relative clause to a main clause. There are eight relative markers in English: *who*, *whom*, *which*, *whose*, *where*, *when*, *why*, and *that* (Richards, 2002).

Specifically, English relativizers are of two types:

- (11) *Relative pronouns: who, whom, which, whose, and that*
- a. A man *who* is concerned about global warming is doing his research in Poland.
 - b. The students *whom* he met yesterday attend Durham University.
 - c. The dog *which* is sleeping near me belongs to Alex.
 - d. I know the boy *whose* bicycle was stolen.
 - e. *Angels and Demons* was a book *that* aroused considerable interest many years ago.

Who and *whom* are the relative pronouns for persons, whereas *which* and *that* are used for things and animals. Still, *that* can be used to refer to persons as well in impersonal contexts such as definitions as in “A geologist is a person *that* studies the

composition of the earth.” (Master, 1996). Compared to *who*, the use of *that* sounds less formal (Azar, 2003). As for *whose*, it is the possessive relative determiner for persons as well as things (Swan, 2005).

(12) *Relative adverbs: where, when, and why*

- a. The building *where* she lives is very old.
- b. I cannot forget the day *when* I first met him.
- c. I understand the reason *why* Sarah came to Bangkok.

Where, when, and why are relative adverbs referring to a place, time, and a reason respectively. As mentioned earlier, relative adverbs were excluded from the present study. Only relative pronouns were investigated in detail.

2.1.2.2 Grammatical functions of ERCs

ERCs bear the same range of grammatical functions as ordinary NPs. When they are combined with the head noun or head NP, their resulting functions are as follows:

(13) *Subjects*

- a. [S The students who won the scholarship S] attend Durham University.

Direct objects

- b. The professor introduced [DO his teaching assistant whom I had not known before DO].

Indirect objects

c. She lent [IO her friend whom she loves IO] a camera.

Objects of preposition/Obliques

d. The success of the project depends on [OPREP the strategies which are aimed at maximizing the company's profits OPREP].

Subjective complements

e. Our mother is [SC a woman who always smiles to everyone SC].

Objective complements

f. We elected him [OC the leader who would fight against the corruption of some Ministers OC].

2.1.2.3 Grammatical functions of English relative pronouns

Aside from the grammatical functions of the whole relative clause in the matrix clause, we can also examine the grammatical function of the relative pronoun within a RC. Relative pronouns in English can function differently. *Who* usually functions as a subject or object, whereas *whom* serves as an object. *Whose* is genitive. *Which* and *that* can be either a subject or an object (Swan, 2005).

(14) *Subject relative (SU)*

a. The person who is hired for this position is in a meeting until 4:30.

Direct object relative (DO)

- b. The candidate whom we hired for this position received her Ph.D. from a well-known university University.

Indirect object relative (IO)

- c. The author whom the committee had awarded the first prize was very proud.

Object-of-preposition relative (OPREP)

- d. The house which he lives in is very beautiful. (*less formal*)
 e. The house in which he lives is very beautiful. (*more formal*)

Genitive/ possessive relative (GEN)

- f. Rachel met the man whose house she wanted to buy.

Object-of-comparison relative (OCOMP)

- g. She is the woman whom Mary is taller than.

2.1.2.4 Discourse functions of English relative markers

As can be seen earlier, the choice of relative marker is grammatically determined by the role of the gap or trace, e.g. subject, direct object, or indirect object, in the RC. For instance, *whom* and the *zero* relativizer are used only with object gaps. In addition, the choice among relativizers is also influenced by discursal factors. Major discourse functions of English relative markers are listed below:

1. Elaboration

The relative pronoun *which* can help elaborate on the message in another preceding clause by giving more details or clarifying it in some way (Lock, 1996, p. 255). This function is specific to *non-restrictive relative clauses* (to be discussed in 2.1.2.5) only.

(15) I managed to get two A's and a B, which is not too bad, I reckon.

(Lock, 1996, p.255)

In (15), *which* refers to the whole preceding clause *I managed to get two A's and a B*. In this case, *which* functions as a sentential relative pronoun because it modifies and elaborates on another clause. Furthermore, *which* in this context always requires a singular verb form.

2. Linkage and RC marking

According to Sornhiran (1978), a relative marker can also serve as a linker which connects a RC to the antecedent. Meanwhile, it also functions as a RC marker indicating that the following clause is a RC.

(16) The teacher greeted the boy *who was reading a newspaper*.

In (16), *who* acts as a relative linker which connects the RC *who was reading a newspaper* to its head *the boy*. At the same time, this relative word helps mark the RC status of the embedded clause.

3. Register markers

Relative markers in English are used differently in different registers. From the outstanding corpus findings by Biber, Johansson, Leech, Conrad, and Finegan (1999), *who*, *which*, and *that* are the most common relativizers across registers, compared with the remaining five. The relative markers *which* and *that* are the most common overall; however, they have notably different distributions across registers. In academic prose, *which* occurs with the most frequency. *That* is also common though with less frequency than *which*. In news and fiction, *which* and *that* both occur as relativizers with moderately high frequencies. *Which* is more common than *that* in news, while *that* is more common than *which* in fiction. In conversation, *which* is comparatively rare, whereas *that* is moderately common.

The register distribution of *which* and *that* reflects the stylistic associations of these forms. The relative pronouns beginning with *wh-* are often considered more literate and appropriate to careful language. *That* has a more colloquial flavor and is preferred in conversation and contemporary fiction (Biber et al., 1999, p. 612).

It is also intriguing to find that, in addition to serving as a relative marker, *that* can also function as a demonstrative pronoun, a demonstrative determiner, and a complementizer. Thus, when the RC head is a demonstrative pronoun, e.g. *this*, *that*, *these*, or *those*, the relativizer *that* is strongly dispreferred since it would result in a sequence of two identical or like elements.

(17) I recognized a silence like *that which* pervades a church after a service.

(Biber et al, 1999, p.617)

In (17), *which* is more preferable than *that*. Likewise, RCs with an indefinite pronoun as head have a strong preference for *that*, as opposed to *which*, as in (18).

(18) It is just something *that* we can't do, I'm afraid. (Biber et al, 1999, p. 617)

Also it is equally common for RCs with indefinite pronouns as head to have a *zero* relative marker, as in (19).

(19) I'll give him anything \emptyset he wants now.

2.1.2.5 Restrictive and non-restrictive RCs

RCs in English are divided into two major types: *restrictive and non-restrictive relative clauses*. According to Letourneau (2001), restrictive relative clauses (RRCs) restrict the reference of the head NP through the information in the RC. RRCs are also known as *defining relative clauses* since they define or identify the head NP so as to differentiate it from other similar NPs. In this case, the head NP is usually indefinite (Master, 1996). RRCs are commonly found in definitions as in (20).

(20) A thermometer is an instrument *that measures temperature*.

(Master, 1996, p. 257)

In (20), the RRC *that measures temperature* serves to differentiate the instrument called a thermometer from other instruments, such as a speedometer, a television, a computer, and so forth. The most obvious indicator of a RRC is the fact that it has no commas. Moreover, the complementizer *that* can be used in RRCs but

never in the other type called *non-restrictive relative clauses*. Another important point defining RRCs is an omission of a relative pronoun used as an object in a relative clause as in (21).

(21) The couple really loved the boy *(whom) they adopted*.

Contrary to RRCs, non-restrictive relative clauses³ (NRCs), as the name implies, do not restrict the reference of the NP modified by them. They only supply extra information about that head NP whose referent is already known. Put differently, the head NP is definite. The meaning of a NRC could be clearer when contrasted with a similar RRC.

(22) My uncle *who lives in Texas* is a psychologist. (RRC)

(23) My uncle, *who lives in Texas*, is a psychologist. (NRC)

(22) implies that the speaker has at least two uncles. The one living in Texas is a psychologist. On the other hand, (23) implies that the speaker has only one uncle, who happens to live in Texas.

Interestingly, the head NP of a NRC is often a proper noun as in (24).

(24) *The Eiffel Tower*, which is the pride of Paris, was built in 1889.

Additionally, only *wh*-relativizers are permitted in NRCs; the use of *that* is never allowed in NRCs (Azar, 2003), as in (25).

³ They are also known as *non-defining relative clauses* (Master, 1996).

(25) **The Eiffel Tower, that is the pride of Paris, was built in 1889.*

Further, a relative pronoun functioning as an object in a NRC is obligatory. That is, it cannot be deleted as in (26).

(26) *All the children admire Ms Browns, \emptyset her husband is very proud of.

It is clearly seen that NRCs are always set off by a comma or commas (Eastwood, 2005). Furthermore, in a NRC, as discussed earlier in 2.1.2.4, the relative pronoun *which* can also refer to the whole preceding clause (Swan, 2005), as shown in (27).

(27) He got married again last year, *which shocked his children.*

Here *which* refers to the whole previous clause *He got married again last year.*

2.1.3 Thai Relative clauses

2.1.3.1 Relative markers in Thai

The most common and useful relative pronoun in Thai is *thîi*, which can be used to modify both animate and inanimate nouns in any function, while different pronouns in English are required according to particular types of head noun (human or non-human) and their functions (e.g. subject or object), as illustrated earlier (Suktrakul, 1975).

Apart from *thîi*, Thai also has other relative pronouns, such as *sỳη*. The relative pronoun *sỳη* is preferred for inanimate nouns or pronouns as in (28), though it can refer to any noun phrase. Not only does it occur in a formal or literary text, but it can also be used in everyday conversation (Iwasaki & Ingkaphirom, 2005).

- (28) khǎw sỳη waanjàu naj hǎw hǎajpaj
 Something which lay in room lost
 ‘Something that was laid in the room was lost.’

Additionally, *sỳη* can modify the whole preceding clause as in (29).

- (29) khǎw phaa dègdèg paj duu nǎη sỳη
 He take children to see movies which
 pen kaan dii mâag
 be consider good very
 ‘He took the children to the movies, which was considered very good.’

The relative marker *?an* generally refers to a noun phrase that is non-human. It is often used in written language (Suktrakul, 1975), as in (30).

- (30) khǎw hâj bødrian ?an miikhâa kèε chàn
 He give lesson which valuable to me
 ‘He gave me a lesson, which was valuable.’

2.1.3.2 Grammatical functions of Thai RCs

According to Chumnilokasant (1968) and Suktrakul (1975), while RCs in English have aforementioned six different functions, Thai RCs have only four functions, short of a subjective complement and an objective complement, as follows:

1. Modifying a subject

(31) /S + RC/ + V

/dèg thîi kamlaŋ ráb raanwan/ nâarág mâag

child who being get prize lovely very

‘The child, who is getting the prize, is very lovely.’

(Suktrakul, 1975, p. 96)

2. Modifying a direct object (DO)

(32) S + V + /DO + RC/

chăn kin /khanôm thîi khun hâj/ lêew

I eat sweets which you give already

‘I have already eaten the sweets, which you gave me.’

(Suktrakul, 1975, p. 100)

3. Modifying an indirect object (IO)

(33) S + V + DO + /IO + RC/

khruu ça cèeg raanwan /nâgrian thîi rian dii/

teacher will give prize student who study well

‘The teacher will give the prizes to the students who study well.’

(Suktrakul, 1975, p. 101)

4. Modifying an object of preposition (OPREP)

(34) S + V + /P + OPREP + RC/

nǎŋsǎy jùu bon /to? thii jùu troŋ mum-hôwŋ/
 book be on table which be at corner-room

‘The book is on the table, which is in the corner of the room.’

(Suktrakul, 1975, p. 102)

2.1.3.3 Grammatical functions of relative pronouns in Thai

According to Sornhira (1978), relative pronouns in Thai have grammatical functions as follows:

(35) *Subject*

nágrian thii maa sǎaj pen lûukchaaj khǎwŋchǎn
 student who come late be son my

‘The student who came late is my son’

(36) *Direct object*

nágrian thii chǎn chǎwŋb maa sǎaj
 student whom I like come late

‘The student whom I like came late.’

(37) *Indirect object*

nágrian thii chǎn hǎj dinsǎw jím kwâaŋ
 student whom I give pencil smile broad

‘The student whom I gave the book to smiled broadly.’

2.1.3.4 Discourse functions of Thai relative markers

Thai relative markers also have functions in the discourse level. The following functions are outlined based on the studies by Sornhiran (1978) and Suktrakul (1975).

1. Linkage and RC marking

Similar to those in English, relative markers in Thai, i.e. *thîi*, *sŷŋ*, and *ʔan*, all serve as invariant markers introducing the RC. Moreover, these markers link the following embedded clause, a RC, to the antecedent.

- (38) dèk thîi maa roŋrian sǎyy ...
 child REL come school late ...
 ‘The child who came to school late...’

In (38), the relative marker *thîi* introduces a RC, which is *thîi maa roŋrian sǎyy*, and it also connects this RC to its head *dèk* ‘child’.

2. Elaboration

The relativizer *sŷŋ* can give more details or information regarding the previous clause (Suktrakul, 1975). In this way, *sŷŋ*, like *which* in English, refers to the whole preceding clause.

- (39) khǎw phaa dèkdèk pajduu naŋ sŷŋ thamhây
 He take children go see movie which make

chǎn phoojay

me pleased

‘He took the children to the movie, which pleased me.’

In (39), *sỳη* refers to the whole previous clause *khǎw phaa dèkdèk pajduu naη*, connecting this to the proposition of the RC.

3. Stylistic markers

Sornhiran (1978) suggests that the differences in the use among *thii*, *sỳη*, and *ʔan* are matters of style rather than syntax. Precisely, these differences depend on the degree of the formality of context. That is, *thii* is generally used in all contexts, especially in conversation; *sỳη*, usually occurs in more formal situations, such as general writing, formal speech, or in situations where emphasis is needed. As for *ʔan*, it conveys a formal tone and is often used in highly formal writing like religious texts or formal speech.

(40) dèk *thii / sỳη* chǎn líaη maa.....

child REL I bring up come.....

‘The child that I brought up ...’

(Sornhiran, 1978, p. 177)

(41) phét *thii/ sỳη/ ʔan* mii khâa mahãasãan

diamond REL have value tremendous

‘the diamond that has tremendous value...’

(Sornhiran, 1978, p. 177)

It seems that *ʔan* is not supposed to be used in an informal context as in (40), while *thîi*, *s̄yŋ*, and *ʔan* can all be employed in a formal context like (41).

Moreover, it is discovered that *s̄yŋ* is usually selected when the antecedent is a proper name, as in (42).

(42) nóp s̄yŋ pen hǔanâahôŋ...

Nop REL be class leader...

‘Nop, who is the class leader...’

(Sornhiran, 1978, p. 177)

All things considered, discourse functions represented by Thai relative markers are similar to those in English, especially in elaboration, linkage, and RC marking. Nevertheless, English relative markers are differently used in different registers, while Thai relative markers do have stylistically different uses.

2.1.3.5 Restrictive and non-restrictive RCs in Thai

Suktrakul (1975) suggests that in general non-restrictive relative clauses (NRCs) in Thai occur more often than restrictive relative clauses (RRCs). As can be seen earlier, the differences between RRCs and NRCs in English lie in the fact that NRCs in written language are set off by comma(s) from its head noun. Also either the use of the complementizer *that* or an omission of any relative marker is never allowed. Furthermore, English NRCs are distinguished by a pause in speech. In contrast, RRCs are not used with commas, and it is possible to use *that*. Moreover, a relative pronoun functioning as an object can be omitted.

However, According to Suktrakul (1975), in Thai, RRCs and NRCs differ in that in RRCs a noun classifier is usually added so as to place emphasis on the preceding noun, pronoun, or noun phrase. Examples of RRCs and NRCs are given below.

RRC (43) dègphûujin **khon** thii maa myâwaannii pen
 girl (classifier) who come yesterday be
 phîisăaw khǎwchăn
 elder sister my

‘The girl who came yesterday is my elder sister.’

(Suktrakul, 1975, p. 106)

RRC (44) pàagka **dâam** thii jùu bon tó?
 pen (classifier) which be on desk
 pen khǎwchăn
 be my

‘The pen which is on the desk is mine.’

(Suktrakul, 1975, p. 107)

NRC (45) maalii thii maa myâwaannii pen
 Malee who come yesterday be
 phîisăaw khǎwchăn
 elder sister my

‘Malee, who came yesterday, is my elder sister.’

(Suktrakul, 1975, p. 108)

NRC (46) pàagka thîi jùu bon tó?
 pen which be on desk
 pen khǒwchǎn
 be my

‘The pen, which is on the desk, is mine.’

(Suktrakul, 1975, p. 108)

2.1.3.6 Deletion of Relative Pronouns in Thai

While a relative pronoun in English can be omitted when it functions as an object of an RRC, a relative pronoun in Thai can usually be left out in a NRC. The relative pronoun deletion applies to only three kinds of RCs. As for the NRC which comprises a proper noun as a head noun and a relative clause containing a relative pronoun + *pen* ‘be’ + NP, it is found that the relative pronoun together with *be* can be omitted (Sornhiran, 1978).

(47) sùdaa (thîi pen) lûugsáaw naaj mii cà paj
 Suda (who be) daughter Mr. Mee will go
 kruŋtêep
 Bangkok

‘Suda, who is Mr. Mee’s daughter, will go to Bangkok.’

In (47), the relative pronoun *thii* and *pen* ‘be’ together can be deleted, but an omission of either element is not grammatical. This is similar to *whiz-deletion* in English, a rule that allows an omission of both a *wh*-relativizer and *be* in a RC, as in (48), (Letourneau, 2001, p. 331).

(48) A person (who is) in your position can’t afford to negotiate aggressively.

(Letourneau, 2001, p.331)

2.1.3.7 Reduced RCs in Thai

The concept of reduced relative clauses has been discussed in a number of works on Thai RCs. Basically, reduced RCs as in (49) are equal in meaning to RCs with relativizers as in (50).

(49) khon dii
 person good
 ‘a good person’

(50) khon thii dii
 person that good
 ‘a person that is good’

According to Savetamalya (1989, 1996), a reduced RC, labeled in her work as a verbal RC, is identified by two major syntactic characteristics. First, it immediately follows its head. Second, it contains a missing NP that is coreferential with the head.

In (51), there is a missing subject NP in the reduced RCs *rák rôt*, and it modifies the preceding noun *khon*.

- (51) *khon rák rôt*
 person love car
 ‘a person who loves cars’ (Savetamalya, 1996, p. 634)

Savetamalya (1989) also suggests that reduced RCs in Thai cannot modify pronouns or proper nouns.

- (52) **chǎn chōp thəə [sǔay]*
 I like you beautiful
 (53) * *chǎn chōp púk [sǔay]*
 I like Puk beautiful
 (Savetamalya, 1989, p. 75)

(52) is ungrammatical since the reduced RCs *sǔay* is used to modify the pronoun *thəə*. In (53), the reduced RC *sǔay* modifying the proper noun *púk* causes ungrammaticality as well.

Kuno and Wongkhomthong (1981) propose two semantic characteristics of reduced Thai RCs. First, they are compositional in meaning. That is, the meaning of reduced RCs can be predicted from their elements, while the meaning of compound nouns, which are very similar in form to reduced RCs, cannot. For instance, the

meaning of the reduced RC in (51) is ‘a person who loves cars’, whereas *khon-khàp-rót*, which is a compound noun, refers to ‘a driver’ rather than ‘a person who drives a car’. The second semantic characteristic lies in the fact that reduced RCs as in (54) give general description, general characterization, or general evaluation to its head. In contrast, RCs with relativizers as in (55) provide the head with personal judgement or evaluation.

- (54) khon [phûut phaasǎa ʔaŋkrít kèŋ] mák cà pen khon
 person speak language English well frequently be person
 hǔa-dii
 head-good
 ‘A person who (people in general think) speaks English well is frequently clever.’

(Kuno & Wongkhomthong, 1981, p. 215)

- (55) míawaanníi phǎm cǎə khon [thíi phûut phaasǎa ʔaŋkrít
 yesterday I meet person REL speak language English
 kèŋ]
 well
 ‘Yesterday I met a person who (I think) speaks English well.’

(Kuno & Wongkhomthong, 1981, p. 215)

Prasithratsint (2000) also proposes another semantic characteristic of a reduced RC in Thai. A reduced RC is employed when the concepts expressed by the

head and the RC are semantically related, while a RC with a relativizer is used when the two concepts are distant.

- (56) *phrá?* [dii] mii mâak tɛɛ coon [thîi dii] mii nóɔy
 monk good have many but thief REL good have few
 ‘There are many good monks but few good thieves.’

(Prasithratsint, 2000, p. 260)

In (56), the concept of the head *phrá?* ‘monk’ is essentially positive and its concept is semantically close to the verb *dii* ‘good’ in the RC. Thus, a reduced RC is used here. On the other hand, the concept of the head *coon* ‘thief’ is typically negative and distant from the meaning of *dii*, so an ordinary RC with a relativizer is selected.

Another observation on semantic characteristics of reduced RCs is made by Kullavanijaya (2006), who remarks that the head modified by a reduced RC is indefinite, but that modified by a RC with a relativizer is definite. In (55), the head *khon* ‘person’ is definite since the referent of the head is already presupposed in the speaker’s thought. Therefore, a normal RC with a relative marker is used. However, in (54), the speaker has no particular referent in his/her mind, so a reduced RC is suitable in this context.

Yaowapat and Prasithratsint (2006) also argue that the noun modifier *dii* ‘good’ in the construction *khon dii* in (49) is considered a RC known as a reduced RC, which is introduced by a verb and there appears no relativizer in this type of RC. It is regarded as a RC because it shares three universal characteristics of RCs in general. First of all, it follows the head which it modifies. In (49), *dii* follows the head *khon*. Second, the reduced RC, as in (49), contains a gap coreferential with the modified

noun, where the gap is in the subject position like the head. Third, the coreferential gap can function as subject, direct object, oblique, or possessor.

Nevertheless, reduced RCs differ syntactically from normal RCs in three principal ways. First, a reduced RC begins with a verb, e.g. the verb *rák* in the reduced RC *rák rót* in (51), repeated here for convenience, while a normal RC is introduced by a relativizer.

- (51) *khon rák rót*
 person love car
 ‘a person who loves cars’ (Savetamalya, 1996, p. 634)

The second difference is a reduced RC always has to be placed adjacent to the head. In (51), the reduced RC *rák rót* appears next to the head *khon*. In contrast, a normal RC and its head can sometimes be separated by some elements such as the prepositional phrase *nai bâan* ‘inside house’ in the RC *khon nai bâan thii rák rót* ‘a person in the house who loves cars’. This prepositional phrase occurs between the head *khon* and the reduced RC *thii rák rót*. Finally, unlike a normal RC, a reduced RC can never have a coreferential gap functioning as an indirect object.

2.2 Interlanguage (IL)

The term *interlanguage* was coined by Larry Selinker (1972) to refer to the linguistic system evidenced when adult second-language learners make an attempt to express meanings in the language being learned or the target language. The interlanguage is regarded as a separate linguistic system which is different from both

the learners' NL and the TL, yet this system is somehow linked to the NL and the TL by interlingual identifications in the perception of the learners (Tarone, 2006).

2.2.1 Origins of the concept of interlanguage

Before the introduction of the notion of interlanguage, *Contrastive Analysis* (CA) had gained a lot of popularity among language researchers and linguists. According to Lado (1957), both similarities and differences between NL and TL are very important for second language acquisition in that such similarities are believed to facilitate learners' TL acquisition. If NL and TL share some similar linguistic features, then it should be easy for learners to master those features in TL as a result of positive transfer from NL. On the other hand, when NL and TL are very much different, learners are expected to have difficulty in acquiring TL. Due to the differences between NL and TL, CA is claimed to have its predictive power. In other words, it is said to be able to predict the area of difficulty or problems that could arise in TL learning (Ellis, 1987).

However, many scholars began to question the predictability of CA as they had often noticed its flaws. That is, some potential errors or problems predicted by CA did not occur in reality. In addition, several errors that actually arise were not anticipated by CA. Some even argued that CA was not supported by reference to "data obtained from the systematic study of learner language itself, but usually only to utterances which contrastive analysts happened to have noticed and remembered." (Tarone, 2006, p. 747). Furthermore, it was likely that these analysts tended to notice data that CA predicted and ignore data that did not fit CA. Learners' utterances that represented L1 transfer were taken into account or quoted, while those not providing evidence of such transfer went unnoticed.

The decline in popularity of CA gave rise to *Error Analysis* (EA), an enterprise born of the attempt to validate the predictions of CA through systematically gathering and analyzing the speech and writing of second language learners (Tarone, 2006). For EA, the focus is on the systematic observation of learners' language as EA is viewed as a tool for scientific study that could reveal the real problems of second-language learners. According to Corder (1981), not only do learners' errors stem from L1 transfer, but they could also have an origin in the complexity of the target language itself. Moreover, the errors might come from other strategies employed by learners in TL learning. Richards (1980) classified different types of errors based on different processes learners use to simplify their learning, such as overgeneralization, simplification, developmental errors, communication-based errors, induced errors, and errors as avoidance.

It was Corder (1981), who firstly suggested that secondlanguage learners, in learning TL, do not start with their NL but rather with a universal built-in syllabus which guides them in the development of their own linguistic system referred to as *transitional competence*. This kind of competence is different from the learners' NL or TL since it probably begins with a universal grammar. Corder also remarked that errors found in TL learning show the idiosyncratic linguistic system learners are creating, aiming to reach TL competence. The transitional competence had been in many scholars' consideration and had been developed through time until a more popular and acceptable term *interlanguage* was introduced by Selinker (1972), who argued that the interlanguage hypothesis is intended to bring about systematic research on the development of the language created by adult L2 learners. Interlanguage is also aimed at identifying L2 learners' psycholinguistic processes that shape their language, explaining how learners form interlingual identifications across

linguistic systems, and accounting for the problems that tend to occur to L2 learners or even make them stop learning (Tarone, 2006).

2.2.2 Defining interlanguage

Selinker (1972) defines *interlanguage* as the separate linguistic system evidenced when adult L2 learners try to express meaning in a language they are in the process of learning. This linguistic system includes almost all aspects of human language, such as phonology, morphology, syntax, lexicon, and pragmatics. The interlanguage differs from both the NL and the TL of learners. First, interlanguage is generally considered as characteristic of adult L2 learners only. Unlike children, adults are believed to have passed puberty and are not supposed to be able to employ the language acquisition device (LAD).

According to Selinker (1972), adult L2 learners, since they have passed puberty, are inclined not to become successful in developing a linguistic system to the level achieved by child learners. Moreover, interlanguage of adult learners could enter into the stage of *fossilization*, a process in which the learners interlanguage stops developing permanently. Fossilization is one of the key factors that distinguish the development of interlanguage from the process of L1 development (McLaughlin, 1987).

Selinker (1972) also states that interlanguage is the product of five central cognitive processes involved in second language learning:

- a. *Language transfer*: It is claimed that learners' first language plays such a major role that some linguistic features from L1 transfer to the learners' interlanguage. This process corresponds to what contrastive analysts

primarily rely on when comparing and contrasting the systems of L1 and L2. For instance, Chinese learners of English in learning English relative clauses may be believed to transfer their head-final property into their production of English RCs, which are head-initial.

- b. *Transfer of training*: This can be seen when L2 learners apply rules they have previously learned from instructors or textbooks. This strategy may work on some occasion; however, sometimes errors can occur as a result of learners' misunderstanding of some L2 rules.
- c. *Strategies of L2 learning*: These strategies are used by L2 learners who have conscious attempt to master the TL. For instance, they may use mnemonics to remember target vocabulary in L2 or to remember textbook dialogues. Such strategies are often successful, but they can result in errors as well.
- d. *Strategies of L2 communication*: When the interlanguage system seems inadequate or unequal to a situation, learners may employ these strategies to resolve communication problems. That is to say, those who find that the linguistic item they need is not available can use such communicative strategies to get the meaning across. For this reason, the linguistic forms and patterns used in such attempts may become permanent parts of the learners' interlanguage. For example, when a learner does not know the English word for a calculator, he or she may attempt to describe it using

words like ‘It is a small machine with numbers.’ so that the meaning can be imparted to the interlocutor.

- e. *Overgeneralization of TL rules*: Overgeneralization can occur when learners have not internalized all the rules in TL. This means they have learned a TL rule without being aware of all the exceptions to it, thus possibly committing errors through overgeneralizing the rule. For example, a beginner-level learner may attach the suffix –ed to the verb *pay*, resulting in *payed* without being aware that the correct form of this irregular verb is *paid*.

Subsequent studies were undertaken to provide evidence showing that all of these five cognitive processes could affect the construction of learners’ interlanguage.

2.2.3 Revised interlanguage hypothesis

There have been some modifications and expansions of the concept of interlanguage since it was firstly proposed in 1972, although the central claims of *the Interlanguage Hypothesis* remain basically unchanged. First of all, with respect to the original interlanguage hypothesis, this term applied only to adult L2 learners. Nonetheless, research done later on indicates that children in language immersion programs may also produce an interlanguage. Researchers can observe these children’s fossilized linguistic systems with considerable influence from L1 transfer. The second revision of the interlanguage hypothesis concerns the influence of universal grammar (UG) on the development of interlanguage. In the early period of the introduction of the term *interlanguage*, it was regarded as not a natural language

since it can fossilize and evidence NL transfer. Thus, it has nothing to do with UG (Selinker, 1972). Adjemian (1976), however, opposed to this notion, stating that interlanguage is a natural language, and as a natural language, interlanguage has to conform to language universals.

The third modification lies in the fact that interlanguage development seems to vary in different social contexts or discourse domains. Tarone (2006, p. 751) suggests that learners can produce “a significantly more fluent, grammatical, and transfer-free interlanguage in some social contexts than in others”. L2 learners may show more fluency and grammaticality in discussion of a topic with which they are more familiar than another. Furthermore, key processes such as fossilization may be more prominent for learners in one context than in another.

Fourth, it was proposed by early interlanguage scholars such as Selinker (1972) that fossilization is inevitable, which means that it is nearly impossible for adult L2 learners to achieve native-like competence in TL. Nevertheless, scholars who argue that fossilization is caused by sociolinguistic forces also remark that fossilization is not unavoidable. Therefore, learners are thought to be able to continue learning the TL until their production and perception are indistinguishable from those of native speakers (Cohen, 1990).

2.2.4 Interlanguage hypothesis in relation to Universal Grammar

2.2.4.1 Universal Grammar in L1 acquisition

According to Chomsky (1981, 1986), all children are claimed to be capable of acquiring their mother tongue through language acquisition device (LAD), supposedly equipped in their brain from birth. Chomsky proposed the concept of Universal Grammar (UG) to account for native-speaker knowledge of language and for the

acquisition of such knowledge. With UG, native speakers of any language are believed to be able to recognize grammaticality, ambiguity, and semantic well-formedness in their language. UG, in fact, is the innate component which functions as LAD; UG comprises an abstract set of principles and parameters which serve to define the core aspects of all natural languages. The child in the L1 linguistic environment is born equipped with UG. The L1 linguistic input to the child interacts with UG to constitute the core grammar of the child's L1.

UG includes invariant *principles*, which are generally true across languages, as well as *parameters*, which allow for variation from language to language. Grammars of children and adults conform to the principles and parameters of UG. For child language acquisition, UG forms the child's initial state, where the child is equipped with basic linguistic knowledge before being exposed to any input. Then the primary language data come to assist the child in determining the precise form that the grammar must take. With the input, a language-specific lexicon is built up and parameters of UG are set to values suitable for the language the child is acquiring. It should be noted that the grammar of the child's L1 can be restructured over the course of time when they are exposed to different properties of the input. Finally, in due course, the child reaches a steady state grammar for the native language (White, 2003, p. 2).

2.2.4.2 Universal Grammar and interlanguage in L2 acquisition

In second language acquisition (SLA), L2 learners are also confronted with a similar task as L1 acquirers do. That is, L2 learners need to arrive at a system accounting for L2 input. Furthermore, they also face a logical problem of language acquisition; there are abstract, complex, and subtle properties of L2 grammar which

are underdetermined by L2 input. This means that L2 input alone is not sufficient for learners to induce all the L2 linguistic rules from. Because of this, they must also depend upon universal principles of UG, with which they have already been equipped. This fact is strongly indicative of UG principles constraining interlanguage (IL) grammar, parallel to the situation in L1 acquisition (Braid, 1999).

However, Bley-Vroman (1990) and Schachter (1990) argue that, unlike L1 acquirers, L2 learners already have a means of representing language, namely the grammar of their native language. Accordingly, there might be no problem of underdetermination. In other words, if L2 learners show the relevant kind of unconscious linguistic knowledge, probably it may be the case that they are drawing on their L1 grammar rather than UG.

In order to demonstrate that L2 learners' IL grammar is really constrained by UG principles, two conditions are necessarily to be met. First, the phenomenon being investigated must be underdetermined by the L2 input. That is to say, it cannot be something that could be acquired by observation of the L2 input, including statistical inferencing based on frequency of occurrence or on the basis of analogy. Second, the phenomenon must also be underdetermined by L1 so that transfer of any properties from L1 cannot be attributed to as an explanation of any knowledge that L2 learners attain (White, 2003).

2.3 First and second language acquisition of English relative clauses

A great number of studies so far have been dedicated to an investigation of child language acquisition of RCs both in terms of comprehension (e.g. Brown, 1971; Sheldon, 1974, 1977; Flynn & Lust, 1980; Hakuta, 1981; Correa, 1982; Labelle, 1996; Schuele & Nicholls, 2000; McKee & MaDaniel, 2001; Eisenberg, 2002; Diessel

& Tomasello, 2005) and production (e.g. Menyuk, 1969; Limber, 1973, 1976; Slobin, 1986; Dasinger & Toupin, 1994; Jisa & Kern, 1998).

In addition, the difficulties that L2 learners are confronted with when learning English relative clauses (ERCS) are so inspiring that many research studies have been carried out to find an explanation for the problems as well as for L2 acquisition of ERCs. Scholars have tried to propose linguistic universals which predict acquisition and difficulty order (e.g. Kuno, 1974; Keenan & Comrie, 1977; Hamilton, 1994), whereas some have discovered the impact of learners' L1 on ERC acquisition (e.g. Chiang, 1981; Gass, 1984; Yip & Matthews, 1991, 2006, 2007). There have also been studies on how instruction of some RC types can influence learners' acquisition by enabling them to acquire uninstructed less marked types (e.g. Gass, 1981, 1982; Doughty, 1988, 1991; Hamilton, 1994).

2.3.1 L2 RC acquisition theories supported by those in L1

2.3.1.1 The Perceptual Difficulty Hypothesis (PDH)

Formulated by Kuno (1974), *the Perceptual Difficulty Hypothesis*, which is based on perceptual considerations of the human memory system, predicts that center embedded RCs are more perceptually difficult to process than right or left⁴ embedded RCs. Such difficulty lies in the fact that center-embedded RCs as in (57) are inserted and thus interrupt the processing of the matrix sentence, whereas right-embedded RCs as in (58) are easier since they occur at the end of the sentence and this means there is no interruption.

⁴ It should be noted that left embedded RCs are irrelevant in the case of English, so it is not further discussed here.

(57) *center-embedded RCs*

The cheese *that the rat ate* was rotten.

(58) *right-embedded RCs*

The rat ate the cheese *that was rotten*.

The prediction made by the PDH is that, no matter what the RC is, sentences with RCs embedded in the matrix subject position are more difficult than sentences with RCs embedded in the matrix object position. Many studies on L2 acquisition of ERCs found support for the PDH (e.g. Ioup & Kruse, 1977; Schumann, 1980; Izumi, 2003).

The PDH is really consistent with *the noninterruption hypothesis* in L1 acquisition, which posits that an intervening element can easily exceed the hearer's or speaker's memory span, especially when the intervening element is a complex grammatical unit such as a center-embedded relative clause (Diessel, 2004).

Generally the structure of RCs can be characterized by two main features: (i) the syntactic role of the matrix clause element functioning as the head of the RC; and (ii) the syntactic role of the gap, i.e. the element that is relativized within the RC. When put together, these two features result in four types of RC constructions (Diessel & Tomasello, 2005):

1. *SS-relatives*: the matrix clause subject is modified by a RC including a subject gap

(59) The dog *that* ___ *jumps over the pig* bumps into the lion.

2. *SO-relatives*: the matrix clause subject is modified by a RC including an object gap

(60) The lion *that the horse bumps into* ___ jumps over the tiger.

3. *OS-relatives*: the matrix clause object is modified by a RC including a subject gap

(61) The pig bumps into the horse *that* ___ *jumps over the tiger*

4. *OO-relatives*: the matrix clause object is modified by a RC including an object gap

(62) The dog stands on the horse *that the tiger jumps over* ___ .

According to the noninterruption hypothesis, difficulties become greater for children to process RCs that interrupt the matrix clause than those that follow it. That is, SS- and SO- relatives, which are center-embedded relatives, are more difficult than OS- and OO- relatives, which are right-branching ones. This noninterruption hypothesis is consistent with one of Slobin's (1973) operating principles. Both have a similar notion in that

Processing a discontinuous grammatical unit involves holding an incomplete parse in working memory while interpreting (or constructing) the intervening element. This can exceed the hearer's (or speaker's) memory span...

(Diessel, 2004, p. 118)

Many studies (e.g. Brown, 1971; Correa, 1982; Roth, 1984; Clancy et al, 1986; Kidd & Bavin, 2002) found that children are inclined to misinterpret center-embedding RCs more often than they do with RCs that are right-branching or even left-branching (e.g. Japanese, Korean).

2.3.1.2 The SO Hierarchy Hypothesis (SOHH)

This hypothesis, proposed by Hamilton (1994), posits an implicational relationship among four types of RC sentences which differ in the followings:

- a) The positioning in the matrix clause of the noun serving as the head of the RC
(The noun in question is usually referred to as the head noun or antecedent.)
- b) The role of the NP relativized in the RC

Hamilton also proposes a unified motivation for the SO (subject-object) hierarchy based on the notion of processing discontinuity (O'Grady, 1999).

Processing difficulty is defined in two major ways. One is the discontinuity created by the center embedding of a RC in the matrix clause as in (63).

(63) The giraffe which is eating cherries looked at the zebra.

The other is a discontinuity produced by phrasal boundaries within the RC that separate the relative pronoun and the wh-trace created by relativization, as illustrated in (64).

(64) Jane fed the dog_i [_{CP} which_i [_{IP} we [_{VP} saw t_i]]].

In (59), two discontinuities are caused by two phrasal boundaries, VP and IP, which separate the relative pronoun *which* from its trace t_i.

The order of difficulty predicted by the SOHH is determined by the number of the whole discontinuities in the structure. Such order of difficulty is as follows:

OS > OO/SS > SO⁵

This order demonstrates that OS is easier to understand and acquire than OO, which is as difficult as SS. SO is considered the most difficult.

The OS sentence, as in (61), is expected to be the easiest to process since it has just one discontinuity in the RC. The OO, as in (62), is supposed to be more difficult than the OS as it consists of two discontinuities: a discontinuous S and a discontinuous VP. The SS, as in (59), is claimed to be as difficult as the OO since both contain two discontinuities. Unlike the OO, one of the discontinuities of the SS is within the RC and the other is created by the center embedding in the matrix clause. Of all the four RC types, the SO, as in (60), is viewed as the most difficult type because it is made up of three discontinuities: two within the RC and the other caused by the center embedding of the RC in the matrix clause.

Furthermore, object-of-preposition (OPREP) relatives can also be considered in the SOHH. This RC type itself is assumed to have three discontinuities as in (65).

(65) The man [_{CP} who_i [_{IP} we [_{VP} thought [_{pp} about t_i]]]].

Additionally, if a RC like the one in (65) is placed in the matrix subject position of a sentence as in (66), there will be four levels of discontinuity, including the one created by the center embedding of the RC.

(66) The man [_{CP} who_i [_{IP} we [_{VP} thought [_{pp} about t_i]]]] suddenly emerged at the party.

⁵ > means 'is easier than'; / means 'is as difficult as'

In (66), apart from center embedding, there are three phrasal boundaries, namely, IP, VP, and PP, separating the relative pronoun from its trace. These create four discontinuities in total.

In contrast, if this RC appears in the matrix object position, there will be three levels of discontinuity, all created within the RC itself as in (67).

(67) We saw the man [_{CP} who_i [_{IP} we [_{VP} thought [_{PP} about t_i]]]].

In (67), three discontinuities are found since there are three phrasal boundaries: IP, VP, and PP.

Furthermore, when OPREP is taken into consideration, the OOPREP (OPREP placed in the matrix object position) is placed at the same difficulty level as the SO and the SOPREP (OPREP placed in the matrix subject position) at a higher level of difficulty than the SO and OPREP. At this point, including the OPREP relatives, the revised order of difficulty will be:

OS > OO/ SS > SO / OOPREP > SOPREP

This states that OS is easier than OO, which is as difficult as SS. SO is more difficult than SS but is as difficult as OOPREP, which is in turn easier than SOPREP.

According to Hamilton (1994), the SOHH is considered a language universal that can be used as a predictor of difficulty and developmental order in second language acquisition. His study on adult L2 learners found support for the SOHH. Also, Izumi (2003)'s study on processing difficulty in comprehension and production of RCs by ESL learners who are university students in the United States reveals that

its results also conform to the predictions by the SOHH, although its predictions become less reliable in relation to OPREP relatives.

The SOHH is in fact consistent with two first language acquisition hypotheses: *the noninterruption hypothesis*, which has already been mentioned in 2.3.1.1, and *the filler-gap hypothesis*.

The filler-gap hypothesis postulates that the processing load of RCs is determined by the varying distance between the filler, i.e. the head of the RC, and the gap, i.e. the relativized element. A RC including a subject gap, as in (68) and (69), is interpreted more easily than that with an object gap, as in (70) and (71), since, for a subject gap, the distance between the filler and the gap is minimal. That is, the filler and the gap is interrupted only by a relative pronoun or the complementizer *that*.

(68) SS: NP_i [that ____i V NP] V NP

The dog_i [that ____i chased the cat] saw the rat.

(69) OS: NP V NP_i [that ____i V NP]

Jones liked the dog_i [that ____i chased the cat].

On the other hand, in RCs with an object gap, the filler and the gap are separated by the relative word, the subject, and the verb, as in (65) and (66).

(70) SO: NP_i [that NP V ____i] V NP

The cat_i [that the dog chased ____i] ate fish.

(71) OO: NP V NP_i [that NP V ____i]

Janet liked the cat_i [that the dog chased ____i].

According to Wanner and Maratsos (1978), it is difficult for the human processor to keep the filler in working memory until it encounters the gap. This means one might forget what the filler is if it is very far from the gap. Gibson (1998) also remarks that the longer the processor has to retain unintegrated information, the more difficult the RC is to parse because the information of the filler may be lost before the gap is reached. In addition to the distance between the filler and the gap, the degree of embeddedness of the gap is also important. There is, in fact, a correlation between the filler-gap distance and the degree of embeddedness. The longer the distance, the more deeply embedded the gap. Hawkins (1994, 1999) states that the number of nodes being processed so as to recognize all elements between the filler and the gap determines the processing load of RCs. This is definitely in line with SOHH in that high number of phrasal boundaries, e.g. VP, IP, or PP, makes a RC more difficult to read and comprehend.

Another support for the filler-gap hypothesis stems from children's use of pronominal reflexes or resumptive pronouns in RCs. It has been observed by a number of studies (e.g. Labelle, 1996; Goodluck & Stojanovic, 1997; McKee & McDaniel, 2001; Diessel, 2004; Diessel & Tomasello, 2000, 2005) that young children frequently insert a resumptive pronoun in the place of the gap, as in (72) and (73).

(72) * Here is the girl_i [_{CP} who_i [_{IP} the boy borrowed a ball [_{PP} from *her*_i]]].

(73) * I hurt my finger_i [_{CP} that_i [_{IP} Thomas stepped [_{PP}on *it*_i]]].

Diessel (2004) suggests that the use of a resumptive pronoun seems to correlate with the degree of embeddedness. The more deeply embedded the relativized element, the more likely the occurrence of a resumptive pronoun.

When the distance between the filler and the gap is concerned, it is advisable that the concept of subjacency, in addition to the filler-gap hypothesis, be discussed here in detail. According to Braidı (1999), subjacency is a UG (Universal Grammar) principle that controls wh-movement in two ways: a) the limitation in terms of distance that a wh-element can move across phrase or clause boundaries, and b) the types of structures out of which a wh-element can be moved, e.g. embedded wh-questions, relative clauses, and complement clauses. Whether a movement of a wh-element will lead to ungrammaticality or not depends on the type and number of syntactic boundaries that are crossed. These syntactic boundaries mark the boundaries of different types of syntactic structures, e.g. clause boundaries (IP), complementizer boundaries (CP), noun-phrase boundaries (NP), and prepositional-phrase boundaries (PP).

While the filler-gap hypothesis states that the more the distance between the filler and the gap is, the more difficult it becomes for the reader's understanding, it does not determine how far the gap from the filler that makes a sentence ungrammatical. In contrast, subjacency condition clearly specifies the grammatical boundary for a wh-element to be moved. In English, subjacency prohibits a wh-element from moving across more than one bounding node in a single step, where bounding nodes in English are IP and DP (Ouhalla, 1999, p. 262).

(74) [CP *Which car*_i did [IP you think [t_i (that) [IP John would fix t_i]]]]?



The wh-element in (76) *combien* ‘how many’ has moved out of NP and IP, two bounding nodes, in a single step; nevertheless, unlike English, this is not considered ungrammatical in French. It seems that subjacency is language-specific.

Schachter (1989, 1990) tested the subjacency principle by eliciting grammaticality judgments from native speakers of Indonesian, Chinese, Korean, and Dutch learning English. The study aimed at examining the presence of subjacency effects in the L2 grammar of English learners from different language backgrounds. The native languages of the participants differ in requirements on subjacency. In Korean, there is no evidence of subjacency, so no extraction is permitted at all. In Chinese and Indonesian, there is some evidence of subjacency even though in both of these languages wh-movement is more limited than in English. That is, Chinese does not have wh-movement but exhibits relative pronoun extractions out of complex DPs and sentential subjects, whereas Indonesian allows extractions out of sentential subjects, relative clauses, and embedded questions. In Dutch, subjacency restrictions are much the same as in English. Dutch speakers are, in other words, constrained by the principle of subjacency (Cook & Newson, 2007).

Schachter proposed in her work that UG is not directly accessible and it should be evident in the L2 when it is present in the L1. In support of this proposition, she found that the native languages of the learners had the greatest impact on their ability to detect subjacency violations. That is to say, the Dutch speakers exhibited little knowledge of subjacency violations, with the Chinese and Indonesian ones falling somewhere in the middle (i.e. the speakers of Chinese and Indonesian seemed to have slightly more awareness of subjacency violations than the Dutch speakers).

Johnson and Newport’s study (1991) revealed a relationship between the duration of L2 exposure and subjacency violation acceptance. The participants of the

study were adult Chinese in the United States, who were first exposed to L2 at different ages, ranging from age 4 to adulthood. They were tested on a grammaticality judgment task involving ungrammatical subjacency violations. It was discovered that the higher the length of residence in the United States and the greater the extent of their contact with English as L2, the more they rejected subjacency violations. This means those who came to the United States at the young age had better English proficiency than those who came as adults. The adult learners tended to accept sentences with subjacency violations. Johnson and Newport conclude that subjacency is subject to a maturational decline and that ultimate attainment of adult learners is essentially different from that of child learners. The adult learners' interlanguage grammar tolerates violation of universal constraints such as subjacency (White, 2003).

2.3.2 L2 RC acquisition and language typology

2.3.2.1 Defining language typology

Human languages around the world are claimed to have some properties or features in common. In spite of some differences among these languages, they are all recognized as representing an underlying unity to human languages. This has been an inspiration for linguists who are concerned directly with the discovery of such unity through studying the structural variation found in the languages of the world. The linguistic investigation as such gave rise to a study of language typology (Song, 2001).

According to Whaley (1997), language typology or linguistic typology refers to “the classification of languages or components of languages based on shared formal characteristics” (Whaley, 1997, p. 7). Linguistic typologists need to begin with identifying a phenomenon to be studied. Then they are supposed to classify the

phenomenon, depending upon cross-linguistic comparison. That is, they have to gather data on such a language phenomenon from a representative sample of the world languages. The data should be drawn from an adequately large number of different languages, especially from genetically distinct language families, so that it will be possible to make some generalizations on the findings. For example, a cross-linguistic typological study of word order based upon world language reveals six possible basic word orders: SOV, SVO, VSO, VOS, OVS, and OSV⁶. Further investigations indicate that SOV and SVO are the most common (Croft, 1990).

The aforementioned word orders, SOV and SVO, occur statistically significantly and thus are considered structural tendencies in human language. In linguistic typology, whatever statistically significant patterns or tendencies found in world languages are referred to as language universals (Croft, 1990). Typologically speaking, language universals are of four types, based on two parameters: (i) *absolute vs. non-absolute* (ii) *implicational vs. non-implicational*. Absolute universals are exceptionless. For instance, all languages allow changing an affirmative sentence into a negative one. Non-absolute universals or universal tendencies, as the name implies, are not without exceptions, e.g. the preponderance of SOV and SVO word orders in the languages of the world (Moravcsik, 1997).

Implicational universals work when one property implies that of another. An example of this type of universal is a verb-initial language, e.g. VSO or VOS, which implies an existence of prepositions. Implicational universals will be thoroughly discussed later when NPAH is concerned. In contrast, non-implicational universals do not involve the prediction of property x on the basis of property y. The abundance of

⁶ S = subject V = verb O = object

SOV word order is an example of such universal since it does not imply any property (Croft, 1990).

It is found that linguistic typologists first need typological classification so as to discover language universals. For this reason, language typology is said to “provide material for establishing language universals” (Mallison & Blake, 1981, p. 7). However, it should also be noted that typologists are required to carefully select languages to be used as data for their study. Two languages which are genetically related cannot serve as good language samples since the similar language patterns or properties they both share tend to be due to the fact that they are from the same language family. Thus, genetic biases have to be avoided. Furthermore, two languages which are spoken in close regions or come into contact for a long time do not act as suitable samples either. This is because they can influence each other and their shared characteristics might stem from the long-term contact. Also this kind of areal bias needs to be eliminated. The genetic and areal biases may confuse typologists, making them wrongly believe that certain common features are as a result of human language similarities (Comrie, 1989).

2.3.2.2 Language typology of relative clauses

Relative clauses (RCs) play a key role in language typology. A RC consists of two major parts: the head and the restricting clause. The function of the head is to establish a set of entities known as the domain of relativization, while the restricting clause serves to identify a subset of the domain by imposing a semantic condition on the domain of relativization referred to by the head (Fox, 1987).

(77) [The boy *whom Michael taught*]won a scholarship.

In (77), the domain of relativization is denoted by the head *the boy*. This domain is limited or narrowed down to the only entity that satisfies the condition expressed by *whom Michael taught*, which is a restricting clause.

2.3.2.2.1 The position of the head in relation to the restricting clause

RCs in general are divided into two main types according to the position of the head in relation to the restricting clause: *the external-headed RC* and *the internal-headed RC*. The former refers to a RC whose head appears outside the restricting clause, whereas the latter refers to a RC the head of which occurs inside the restricting clause.

The external-headed RC can also be classified into two types: prenominal and postnominal. The external-headed RC is postnominal when the restricting clause follows the head as in English in (77) or in Malay in (78).

(78) *Malay*

Ali bunoh oyam yang Aminah sedang memakan

Ali kill chicken [that Aminah Progressive eat]

‘Ali killed the chicken that Aminah is eating.’

(Song, 2001, p. 212)

On the other hand, the external-headed RC is regarded as prenominal if it precedes the head as in Basque in (79).

(79) *Basque*

gizon-a-k liburu-a eman dio-n emakume-a

[man-the-SUBJ book-the give has-REL] woman-the

‘the woman that the man has given the book to.’

(Keenan & Comrie, 1977, p. 72)

From cross-linguistic evidence, Keenan (1985) remarks that there are more languages which favor postnominal RCs than prenominal ones. In addition, even in languages having both types of RCs, it is the postnominal type that is less constrained in application than the prenominal one.

With respect to the internal-headed RC, cross-linguistically speaking, the internal-headed RC occurs with far less frequency than the external-headed RC. Languages with the internal-headed RC are such as Bambara, Murin^ypata, Navajo, Quechua, Tibetan, and Wappo. For instance, in Tibetan, as in (80), the head *thep* ‘book’ is located within the restricting clause.

(80) *Tibetan*

Peem-ε thep khii-pa the nee yin

[Peem (Ergative) book carry] the I(GEN) be

‘The book Peem carried is mine.’

(Song, 2001, p. 213)

Another clear example is from Murin^ypata in (81), which demonstrates that the head *mut^yinga* is placed inside the restricting clause.

(81) *Murin^ypata*

Mut^yiŋga-∅ paŋanduwi mundakŋayya-ɛe ŋayi paŋjibad
 old woman [arrive earlier-Ergative me hit]

‘The old woman who arrived earlier hit me.’

(Mallison & Blake, 1981, p. 359)

The head in the internal-headed RC is usually not marked in any distinctive way to indicate its status as the head of the RC. This is the tendency of languages with this RC type. The tendency in question is viewed as a distinguishing feature of the internal-headed RC because it may lead to ambiguity especially when there is more than one NP within the restricting clause. For instance, Diegueno in (82) has two NPs in the restricting clause. Each of them can potentially serve as the head for the internal-headed RC.

(82) *Diegueno*

xatəkco:k-∅ wi:m ʔtuc-pi-c n^yiL^y
 dog [rock I-hit was black]

‘The rock I hit the dog with was black.’

or ‘The dog I hit with the rock was black.’

(Mallison & Blake, 1981, p. 359)

2.3.2.2.2 Relativization strategies

Different relativization strategies can be employed to constitute RCs in languages. Some languages are found to allow more than one relativization strategy,

whereas some others rely on only one strategy. There are at least three major relativization strategies in languages across the world (Keenan & Comrie, 1979) as follows: the relative-pronoun strategy, the pronoun-retention strategy, and the obliteration strategy.

1. *The relative-pronoun strategy*

Regarding this relativization strategy, a special type of pronoun called relative pronouns is used to mark a RC. These pronouns are identical in forms to interrogative pronouns or demonstrative expressions.

(83) The boy *whom Michael taught* won a scholarship.

For example, in English as in (83), the relative pronoun *whom*, whose form happens to function as an interrogative pronoun as well, is employed to express the grammatical relation of the head *the boy* as direct object in the restricting clause. Moreover, the relativization strategy in (83) can also be considered [+case] or case-coding, for the relative pronoun *whom* encodes an accusative (direct object) case.

It is worth being mentioned here that the relative-pronoun strategy is, in fact, not very prevalent or widespread in languages all over the world (Comrie, 1989). It has been pointed out that this strategy is the most frequently found in European languages, such as German and Russian in (84) and (85) respectively.

(84) *German*

der	Mann	[den	Marie	liebt]
the	man	who(DO)	Mary	love

‘the man whom Mary love’

(Keenan, 1985, p. 149)

(85) *Russian*

Ivan videl devusku [kotoruju Petr ljubit]

Ivan saw the girl who(DO) Peter loves

‘Ivan saw the girl whom Peter loves.’

(Keenan & Comrie, 1979, p. 344)

An interesting fact about the relative-pronoun strategy lies in the fact that there is a very strong tendency for the relative pronoun to occur leftmost in the restricting clause. To illustrate this, the relative pronouns *den* in (84) and *kotoruju* in (85) really appear leftmost in the restricting clause. Another significant point is that the relative-pronoun strategy is used mainly in conjunction with the postnominal external-headed RC type, in such languages as English, Modern Czech, Modern Greek, Slovenian, etc.

2. *The pronoun-retention strategy*

This strategy is concerned with a use of a personal pronoun in the restricting clause. Such a pronoun, occasionally referred to as *a resumptive pronoun*, is coreferential with the head. In other words, the reference to the head in the main clause is provided or retained in suitable personal pronominal form in the restricting clause (Song, 2001, p. 218). Examples of languages which apply pronoun retention in RC formation are such as Aoban, Arabic, Hebrew, Gilbertese, Kera, Urhobo, etc. (86) and (87) exemplify the pronoun-retention strategy in Gilbertese and Persian respectively.

(86) *Gilbertese*

te mane are oro-ia te aine
 the man that hit-him the woman
 ‘the man whom the woman hit’

(Keenan & Comrie, 1979, p. 337)

In (86), the pronoun *ia* ‘him’ is coreferential with *te mane* ‘the man’, which is the head of the RC.

(87) *Persian*

man zan-I râ ke John be u sibe zamini dâd
 I woman-the DO that John to her potato gave
 mišenâsam
 know
 ‘I know the woman to whom John gave the potato.’

(Keenan & Comrie, 1979, p. 343)

Likewise, in (87), the pronoun *u* ‘her’ has the same reference as *zan-I* ‘the woman’, the RC head.

Comrie (1989) states that the pronoun-retention strategy is generally specific to the postnominal external-headed RC type. Exceptions are Chinese and Korean, which exhibit the pronoun-retention strategy although they belong to the prenominal external-headed RC type. Nonetheless, the use of this strategy is highly restricted in these two languages. In Chinese, this strategy is employed only when the head has grammatical relations other than subjects and direct objects. In Korean, the strategy is

only seen in the restricting clause in which the head has the role of possessor. Additionally, even in this case, pronoun retention is not always applied for unknown reasons (Song, 2001).

3. *The obliteration strategy*

As regards this kind of relativization strategy, sometimes known as *gapping*, there is no expression of the head in the restricting clause. To clarify how the obliteration strategy works, an example of a Japanese RC is provided in (88) in comparison with the corresponding independent clause in (89).

(88) *Japanese (RC)*

Yamada-san	ga	ka't-te		i-ru	sa'ru
Yamada-Mr	SUBJ	keep-PARTICLE		be	monkey

'The monkey which Mr. Yamada keeps'

(Song, 2001, p. 217)

(89) *Japanese (independent clause)*

Yamada-san	ga	sa'ru	o	ka't-te	i-ru
Yamada-Mr	SUBJ	monkey	DO	keep-PARTICLE	be-PARTICLE

'Mr. Yamada keeps the monkey.'

(Song, 2001, p. 217)

In (89), the noun *sa'ru* 'monkey' is marked a direct object with *o* in an independent clause. However, this noun in the RC in (88) has lost its original

accusative-case marking *o*. To put it another way, the restricting clause in (88) contains no explicit formal traces of direct object.

Apart from Japanese, languages employing the obliteration strategy are such as Basque and Turkish (Keenan, 1985).

2.3.2.2.3 Accessibility to relativization

There have been unending attempts to find formal constraints on relativization. One of these is the most celebrated investigation, pioneered by Keenan and Comrie (1977), which resulted in *the Noun Phrase Accessibility Hierarchy* (NPAH). The NPAH focuses on how hard one can have access to each type of relativization. The NPAH places emphasis on the grammatical relation of the head in the restricting clause (Comrie, 1989).

Keenan and Comrie (1977) examined fifty languages across the world and discovered that not all grammatical relations in all the languages can be relativized. Despite this fact, they also discerned certain regular patterns through cross-linguistic evidence. For example, all languages have at least one relativization strategy whereby subjects are relativized. This basic strategy is referred to as *the primary strategy*. More intriguing is their discovery of a very strong tendency for relativization strategies which they claim to be a language universal. That is, the study reveals a hierarchy of relativizable grammatical relations for world languages, as shown below:

NPAH: SU > DO > IO > OBL > GEN > OCOMP

(N.B. '>' = 'is more accessible to relativization than')

SU = subject, DO = direct object, IO = indirect object, OBL = oblique, GEN = genitive, OCOMP = object of comparison).

English is one of the very rare languages which allow relativization on all the grammatical relations proposed by the NPAH, as illustrated below:

- (90) That's the man [who ran away]. (SU)
- (91) That's the man [whom I saw yesterday]. (DO)
- (92) That's the man [to whom I gave the letter]. (IO)
- (93) That's the man [whom I was talking about]. (OBL)
- (94) That's the man [whose sister I know]. (GEN)
- (95) That's the man [whom I am taller than]. (OCOMP)

(adapted from Keenan & Comrie, 1977)

Most languages of the world are not as generous as English in their relativizability. Keenan and Comrie's (1977) observation shows that there are more languages which allow relativization on the subject than those which can relativize on the direct object, on the direct object than on the indirect object, on the indirect object than on the oblique, and so on. This means that cross-linguistically it is more difficult to relativize on the grammatical relations on the right of the NPAH than those on the left. With this observation being mentioned, it is claimed that if a language allows relativization on grammatical relation X, it should also allow relativization on the other grammatical relations on the left (or higher) of the NPAH. For instance, if a language can relativize on OPREP, it is claimed to permit relativization on IO, DO,

and SU as well. It is unlikely for relativization possibility to skip any grammatical relation along the way from OPREP to SU (Keenan & Comrie, 1979).

It is also discovered that if a language can relativize on only subject with the help of the primary strategy (with relativizers), it may also express RCs on other grammatical relations through the pronoun-retention strategy. For example, in Welsh, the primary strategy of relativization applies only to subject and direct object. Other grammatical relations are relativized by different relativization strategies. For instance, to form a RC on OPREP, the pronoun-retention strategy must be applied, as in (96).

(96) *Welsh*

dyma ‘r llyfr y darllenais y stori ynddo

here-is the book that I-read the story in-it

‘Here is the book that I read the story in.’

(Song, 2001, p. 225)

In conclusion, primary strategy may stop at any point on the NPAH, e.g. SU or DO. If this happens and if relativization is allowed to take place further down the hierarchy, non-primary strategies, such as pronoun retention, should come into play.

The NPAH is expected to predict the order of acquisition in that the unmarked types of RC tend to be acquired before the marked ones. Moreover, the difficulty order that L2 learners would face in the acquisition of RCs can be predicted by the NPAH as well. Such an order largely depends on the psychological ease of comprehension (Keenan & Comrie, 1977, 2002; Gass & Selinker, 2001). Gass (1979) found support for the NPAH through her study on the ERC acquisition by learners

with a wide range of native languages: Italian, Arabic, Portuguese, Farsi, French, Thai, Chinese, Korean, and Japanese. Based on the data from (i) free compositions (ii) sentence combining, and (iii) acceptability judgments, the study revealed that the production of RCs by L2 learners and the accuracy order are consistent with the predictions of the NPAH. To clarify this, the learners found SU the easiest. DO was easier than IO, OPREP, and OCOMP respectively, with the exception of GEN.

Gass found that the participants' performance with GEN had the second highest accuracy rate, which goes against the predictions of the NPAH. Gass, as well as Hamilton (1995), attributed this result to the fact that the construction *whose + noun* can have a unique grammatical role, e.g. subject or object, in the RC. Probably the participants treated the construction *whose + noun* as a unit which is either a subject as in (97) or an object as in (98). Both are positions in the hierarchy. This explains its relatively high number of correct responses.

(97) The doctor *whose car is expensive* works hard.

(98) The doctor *whose car the hooligans smashed* is expensive.

Another significant aspect of the NPAH is the implication concerning the use of resumptive pronouns, such as *her* in (99), in RCs.

(99) *The famous singer *whom my cousin and my close friends are gossiping about her* broke up with her boyfriend.

Keenan and Comrie (1977) proposed that it is more likely that resumptive pronouns will be used in the lower or marked hierarchical positions than in the higher

ones. Thus, the following *Resumptive Pronoun Hierarchy* is a reverse version of the NPAH.

Resumptive Pronoun Hierarchy

OCOMP > GEN > OPREP > IO > DO > SU

Results from many research studies correspond to the NPAH prediction (Schumann, 1978; Gass, 1979, 1982; Hawkins, 1994, 1999). It is found that English learners whose mother tongues do have resumptive pronouns, e.g. Chinese, Arabic, Persian, tend to allow and produce ERCs with such pronoun retention. Surprisingly those who speak native languages which do not have resumptive pronouns also produce these pronouns in ERCs. Braidı (1999) states that learners' use of a pronoun retention strategy in relative clause formation may be based on markedness. Because pronoun retention is crosslinguistically unmarked, L2 learners may apply this strategy in their L2 acquisition regardless of the existence of pronominal reflexes in the L1. For instance, Japanese learners, whose L1 does not allow pronoun retention in SU, DO, IO, and OPREP positions, are found to produce resumptive pronouns in these positions in L2 English, which prohibits them.

Braidı (1999) also provides another reason to explain why pronoun retention is widely used. Pronouns are inclined to be retained in more marked positions, as the NPAH asserts, since learners want to make the meaning clearer and more transparent. A sentence containing a RC of a marked type, such as 'He came across the girl whom his father and elder brother often talk about (her).' is considered difficult to process, as posited in the filler-gap hypothesis. In order to assist their working memory, learners have a tendency to insert a resumptive pronoun in the gap position, whether

or not their L1s permit this. An insertion of such a pronominal copy helps the RC to be processed more easily.

In summary, Gass and Selinker (2001) insist that the results from studies on the universal predictions of the NPAH support the notion that learner grammars are constrained in a similar way to natural language grammars. Several studies on English learners of different L1 backgrounds support the NPAH (Gass, 1979, 1980, 1982; Pavesi, 1986; Eckman et al, 1988; Doughty, 1988, 1991; Wolfe-Quintero, 1992; Izumi, 2003, 2004).

2.3.3 L1 RC acquisition theories

Aside from the theories of L2 acquisition of RCs mentioned before, some theories in L1 acquisition should be taken into consideration as well since they might be able to help explain, to a certain extent, the occurrences of ERCs and problems which Thai EFL learners have when learning this structure. This is because it is found that some L2 learners' acquisition is sometimes similar to native-speaking children's language acquisition (Ellis, 1985). Here three major hypotheses will be discussed.

2.3.3.1 The NVN-schema hypothesis

The NVN (Noun Verb Noun)-schema hypothesis, first proposed by Bever (1970), asserts that English-speaking children acquire a canonical sentence schema based upon a prototypical transitive clause. Seen as a basic grammatical construction, it consists of a noun denoting an actor, a verb describing a transitive activity, and another noun denoting an undergoer or patient.

According to Townsend and Bever (2001), the NVN-schema hypothesis is applied by children not only to simple transitive clauses but also to many other

structures that involve a noun-verb-noun sequence. For example, as to passive constructions, children under the age of five tend to interpret them as active sentences if they are semantically possible. That is, on semantic grounds, if the first NP can be interpreted as the actor of the activity described by the verb, and if the second NP can be a possible undergoer, it is likely for children to interpret the sentence with the NVN-schema. For instance, in (100), children might treat the NP *a woman* as an actor of *praise* and the NP *a priest* a patient. For young English-speaking children, the word order NP-V-NP seems to be more dominant than the grammatical morphemes marking a passive construction NP-be V_{ed}-by NP (Slobin & Bever, 1982).

(100) A woman was praised by a priest.

Akin to passive structures, sentences with RCs can often be interpreted based on the NVN-schema. Bever (1970) and Diessel (2004) found that, in cleft constructions, two-to-five-year-old children easily comprehend a RC including a subject gap. This is because the RC in question involves a noun-verb-noun sequence as in (101), which corresponds to the NVN schema.

(101) It was *the dog* that ___ *bit the cat*.

N V N

Conversely, a RC including an object gap is difficult for children to interpret since it involves a noun-noun-verb sequence as in (102), which does not match the NVN schema.

(102) It was *the cat* that *the dog bit* ___ .

N N V

2.3.3.2 The parallel-function hypothesis

The parallel-function hypothesis posits that children find RCs in which the head and the gap have the same syntactic roles (i.e. SS- and OO- relatives as in (103) and (106) respectively) easier to interpret than RCs in which the roles are different (i.e. SO- and OS- relatives as in (104) and (105) respectively). Sheldon (1974)'s study found support for this hypothesis because 3-to-4-year-old children made fewer mistakes with RCs in which the head and the gap are distinct. In other words, children's answer to SS- and OO-relatives contained a significantly higher proportion of correct responses than their answers to SO- and OS- relatives.

(103) The dog *that* ___ *jumps over the pig* bumps into the lion. (SS)

(104) The lion *that the horse bumps into* ___ jumps over the giraffe. (SO)

(105) The pig bumps into the horse *that* ___ *jumps over the giraffe*. (OS)

(106) The dog stands on the horse *that the giraffe jumps over* ___ . (OO)

(Sheldon, 1974, p. 275)

It was also discovered in Sheldon (1974) that OS- and OO- relatives are often interpreted by children as if they were attached to the matrix clause subject. For instance, a sentence such as (107) can be misinterpreted as (108).

(107) The dog bumps into the horse *that the giraffe jumps over*.

(108) The dog *that the giraffe jumps over* bumps into the horse.

(adapted from Sheldon, 1974, p. 275)

2.3.3.3 The conjoined-clause hypothesis

This hypothesis states that children interpret sentences including RCs as conjoined clauses or co-ordinate sentences. According to Tavakolian (1977), in early child grammar, the core of the conjoined-clause analysis comprises two rules: (i) complex sentences that children cannot successfully process are interpreted as conjoined clauses and (ii) any missing noun phrase is viewed as the subject of the second clause and interpreted as being coreferential with the subject of the first clause. Concerning this hypothesis, children are claimed to ignore relative pronouns, complementizers, and other function words that may occur between the verbs and NPs.

(109) The dog_i [that ____i chased the cat] saw the rat. (SS)

(110) Jones liked the dog_i [that ____i chased the cat]. (OS)

According to this analysis, children combine the string of NPs and verbs to simple nonembedded clauses, conjoin the two resulting clauses to a co-ordinate construction, and interpret the missing subject of the second clause as being coreferential with the subject of the first clause. This way, SS- and OS- relatives as in (109) and (110) respectively involve the same sequence of NPs and verbs as two co-ordinate clauses in which the subject of the second sentence has been omitted. The string given is “ NP_V_NP_V_NP”. Because SS- and OS- relatives are similar in pattern, children’s responses to them are alike. That is, children’s interpretation is that

in (109) the NP *the dog* did two actions *chased* and *saw*, and in (110) the noun *Jones* also did two activities, namely *liked* and *chased*.

By contrast, SO-relatives involve the string ‘NP_NP_V_V_NP’ as in (111), and OO-relatives have the form ‘NP_V_NP_NP_V’ as in (112).

(111) The cat_i [that the dog chased ____i] ate fish. (SO)

(112) Janet liked the cat_i [that the dog chased ____i]. (OO)

Such strings of SO and OO relatives do not correspond to the conjoin-clause hypothesis and thus are left untouched here.

2.3.4 Other major issues in second language acquisition of RCs

2.3.4.1 Markedness

The concept of markedness is closely related to that of universals. Features or structures that are consistent with universals are considered unmarked, while those that go against universals are viewed as marked (Finegan, 2007). Unmarked features, found in most languages all over the world, are normal, common, natural, and basic. In contrast, features which are marked are less common and less natural; they are thought to be more difficult to acquire than the unmarked counterparts. In relation to the NPAH (Keenan & Comrie, 1977), SU relatives are claimed to be the most unmarked and the easiest to understand and acquire as they occur in all languages of the world that allow relativization. Conversely, OPREP relatives are more marked and exist only in some languages, so they are more difficult to acquire.

Markedness can be viewed in an implicational sense. If a language has a feature x, that language also has other features that are less marked than x. For

instance, if a language has IO relatives, it will have DO and SU types, which are less marked.

Markedness may also be viewed in a statistical sense: feature x is more marked than feature y if x is rarer than y (Parker & Riley, 2005). For example, GEN relatives are more marked than DO relatives since the former occurs in fewer of the world's languages. In addition, markedness can also be associated with parametric differences. As to RC head directions, RCs which are head-initial, such as those in English and Thai, occur more frequently than those which are head-final, i.e. the head follows a RC, such as RCs in Chinese and Japanese. Head-initial RCs are, therefore, unmarked, whereas head-final ones are marked.

With regard to markedness, Eckman (1977, 1985) proposed a hypothesis known as *Markedness Differential Hypothesis* (MDH), which shows how typological markedness can be incorporated into a theory of transfer and contrastive analysis (CA) in SLA research. According to Eckman, MDH aims at combining the theoretical background of typological universals and the concept of transfer so that MDH can provide a stronger predictive power than CA. With the use of typological analysis of the NL and the TL, it is possible to predict the areas of problems which L2 learners would have, based on the markedness of the structures in the NL and the TL. According to Eckman (1985), the MDH states the following:

Markedness Differential Hypothesis (MDH)

The areas of difficulty that an L2 learner will have can be predicted on the basis of a comparison of the NL and the TL as follows:

- a. Those areas of the TL that are different from the NL and are relatively more marked than in the NL will be difficult;

b. The degree of difficulty associated with those aspects of the TL that are different and more marked than in the NL corresponds to the relative degree of markedness associated with those aspects;

c. Those areas of the TL that are different from the NL but are not relatively more marked than in the NL will not be difficult.

MDH can apply to L2 acquisition of RCs. For instance, English is a language that allows relativization on all the RC types proposed in the NPAH, where in Thai only three RC types can be relativized (Gass, 1979; Braidi, 1999).

English	SU > DO > IO > OPREP > GEN > OCOMP
Thai	SU > DO > IO

Due to this difference in accessible positions for RC formation, Thai learners of English are predicted to be faced with difficulty when learning how to relativize OPREP, GEN, and OCOMP relatives since these three types are not existent in Thai and are relatively more marked.

A number of UG (Universal Grammar) linguists (e.g. Chomsky, 1981; Lightfoot, 1989) have agreed upon the notion that unmarked features are acquired before marked ones. Nevertheless, this is not always the case. Bardovi-Harlig (1987) conducted a study on the L2 acquisition of *wh*-constructions, paying particular attention to preposition pied-piping and preposition stranding in relative clauses.

(113) The man *to whom* Cathy gave the book was John.

(114) The man *whom* Cathy gave the book *to* was John.

In English, the number of the pied-piping constructions as in (113) is lower than that of the preposition stranding ones as in (114). Van Riemsdijk (1978) suggested that pied-piping was the unmarked form and preposition stranding was considered marked. This proposition is based on two criteria. The first criterion is cross-linguistic evidence which reveals that preposition stranding is rare across languages around the world. This type of construction is limited to only the Indo-European family, whereas pied-piping is much more common and prevalent in many language families. As for the second criterion, which is concerned with the theoretical syntactic grounds, preposition stranding results from an extraction of a wh-element from the prepositional phrase (PP). Such an extraction, in most languages, is impossible since a PP is viewed as an island and a bounding node⁷. Moving some elements within a PP to the beginning of the sentence is usually prohibited (White, 2003). This explains why preposition stranding is not as natural and common as pied-piping, and thus it is claimed to be marked.

The study by Bardovi-Harlig (1987) on L2 English learners from fifteen different L1 backgrounds, namely Arabic, Chinese, Malay, Korean, Japanese, French, German, Italian, Hungarian, Portuguese, Hebrew, Fulani, Spanish, Persian, and Sudanese, provides counter-evidence against the acquisition order of marked and unmarked features. The researcher discovered that the participants first employed the strategy of using no preposition at all (NO-PREP) in RCs. Then they acquired preposition stranding prior to pied-piping, which is unmarked.

The fact that preposition stranding, a marked construction, is acquired before pied-piping, its unmarked counterpart, goes against the markedness hypothesis previously mentioned. In this case, Bardovi-Harlig claims that *salience*, i.e. the

⁷ A node that plays a role in determining whether a movement is local enough (Cook & Newson, 2007)

availability of language data, should come into play; its role is likely to dominate that of markedness in this context. As discussed above, the preposition stranding structure outnumbers the pied-piping one. Chances are English learners are exposed to more L2 data on preposition stranding and are able to acquire it before pied-piping. This suggests that the evidence for pied-piping in English is too scant to allow learners to acquire it first despite the fact that it is unmarked. In other words, high salience can bring about the acquisition of a marked construction before an unmarked one.

2.3.4.2 L1 Transfer

Even though the flaws of the strong claim made by Contrastive Analysis have been shown in a large amount of research, it is not necessary for us to discard the first-language transfer when studying the interlanguage of L2 learners. L1 transfer, as stated in James' (1998) study, refers to the influence of a learner's L1 on the acquisition of a second language (L2). The transfer could be positive or negative depending upon the outcome of learning. Language distance is an important determining factor in L2 acquisition in the sense that the more similar the two languages are at some point, the more likely the L1 is to facilitate development in the L2 (Kellerman, 1995). By contrast, learners from a typologically more distant language may not become as successful in learning the L2 as those from a typologically closer language (Odlin, 1989).

Because of such L1 transfer to learners' interlanguage, several studies have been undertaken to examine two different languages and to find out how and to what extent the learners' L1 can have an impact on their L2 learning. For instance, many researchers have conducted studies on Chinese learners of English. It is assumed that Mandarin Chinese, which is the learners' L1, is likely to influence their L2, English,

acquisition because both languages are different in many ways (Chang, 2004). First, RCs in Mandarin Chinese appear to the left of the head NP, whereas those in English occur to the right of the head NP. Second, Mandarin Chinese and English differ on how RCs are marked. To be specific, while in Mandarin Chinese there is only one invariable relative marker *de*, English has more relative pronouns, such as *who*, *whom*, *which*, and *whose*. The third difference lies in the fact that in Mandarin Chinese a pronoun can be retained in all relativized positions except for subject position (Yip & Matthews, 2000). In contrast, such resumptive pronouns are never allowed in English RCs.

Chiang (1981) examined the errors in the writing of ESL Chinese learners in Taiwan and found that L1 interference is common but not a main source of errors. Moreover, Liu (1998) investigated ERCs produced by junior high school students in Taiwan, collecting data from picture-identification, ordering, and grammaticality judgment tasks. The researcher observed little L1 interference in the process of L2 acquisition of these learners. Yip and Matthews (1991) studied the ERCs produced by advanced Chinese learners of English and found that most of the errors committed by the subjects resembled those observed in other L2 contexts rather than were caused by L1 influence.

Despite the above studies, Chang (2004) argued that the reason why little L1 transfer was observed might be due to the high proficiency level of the subjects and the tasks used to elicit RCs in the previous studies. As Odlin (1989) remarks, linguistic proficiency can affect the likelihood of transfer. In other words, L1 interference is more likely to occur in the interlanguage of lower proficiency learners. It was discovered that although Liu (1998)'s subjects were junior high school students whose English proficiency levels were quite low, the tasks she employed such as

grammaticality judgment might have inhibited L1 transfer thanks to the more conscious effort placed on the grammatical rule.

Chang (2004) conducted a study on ERCs produced by Chinese learners. In this study, two tasks were employed. One is a composition and the other is a multiple-choice grammar test.

From the data in this study, especially the compositions, it seems that the learners are not used to the head-initial properties of RCs in English; as a result, they tend to come up with an infrequent use of ERCs in their writing. This finding parallels Schachter's (1974) observation that learners might try to avoid RCs in English due to the difficulties arising from differences between L1 and L2 relativization. Apart from the avoidance of ERCs, errors found in the subjects' writing reflect L1 interference since some of them probably got confused and then produced a construction similar to their L1's as in '*I can read many books I like or buy I love books.'. The underlined part which is ungrammatical in English reflects the word order of Chinese RCs as illustrated in (115).

(115) wo mai wo ai de shu
 I buy I love DE book
 'I bought the book I love'

(adapted from Chang, 2004, p. 11)

The L1-influenced structure like this can be seen elsewhere in the compositions, which manifests the learners' incomplete control of ERC structure.

Another piece of evidence of L1 transfer in these Chinese learners' ERCs concerns the Chinese relative marker *de*. The problem arises since *de* also occurs in

various structures of pronominal modification in Mandarin Chinese, one of which is Chinese possessive. It is not surprising to see Chinese learners use *of* instead of relative pronouns as the relative marker.

More evidence of L1 transfer in Chinese learners' ERCs comes from the error of *pronoun retention*. As predicted earlier, the occurrence of resumptive pronouns is noticeable in this study. This is because resumptive pronouns are allowed in Mandarin Chinese except for subject position. The learners may transfer this feature from their NL to their interlanguage as in (116) and (117).

(116) *There are some big places that we can play baseball on *it*.

(117) *I want to join the piano club where I could learn and enjoy *it*.

The study done by Chang (2004) confirms the notion that L1 transfer really exists in the interlanguage of L2 learners.

2.3.4.3 Avoidance

Avoidance is an important phenomenon in second language acquisition. According to Richards (2002), avoidance occurs when a learner, in speaking or writing a second or foreign language, often tries to avoid using a difficult word or structure and turn to a simpler word. Avoidance primarily results from the differences between learners' L1 and L2. One of the pioneering studies by Schachter (1974) in RC acquisition clarifies this point. In the study, the researcher shows some weaknesses of error analysis (EA) as the approach is incapable of explaining the occurrence of avoidance. To be precise, she focused her study on the use of ERCs by

native speakers of four different languages, namely Persian, Arabic, Chinese, and Japanese, in comparison with the ERCs used by American English speakers.

Chinese and Japanese participants committed significantly fewer errors on ERCs than did Persian and Arabic speakers. This result might lead one to believe that ERCs were easier for the Chinese and Japanese learners of English, compared with those who speak Persian or Arabic as L1. As a matter of fact, this is not the case. Schachter explained that the way RCs are formed in Japanese and Chinese is different from how they are constructed in Arabic and Persian. RCs in Arabic and Persian are similar to those in English in that they follow the heads. This similarity probably made them produce RCs in English with greater frequency. This was perhaps why they were likely to produce more errors. As for Chinese and Japanese learners, the RCs in their native languages are placed before the heads. Thus, they are not accustomed to the placement of RCs in English, which is the opposite. Not surprisingly, they used the ERC construction less frequently and what followed was their production of fewer errors. Schachter also suggested that Chinese and Japanese learners tended to use ERCs when they were sure of getting it right. This helps explain why they committed fewer errors.

This study indicates that the native language is a determining factor in accounting for the facts of RC production and avoidance. When learners' L1 differs considerably from L2, L2 learners are inclined to come up with avoidance. They are said to avoid structures in L2 that differ from those in L1 or that cause them difficulty (Kleinmann, 1977; Odlin, 1989).

Chiang (1980) carried out a study for the purpose of investigating predictors of RC production in adult SLA. This was a replication and extension of Schachter's (1974) study but was based on oral instead of written production. In Chiang's view, to

avoid using a structure implies that learners probably know the structure but choose not to use it. In order to make sure that the participants, who were 83 foreign students from the University of Southern California, really had an opportunity to choose whether to avoid using ERCs or not, he presented them with question stimuli designed to elicit ERCs. In this case, not producing RCs means the participants avoided the structure. The study reveals that they used fewer ERCs in their responses to the questions, compared with native speakers' answers. Chiang found that the variable which correlated with avoidance most strongly was overall language proficiency, followed by language background.

Gass (1980) also examined the issue of avoidance in two tasks: a sentence-combining task and a written composition. In the first task, Gass found that L2 learners avoided structures on the marked end of the NPAH. For them, the more marked the structure, the more difficulty they have to face. In the composition task, a similar result was shown when the learners produced more RCs on the unmarked end of the hierarchy. They produced 76% for the SU and only 15% for the DO positions. Such results gave a clearer picture of the notion of avoidance since her study related avoidance to markedness in L2, as opposed to the differences between L1 and L2.

Another research work related was done by Bley-Vroman and Hounig (1988), who suggested that Chinese and Japanese learners may not intend to greatly avoid RC using in L2 but they simply transfer the distribution of RCs from their mother tongues.

‘...two languages may have essentially the same range of structures available, but in one language one structure may be particularly frequent, while the corresponding structure in the other language may be quite rare.’

(Bley-Vroman and Houn, 1988, p. 93)

They examined the issue of comparative frequency of RCs in Chinese and English by counting RCs in the first five chapters of an American literary work *The Great Gatsby* and its well-accepted Chinese translation. They claim this method solves the problem of what would constitute appropriate equivalent texts in L1 and L2 because the problem of comparability of content, register, and style would not arise. The findings show that only about one-third (32/93) of the original English RCs were translated as RCs in the Chinese version. This may imply infrequent use of RCs in Chinese.

Zhao (1989) used a translation to compare the frequency of RCs in English and Chinese. She collected her data from the bilingual collection of English language impressions of China written by Chinese Canadians and Chinese Americans, accompanied by their Chinese translations. Zhao concluded that Chinese might make less use of RC constructions than English because a) Chinese employs other syntactic structures to perform the focused information function associated with restrictive relativization in English, and b) Chinese does not have non-restrictive RCs.

Zhao (1989) also studied the functions of certain RCs in English. It was discovered that some ERC types do not have equivalent counterparts in Chinese due to their special functions, such as

Extraposed restrictive RC:

A girl is studying with me *who has an IQ of 200*.

Existential sentences introduced by there be

There were certain aspects of China *which I was very interested in examining*.

Restrictive RCs which have adverbial function of concession

Mother *who was married at sixteen* had been very accurate about village life.

(cf. Although mother was married at 16, she still remembered details of the life at her home village.)

(Zhao, 1989, p. 109)

Chinese speakers cannot translate these RCs into their L1. As a result, they have to employ other structure to present such information instead. This is probably the reason why ERCs used by Chinese are smaller in number, compared with those native speakers produce (Zhao, 1989).

Kamimoto et al (1992) also compared *The Great Gatsby* and three respected Japanese translations (Nozaki, 1974; Oonuki, 1957; Hashimoto, 1974), applying the Bley-Vroman and Hounig method of counting. They found that only approximately half of the RCs in the source text have been translated into the Japanese versions. However, they suggested that RCs in Japanese are in fact as frequent as RCs in English, but there are some pragmatic functions of RCs in Japanese that do not match those in English and vice versa. Therefore, several ERCs cannot be directly transformed into the corresponding Japanese RCs in the translations. The difference in terms of functions may inevitably result in avoidance of RCs in English.

Li's (1996) study supports Zhao (1989) and Kamimoto (1992). Conducting the study with Chinese ESL learners in Canada, Li suggests that the major syntactic difference between English and Chinese, i.e. the placement of RCs with respect to the heads, does not cause much difficulty to Chinese learners. What is actually problematic concerns the RCs in English which have special pragmatic functions. Chinese learners are not familiar with these RCs and then naturally use other structures which are closer to corresponding structures in Chinese to serve the pragmatic functions. They can achieve the same communicative purposes through this means. The pragmatic differences, Li claims, are too subtle for Chinese learners to perceive and make them subconsciously underproduce ERCs. He concludes that underproduction does not necessarily mean conscious avoidance, which occurs when learners intentionally choose not to use a particular structure.

Maniruzzaman (2008) examined Bengali EFL learners' avoidance behavior. More than 90% of the participants, who were undergraduates, admitted both in the questionnaire and the interviews that they adopted avoidance behavior in the learning and performance in EFL. The study also reveals that 95.50% of the participants avoided using some structures on purpose, e.g. relative clauses, passive, and etc. and 90.45% did so in writing. A great number of participants ascribed their avoidance to the dissimilarities between L1 and L2, and to the difficulty of L2 (English) structures itself. The researcher states that this avoidance behavior apparently reduces and hampers the learners' ability and fluency in using the target language. This could be attributed to the shortcoming of the teaching English through the grammar-translation method, which fails to help learners apply theories to practice and use forms in communicating meaning effectively (Ellis, 1985).

2.3.4.4 The effect of instruction on ERC acquisition

Gass (1981, 1982) proposed *the Implicational Generalization Hypothesis* (IGH), which claims that instruction focused on one level of an implicational hierarchy such as Keenan and Comrie's NPAH (1977) may generalize to uninstructed hierarchy levels. Thus, the learners having been taught will acquire both the instructed and the other uninstructed constructions that are higher in the hierarchy. The instructed level, however, will not implicate lower or more difficult RC types.

The IGH is broken down into two major subpredictions which are explicit to varying degrees. The first subprediction is that implicational generalization (IG) is strictly *unidirectional* to hierarchy level implicated by the instructed level. For example, if the OPREP level is instructed to learners, they tend to acquire the uninstructed SU, DO, and IO levels as well. The other claims that IG is *maximal*. That is to say, learners who benefit from instruction will acquire both the instructed level and the other types which are less marked. The maximality prediction in conjunction with unidirectionality states that where IG occurs at all, the learners will necessarily acquire the instructed level and all implicated levels. In other words, the learners will inevitably begin their acquisition from the instructed level all the way up to the least marked one in the hierarchy, which is the SU level. For instance, if learners are instructed in the OPREP level, maximality rules out the possibility that they will acquire only the SU but not the DO and IO levels (Hamilton, 1994).

According to Gass's studies (1981, 1982) on the IGH and the L2 acquisition of ERCs, the researcher used three days of instruction in ERCs to two groups of low-intermediate adult ESL learners. The first group received instruction only on the OPREP level, while the other group was taught on a variety of RC levels with concentration on SU and DO with less IO, OPREP, and GEN. It was found that the

results of this study confirmed the IGH in that those in the first group, who were instructed only on the OPREP level, seemed to succeed in acquiring all the levels higher in the hierarchy, namely IO, DO, and SU types respectively.

Nevertheless, the study also revealed a more surprising and challenging finding that those learners in the OPREP-instructed group even did better on the OCOMP by approximately 50%. This OCOMP was not implicated by the IGH, but significant generalization did occur to this most marked level. This generalization to the level not implicated by the IGH goes against the concept of unidirectionality (Hamilton, 1994).

Doughty (1988, 1991) instructed the OPREP position to the subjects, who were also ESL learners, in a similar fashion to see what would appear to be IG to the unimplicated GEN and OCOMP positions. It was discovered that the subjects made a significant improvement on the GEN and OCOMP positions, which were not implicated by the IGH. Again the result did point against unidirectionality.

Even though unidirectionality at this point may be considered invalid, there are reasons to question the evidence against unidirectionality. As for the OCOMP type, Gass (1982) argued that the participants may have interpreted the comparative conjunction *than* as a preposition, thereby incorporating OCOMP into OPREP positions. Because of this, no true generalization to OCOMP took place. This explanation could also be extended to the OCOMP unexpected acquisition in Doughty's study. With regard to the unexpectedly high accuracy score on GEN relativization in Doughty's research, this can be accounted for with several particular features of GEN in English, which may make it relatively easy to acquire, including its unique coding for case or grammatical relation and its concurrence with a possessed NP with which it might be treated as a unit (Doughty, 1991).

This concurrence is notably relevant. Doughty remarked that almost all of the possessed NPs found in her study were subjects and direct objects. As a result, these learners might have processed *the genitive (whose) + NP* in terms of the role of the NP. Whether *the genitive (whose) + NP* is a subject or direct object is not a problem for the learners since both positions are higher and so easier in the hierarchy and implicated by the instructed position (OPREP).

For all of the above reasons, we cannot be certain that the gains or improvement on the GEN and OCOMP levels in Gass's (1982) and Doughty's (1991) studies truly constitute IG to a level not implicated by the instructed level. In addition, Eckman et al. (1988) provided additional evidence of unidirectionality in a study using relativization and the NPAH to test the IGH. It was done on low-intermediate and intermediate adult ESL learners. There were three experimental groups, each of which was given one hour of instruction in a different NPAH level, namely SU, DO, and OPREP, and there was also a control group instructed in an unrelated sentence combining technique. It was revealed that the overall pattern of generalization tended to be unidirectional in their data.

However, to the researchers' surprise, the SU-instructed group did improve on the unimplicated DO level from 36 total errors on the pretest to 25 on the posttest. This finding is obviously against the prediction concerning unidirectionality made by the IGH. Nevertheless, this gain is also substantially less than the gains made by every experimental group on the implicated levels. Furthermore, Eckman et al. (1988) did not supply a statistical analysis that would tell us whether this particular gain is significant. Thus, the consequences for the unidirectionality hypothesis are again unclear.

2.3.4.5 Corpus-based studies on RCs

Several studies in both theoretical and applied linguistics have now been carried out on the basis of language corpora, since it is widely accepted that corpora can provide researchers, teachers, and even learners with more useful information which is now and then unavailable through native speakers' intuition. As to the definition of *corpus*, according to Hunston (2002, p. 2),

'Linguists have always used the word *corpus* to describe a collection of naturally occurring examples of language, consisting of anything from a few sentences to a set of written texts or tape recordings, which have been collected for linguistic study. More recently, the word has been reserved for collections of texts (or parts of texts) that are stored and accessed electronically.'

From the above definition, corpora at present principally have to do with the use of computers, which can contain and process large amounts of information. Electronic corpora are convenient as they are much larger than the paper-based collections previously used to study linguistic aspects (Biber, Conrad & Reppen, 1998). Language corpora are generally planned and designed for some linguistic purpose. The specific purpose of the design determines the text selection.

Corpora are aimed at, other than just preserving texts for linguistic investigation, providing information on how a language works that might not be accessible to native speakers' intuition, such as word frequency or a variety of collections a particular word can have in actuality. Furthermore, exploring language corpora by themselves can also help learners observe some major aspects and even make their own generalizations or hypotheses from the corpus data; consequently,

they may begin to realize how they can study language on their own in a systematic way (Burnard & McEnery, 2000).

There are many kinds of corpora, each of which offers its own different benefit. Closely related to research in applied linguistics is a learner corpus, which is a collection of texts or essays written by language learners. The purpose of this type of corpus is to identify in what respect learners are different from each other and from the language of native speakers. In the latter case, a comparable corpus of native-speaker texts is to be obtained. The worldly known learner corpus is the International Corpus of Learner English (ICLE), a collection of corpora of 20,000 words each. Each of the corpora is made up of essays produced by English learners from a particular language background, e.g. French, German, Swedish, etc. (Hunston, 2002).

In relation to RCs, one of the early corpus-based studies of RCs is Cornilescu (1981), who makes some significant observations about the restrictions on RRCs and NRCs. The study indicates that RRCs are the norm when head nouns are modified by words such as *any*, *no*, and *every*, and that NRCs are normally used after proper names. Yashimata (1994), using the Lancaster/IBM Spoken English Corpus, reveals that NRCs are more likely to be found in sentence-final position due to their tendency to present long and complex information. Guy and Bailey (1995) investigated the choice of relative pronouns used by English speakers. The data were drawn from two sources. The spoken data were derived from The White House Transcripts, the published version of the recordings made by Richard Nixon during the Watergate Crisis. The written data were obtained from a variety of academic articles which represent formal style.

The study reveals that NRCs and genitives are always realized as wh-forms, e.g. *who*, *which*, *whose*, as can be seen in (23), repeated below for convenience. In

addition, *wh*-forms are favored in formal writing and for human antecedents in the embedded-clause subject position, as in (23).

(23) My uncle, who lives in Texas, is a psychologist.

By contrast, *that* is favored in informal speech and for non-human antecedents, as in (109).

(118) I forget most of the films *that* I see.

(Swan, 2005, p. 478)

Zero or relative pronoun deletion is moderately favored for human antecedents, particularly in embedded-clause direct object positions and in informal speech. However, *zero* is very strongly disfavored in embedded-clause subject positions in both speech and writing. It is also found in this study that *zero* is strongly disfavored when the RC is separated from the antecedent by a phrase. Moreover, many more pied-piped prepositions are discovered in writing than in speech.

Karasawa (2001) maintains that observations and descriptions of learner language through corpus analysis can result in a better understanding of linguistic features used by L2 learners. Variations of language use tend to be seen among these learners in different stages of language acquisition. This is why it is necessary to carry out a comparative analysis of corpora produced by learners at different proficiency levels. Such an idea led to another study, Karasawa (2003), which aimed to examine the patterns of elaboration for noun modification used by non-native English speakers at different levels of proficiency in writing. The corpora analyzed in this study were

collected from three groups of English learners in the United States, namely high-proficiency, intermediate-proficiency, and low-proficiency learners. In addition, there are also two corpora of essays written by high and intermediate native speakers. Concerning the use of RCs, the low-proficiency learners were found to use more RCs to modify nouns than the other two groups did, probably due to the fact that their proficiency was still so limited at this level that they could not write in a brief meaningful fashion or use some pronominal modifiers such as attributive adjectives. In addition, all levels of the non-native essays indicate a higher use of *wh*-relative clauses than the native ones. This could be interpreted as transfer of learning from formal L2 writing instruction where *wh*-forms as opposed to *that*-clauses are explicitly taught, while *that*-clauses are more highly favored than *wh*-clauses in the native speakers' essays (Karasawa, 2003).

Another important corpus-based study of *wh*-clauses is Crompton (2005), designed to thoroughly analyze Malay-speaking English learners' use of the word *where* in their writing. The learner corpus, known as the Brunei Learner Corpus (BLC), was collected from 200 writing assignments from several faculties. Also two native-English-speaker (NES) corpora, i.e. the Longman Corpus of Spoken and Written English (LSWE) and the British National Corpus (BNC), were used for the comparison with the learner corpus. The results of the study point out considerable overuse of *where* in RCs. This can be explained, as proposed by Crompton, as a consequence of various patterns of misuse of *where* and non-use of standard forms of relativization, i.e. prepositional relativizers like *in which* or *from which*, which are characteristic of academic written English.

Based on the learner corpus data, the researcher performed an error analysis, listing types of errors regarding the use of *where* as a relative marker. Some are given below:

Where is used in respect of time rather than place

(119) *Thus, in today's life, the number of children in family in Brunei may only at least 3-4 children rather than before *where* almost all the family may have more than 8-10 children.

(Crompton, 2005, p. 164)

Resumptive pronouns

(120) *This is proven by Japanese and Koreans companies *where* team work is vital to *them*.

(Crompton, 2005, p. 165)

An incorrect use of relativizer

(121) *The main religion in Brunei is Islam and they follows the concept of MIB *where* it stands for 'Melayu Islam Beraja'.

(Crompton, 2005, p. 165)

In (121), *which* should be used in place of *where*.

Crompton (2005) attributes the overuse of *where* in RCs produced by the Bruneian learners to the fact that the learners were perhaps not aware of prepositional relativizers as an alternative to *where*. The data from the BLC lends support to this since the use of such prepositional relativizers is very low – actually lower than that for the LSWE academic subcorpus. He suggests that the learners might have realized

that using *which* alone is incorrect but did not know how to supply a proper construction of a prepositional relativizer. They then ended up using *where*, which they probably guessed “would convey the more particular location-related meaning they have in mind.” (Crompton, 2005, p. 171).

Carter and McCarthy (2006) compiled an English grammar reference based on *the Cambridge International Corpus* (CIC), which contains over 700 million words of English. The work is composed of real texts taken from everyday written and spoken English. These texts cover a wide variety of different genres and examples drawn from various contexts, e.g. newspapers, journalism, advertising, literary texts, debates and discussion, university tutorials, formal speeches, families talking at homes, etc. The study by Carter and McCarthy (2006) is claimed to be specially different from other corpus-informed references in that it also includes information from CANCODE (*Cambridge and Nottingham Corpus of Discourse in English*), a unique collection of five-million words of naturally-occurring spoken British English.

With regard to ERCs, Carter and McCarthy (2006) presented findings that correspond to the traditional grammar rules. For example, it confirmed the fact that the relative marker *that* cannot be employed in non-restrictive RCs. It is also interesting to see some change of ERC use. For instance, the relative pronoun *whom*, which was traditionally used to refer to the human object of a RC, is now limited to very formal styles, particularly in writing. However, in very informal speech of native English speakers, a violation of standard grammar rules is sometimes noticeable, e.g. a use of resumptive pronouns. For example, in (122), the pronoun *it*, which has the same reference as *one*, is unnecessarily repeated.

(122) If you have one that you're really desperate to tell us about *it*, then give us a ring on 01223...

(Carter and McCarthy, 2006, p. 568)

Loock (2007) conducted a study to investigate *appositive relative clauses* (ARCs), or non-restrictive relative clauses (NRCs), and their functions in discourse. The data used for the analysis are from a corpus consisting of 450 utterances containing an ARC. The utterances were taken from quality newspapers, tabloids, fiction texts, and specialized texts, mostly from the fields of psychology and medicine. Through the corpus data, the researcher proposed a taxonomy based on syntactic, semantic, and pragmatic criteria. It is found that ARCs bear different discourse functions, which lead to three subcategories of ERCs as follows. First, a *continuative ARC* refers to a specific kind of ARC that enables a movement within narrative time by depicting two consecutive events, as in (123), where an adverb such as *now* is seen.

(123) Zenia herself was present only in spirit, said the lawyer, and also in the form of her ashes, *which they would now proceed to the Mount Pleasant Cemetery to inter.*

(Loock, 2007, p. 340)

Second, a *relevance ARC*, as in (124), is defined as a discursive strategy employed by the speaker out of consideration for the addressee(s). In other words, it is used to make relevant the antecedent or the predicate in which it appears.

(124) It is hard to square his action with the Energy Policy and Conservation Act, *which authorizes the presidents to tap the reserve.*

(Loock, 2007, p. 346)

In (124), the speaker is afraid that the addressee(s) might not be familiar with the referent of the antecedent *the Energy Policy and Conservation Act*, so he/she simply provides the background knowledge to reduce the gap between the informed addressee and the uninformed one.

The last ARC type proposed by Loock (2007) is *the subjectivity ARC*, which conveys an opinion, a judgement, or a comment from the speaker. It usually contains markers of modality, e.g. modals, and vocabulary denoting judgement or appreciation. The speaker, especially in the journalistic genre, moves from objectivity to subjectivity by providing a comment on the referent of the antecedent or the subject-predicate relation. (125) is an example of a subjectivity ARC as it conveys the speaker's own judgement.

(125) The men's 4 × 100 m. team, *who might not have qualified anyway*, went out in the heats when they burgled a change-over, straying out of the prescribed area.

(Loock, 2007, p. 353)

Kachru (2008) emphasizes the benefits of corpus data in that the real distribution in patterns of use revealed by analyses of corpora can enable learners to perceive the differences between what the principles of grammar say about and what occurs in reality. An example regarding relative clauses as postnominal modifiers is

given in this work, cited here as (126), in comparison with (127), which represents a prepositional phrase as a modifier.

(126) I have left the books *on the table which is in the hallway*.

(127) I have left the books *on the table in the hallway*.

(Kachru, 2008, p. 3)

Kachru states that RCs as in (126) are discussed extensively in grammar references and teaching texts in great detail, whereas prepositional phrases as in (127) receive far less attention in formal instruction. However, according to Biber et al. (1999), prepositional phrases occur more frequently than RCs. Unfortunately, prepositional phrases, in language pedagogy, have not been considered as important to be taught as RCs.

Despite its more frequency in corpora, prepositional phrases should not be taught first or before RCs because RCs are claimed to be better understood than prepositional postnominal modification. At this point, Kachru proposes that language teachers should bear in mind that they are not supposed to completely rely on corpus-based information. Rather, practicality should be the first thing to consider in presenting a grammatical construction to students.

2.3.4.6 RCs in spoken language

As can be seen in the previously reviewed literature, most studies in RCs have been dedicated to written language since RCs are main features commonly found in written rather than spoken language (Biber et al., 1999). This spells out the fact that a

few number of RC studies have concentrated on spoken data. There, nevertheless, appears some works focusing on spoken RCs, which are worth being mentioned here.

Menyuk (1969) and Limber (1973, 1976) are early studies on RCs in spoken language. They discuss a few aspects of children's spontaneous use of RCs in English. Slobin (1986) compares the development of RCs in the speech of English- and Turkish-speaking children. Additionally, Dasinger and Toupin (1994) and Jisa and Kern (1998) analyzed the discourse-pragmatic functions of RCs produced by children in a picture book task.

The first research study that provides a systematic analysis of the development of RCs in natural child speech is Diessel and Tomasello (2000), a large-scale examination of RC acquisition based on observational oral data. It is discovered that the earliest RCs English-speaking children use are semantically simple. In particular, the RCs in question consists of a presentational copular clause and a relative, which normally includes an intransitive verb, as in (128).

(128) That is the sugar *that goes in there*.

(Diessel & Tomasello, 2000, p. 136)

In (128), the main clause is a copular clause as it contains *is* as the main verb. The verb *goes* in the RC is intransitive. Although (128) comprises two finite clauses, it expresses only a single proposition represented by the RC. In other words, the focus of the sentence is what the RC carries.

Moreover, the study also reports that children's early RCs are often attached to an isolated head as in (129), where the head is a simple NP *The girl*.

(129) The girl *that came with us*.

i. (Diessel & Tomasello, 2000, p. 135)

Diessel (2004) evidently confirms the findings above. That is to say, more than 90 % of the earliest RCs found in the speech of four children speaking English as their mother tongue occur in copular constructions or in similar constructions with an isolated head. Such constructions seem to be characteristic of children's early RCs in other languages as well, e.g. French (Jisa & Kern, 1998), German (Brandt et al, 2005), Hebrew (Dasinger & Toupin, 1994), and Indonesian (Hermon, 2005).

As children grow older, they begin to produce more complex constructions of RCs in their speech. In particular, they tend to use a RC to modify a main-clause object. Conversely, the main-clause subject is barely modified by a RC because there will arise an interruption between the subject and the predicate of the main clause, which definitely increases the degree of difficulty to process the whole sentence.

Diessel and Tomasello (2005) examined RCs in spontaneous speech of an English-speaking child and found two major points. First, as expected by the researchers, RCs attached to the predicate nominal, e.g. *the sugar* in (128), of a copular clause cause fewer problems than RCs attached to the direct object of a transitive main clause, e.g. *the boy* in (130).

(130) Many saw the boy *who Peter played with in the garden*.

The study also indicates that S-relatives, RCs with an intransitive verb and a subject gap as in (131), are easier than A-relatives, RCs with a transitive verb and a subject gap as in (132).

(131) There's the boy *who played in the garden yesterday*. (S-relative)

(132) There's the man *who saw Peter on the bus this morning*. (A-relative)

(Diessel & Tomasello, 2005, p. 886)

It is suggested that S-relatives cause fewer errors than A-relatives since S-relatives are less complex. Denoting a simpler situation than A-relatives, S-relatives contain a single referent characterized by the RC. In contrast, A-relatives incorporate at least two referents that are engaged in a transitive activity. A-relatives are therefore conceptually more complex than S-relatives in that A-relatives include an additional referent, which is usually a direct object (Diessel & Tomasello, 2005).

The second important issue concerns the distance between the filler and the gap. The study supports the filler-gap hypothesis, discussed in 2.3.1.2, in that a long distance means greater difficulty. The data from this study show that for English-speaking children object relatives, which involve longer distance, significantly cause more problems than subject relatives. However, it should be noted that GEN-relatives as in (133) are more difficult for children than object relatives although GEN-relatives involve a relatively short distance between the filler and the gap, especially if the head of the genitive functions as subject (Diessel & Tomasello, 2005).

(133) This's the woman *whose cat caught a mouse yesterday*. (GEN-relative)

(Diessel & Tomasello, 2005)

Brandt, Diessel, and Tomasello (2008) studied the RC development in the speech of Leo, a German-speaking child from 2 to 5 years. Having examined the boy's spontaneous speech for three years, the researchers found that his RC

acquisition originates from simple main clauses. In German main clauses, the finite verb occurs in second position, i.e. the position after the other verb and other elements. In contrast, RCs in German, which are subordinate clauses, require all the finite verbs to be at the end of the clause.

It is found that most of the RCs Leo used reflect the main-clause word order. Additionally, the majority of the early RCs are attached to an isolated NP that resumes a previous discourse. These RCs usually contain an anaphoric pronoun in nominative case and assert new information. Most of the verbs in the RCs are intransitive. The existence of such early RCs is attributed to the influence from the caregivers who produced a large number of such RCS, providing a model for Leo's early RCs.

The development of the child's RC in German is parallel to that of RCs used by English speaking children. In both languages, children's early RCs function semantically like simple main clauses. Still some minor differences can be seen. While English-speaking children produce most of their early RCs in focus constructions, consisting of a RC and a copular clause as in (128), most of Leo's RCs in the early stage occurred in topicalization, comprising a RC and an isolated NP as in (134).

- (134) Ne Scheibe, die kann mann auch darunter
 a disk that-ACC can you-NOM also under
 roller lassen
 roll let
 'A disc that you can roll under there?'

(Brandt et al., 2008, p. 340)

In addition to English RCs, Leo's early German RCs are similar to those in French, Spanish, Hebrew, and Indonesian in that these RCs develop from constructions which are a little different from simple sentences (Brandt et al., 2008). The study demonstrates that children across languages seem to draw on their previous knowledge of simple main clauses in the acquisition of RCs. Furthermore, it is also proposed in the study that, in addition to linguistic complexity, communicative factors play a crucial role in determining children's production of RC types. They may not use a particular type of RC, despite having an ability to understand it, because the structure deals with a communicative situation that does not happen in parent-child interactions. Also they probably choose to produce alternative constructions which they find easier.

Though this is a longitudinal study the data of which were drawn from only one child, its results are claimed to be generalizable to other German-speaking children because they are consistent with other studies, e.g. Brandt (2004).

Aside from first language acquisition, there are also SLA studies on RC in spoken language. Schumann (1980) investigated naturally occurring speech of non-native English speakers living in the United States. The study shows that, in accord with Kuno's (1974) hypothesis, discussed in 2.3.1.1, OO and OS sentence types were preferred to SS and SO types. Furthermore, there arises some evidence that RCs may develop in a sequence characterized by a *zero* relativizer, as in (135), a pronoun relativizer as in (136), and finally a relative pronoun, which is the acceptable version in standard English.

(135) And now I want one thing \emptyset you have here.

(Schumann, 1980, p. 122)

(136) He got a friend *he* speaks Spanish.

(Schumann, 1980, p. 122)

In (136), the pronoun *he* is used as if it were a relative pronoun linking the RC to the main clause. The pronoun relativizer stage for L2 learners, as suggested by Schumann (1980), seems to be much less obvious.

Hyltenstam (1984) studied RCs in L2 Swedish, a language which does not allow resumptive pronouns. The subjects were 45 adult learners from different language backgrounds: Finnish, Spanish, Greek, and Persian. Pictures were used to elicit oral sentences for each relativizable function proposed in the NPAH (Keenan & Comrie, 1977). The study demonstrates that resumptive pronouns are produced by all language groups in their Swedish RCs, even by those whose native languages do not permit them, i.e. the Spanish and Finnish learners. However, there is a difference between the learners speaking different L1s. To be precise, the Persian and Greek learners whose L1s allow pronoun retention supply more resumptive pronouns than the Spanish and the Finnish, whose L1s disallow this type of pronoun.

With respect to *the Resumptive Pronoun Hierarchy* (Keenan & Comrie, 1977), which predicts that resumptive pronouns are likely to occur in more marked RC types, as discussed in 2.3.2.2.3, this study found support to the hierarchy. There were fewest learners who used resumptive pronouns for the subject type, which is the most unmarked, and pronoun copies appeared with the most frequency for the genitive type rather than the object-of-comparison type as expected in the hierarchy.

Flynn (1989) also examined RCs used by two groups of learners whose native languages differ in head directions. The subjects, Spanish and Japanese speakers, are different in that RCs in Spanish, like English ones, are head-initial, while Japanese

RCs are head-final, i.e. following their antecedent. The instrument used in the study was an elicited imitation task, which required the participants to repeat each sentence after they were presented with batteries of randomized stimulus sentences.

From the results of the study, as hypothesized, the Spanish speakers did significantly better in the task than the Japanese ones, even though these two groups are equal in basic ESL level. This is because the Spanish are more familiar with the head direction in English, i.e. head-initial. Their L1 is claimed to facilitate the acquisition of ERCs. In contrast, since the head direction of RCs in Japanese is opposite to that of ERCs, it is undoubtedly more difficult for Japanese speakers to acquire the RC system of English.

The difference in head directions between Japanese and Spanish as the learners' L1 also results in a difference in terms of errors these learners made. That is, the errors committed by the two groups differ qualitatively. With respect to patterns of errors, the Spanish speakers indicate no significant structural difficulty with the head-direction configuration, principally having lexical errors rather than structural ones, whereas the Japanese speakers show significant structural difficulty with ERC formation.

Ozeki and Shirai (2007) analyzed RCs used by Japanese L2 learners at different levels of proficiency. The data are from an oral interview corpus from 90 learners divided into three groups of thirty according to their native languages. 1005 RCs were extracted from the learner corpus. The study focused on the three RC types, SU, DO, and OPREP, as proposed by the NPAH (Keenan & Comrie, 1977). Although SU is predicted by the NPAH to be the easiest and most frequently used by novice learners, it was discovered that the L2 Japanese learners produced all the three types,

not restricting themselves to only SU. This suggests that SU might not be easier than DO or OPREP for L2 learners of Japanese.

By contrast, the advanced learners, regardless of L1, used SU most frequently, which is similar to native Japanese speakers' pattern of use. For English and Chinese speakers, the higher the proficiency level, the higher the ratio of SU, which indicates that it is not the case that SU is more likely to be produced at the earlier stage of L2 Japanese development. This goes against the prediction of the NPAH.

Also found in this study was a strong correlation between animacy of the head NP and RC type. It appears that the learners are guided by the animacy of the head NP rather than grammatical relations in using different RC types. The research reveals that when the head was inanimate, the learners were inclined to use DO and OPREP. On the other hand, SU tended to be used with animate heads by the Japanese L2 learners, with the exception of the Korean speakers.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research procedure

3.1.1 Population and sample

Ninety Thai EFL learners participated in this study. They were first-year undergraduate students from various faculties at Thammasat University, all of whom were taking an English foundation course. The reason why the students were from different faculties was that at Thammasat the students taking English foundation courses were assigned to sections according to their English proficiency. Those who were more or less in the same range of ability were grouped together despite studying in different faculties.

As for the participant recruitment, permission from all the potential learners' parents needed to be asked for prior to the beginning of the data collection. The learners' parents, in other words, were asked to complete the consent forms showing their agreement to allow their children to participate in the study. In addition, it was also necessary to ask for the permission from the Language Institute of Thammasat University, which has been responsible for all the English foundation courses.

The participants were divided, according to their O-NET (Ordinary National Education Testing) scores, into two proficiency groups: High and Low, with 45 learners placed in each group. O-NET is a standardized test designed by respected scholars from National Institute of Educational Testing Service (N-IETS) under Ministry of Education to be used as a university entrance exam for grade-12 Thai students. Having been used since 2006, O-NET is considered an acceptable test as it passed all the validation processes (www.niets.or.th).

In this present study, High learners, whose O-NET scores range from 69-80, took English Course 3 (EL172), whereas Low learners, whose scores were between 32 and 56, had to register for English Course 2 (EL171). The students studying English Course 1 (EL070), which is a remedial course, were low in proficiency that they were not qualified to be recruited as the participants of the study as they might produce few or no RCs.

With respect to the cut-off score specification, convenience was given the first priority. That is, according to Thammasat Registration Office, the students in the Academic Year 2008 were assigned to EL 172 if their O-NET scores were from 65-80, to EL 171 with the scores from 32-64, and to EL 070 if the scores were lower than 32. The recruitment of the participants relied on intact groups and it conformed to the aforementioned course arrangement. The 45 High learners were from the EL 172 section comprising those with the highest scores (69-80), compared to other sections. Similarly, the 45 Low learners were those from the section of the lowest O-NET scores (32-56). The participant selection as such was beneficial since the study did not have to involve a section rearrangement, which has been very difficult to do or even impossible at Thammasat University.

In terms of the participants' English language education, they had learned English for at least 12 years (from grade 1) according to the government compulsory education policy (www.onec.go.th). In addition, they must not have come from international schools where English is entirely used as a medium of instruction. This was because the students' proficiency might be native-like or near native and this did not represent the actual reflection of Thai learners' interlanguage. Further, none of the learners in these two groups had been in an English-speaking country for more than three consecutive months.

As a matter of fact, there were also students whose English competency was so excellent that they were exempted from taking any foundation course; their O-NET scores were higher than 80. However, this group of students was not recruited in the study as they were low in number, being scattered in many different faculties. It would be difficult for them to participate in the study. Moreover, some may have studied in English-speaking countries, or some were from international schools, where English was a primary medium of instruction. Because of these, the students with the highest proficiency were excluded from the present study.

Regarding the context of the experiment, the researcher assumed two roles concurrently, that is, the researcher and teacher. The High and the Low groups were taught every Thursday from 9.30-11.00 hrs. and from 11.00-12.30 hrs. respectively, from November 2008 to February 2009. The course contents were not related to the language features to be elicited. The reason why the researcher chose to teach the participants lies in the fact that they would build up a rapport with the researcher as their teacher and thus become more willing to cooperate in the study. The tasks they were asked to do were graded so that they would feel the tasks were worth their effort. However, they were informed in the beginning of the first class that grammatical accuracy would not be graded. Rather, if they punctually submitted the tasks which met the criteria, e.g. the number of words for an essay, they would get the whole five points for each task. This was to prevent them from copying their peers' work or involving themselves in any other kinds of plagiarism. This way, the participants' work should reflect their true ability in using ERCs in authentic contexts.

A questionnaire with a list of questions about the learners' demographic information and their English language education background were administered to recruit the participants (to be discussed in detail in 3.2.4).

3.2 Research instruments

The instruments used in this study are as follows:

- (1) descriptive essay
- (2) descriptive speaking task
- (3) translation task
- (4) questionnaire

3.2.1. Descriptive essay

An essay is considered an appropriate method of eliciting productive knowledge of L2 learners. This can be used to investigate how they really produce a particular grammatical feature, such as RCs, in an authentic way. With essays, we should be able to find out which type of RCs is used the most and which the least. Moreover, with the RC type used the least, we may also see the learners' avoidance strategy. That is, they might seem to avoid using some RC types which they are not familiar with and overproduce some other types (Schachter, 1974).

However, if this is an essay on any topics, the participants might use a small number of or even no RCs in their writing. Thus, it is advisable that we ensure that a particular type of essay is likely to elicit substantial use of RCs (Sadighi, 1994). According to Gass (1982), a descriptive essay should be used as a tool to obtain data on learners' productive knowledge of RCs. Since they need to describe, define, or explain something, they may be more inclined to use more RCs, compared to writing other types of essays. The topics of essays should be controlled in a way that they are not too difficult for the participants to write about.

In addition to the past research, I also discovered that descriptive essays had a tendency to elicit more RCs than other kinds of writing. I conducted a small-scale

survey on the frequency of RCs in three types of essays: descriptive, narrative, and argumentative. Each type of essays was randomly selected from articles, with approximately 7,000 words in total, from *bbc.co.uk*, *cnn.com*, and *readersdigest.co.th*. The result showed that up to 45 RCs were seen in descriptive essays written by native English speakers. In contrast, 22 instances of RCs were observed in narratives and only 14 sentences with RCs were found in argumentative writing. This means that it appeared to be the descriptive essay that could best serve as a tool for eliciting RCs.

In the present study, the participants were asked to write four descriptive essays of approximately 200 words, each of which was assigned every two weeks. The data collection of essays lasted about 3 months from June to August in the first semester of Academic Year 2008. For each essay, they had an opportunity to choose one of the two topics provided. They were informed that their work would not be assessed according to grammatical correctness; therefore, they should be relaxed enough to produce the work which truly reflects their real ability in using English. Both the high-proficiency group and the low-proficiency one were also assigned the same topics, such as *my best friends*, *my home*, *my favorite pet*, *the book I like most*, or *the career I want to do in the future*.

3.2.2. Descriptive speaking task

A speaking task is considered another effective method to elicit interlanguage data from Thai EFL learners' speech. This can be used to investigate how they really produce a particular grammatical feature, such as RCs, in an authentic way. When speaking, learners' degree of monitoring their speech production is low, so they tend to come up with more natural language use, compared to performing a writing task in which they can spend more time carefully watching their work.

In order to elicit as many RCs as possible from the participants, the most appropriate speaking task should be a descriptive one, which provided them with a chance to recount their experience, ideas, or feelings in a relaxing way. The topics given should be parallel to those used in the descriptive writing, which has proved to successfully elicit RCs from learners (Gass, 1982; Sadighi, 1994).

As for the present study, only ten participants were randomly chosen from the High group and another ten from the Low group. The topics, four in total, were the same as those they had written for their essays, and the descriptive speaking task took place every other week after the participants' submission of each essay. Being asked to speak about the same topics as those for the writing, the participants should be accustomed to them and able to produce their speech with ease. They were also told they did not need to follow all of the contents of their essays. As a result, they were supposed to tell the stories in a natural manner and receive the whole points.

The time allowed for each participant for a topic was approximately 7-10 minutes. The researcher did not ask any question while eliciting data from the participants. The process of data collection from the speaking task lasted from November 2008 to February 2009.

3.2.3 Translation task

A translation task (see Appendix 2) was also used as a supporting task because the data from only the essay and the speaking task might not give an overall picture of the learners' interlanguage. This means in writing and speaking the learners could choose to produce only RC types with which they were familiar and avoid more marked types. However, non-use of some marked types of RCs did not imply that the learners did not know how to produce them. This was why the translation task should

be used after the essay and the speaking task since it was expected to more clearly reflect the learners' true knowledge of ERCs. If they were successful in doing so, it means they really knew how to form RC types which are difficult and marked but intentionally chose to avoid them in their writing as well as speech.

In order to investigate the avoidance strategy of the learners in depth, a mini-survey was made on the English textbooks used in high schools. Six major textbooks endorsed by Ministry of Education, namely *Touchstone*, *Opportunity*, *New Headway*, *Matrix*, *New Streetwise*, and *Cutting Edge*, were all found to contain up to the content of how to use object-of-preposition RCs and genitive RCs. This suggests that the students by now should know how to produce these types of RCs. Thus, underproduction of some ERC types may imply avoidance.

As regards the translation task, the participants were asked to translate ten Thai sentences into English. Five ERC types, namely SU, DO, IO, OPREP, and GEN, were tested here. Each type was tested twice, so there were two sentences for each. The OCOMP type was not included in the translation task since the pilot study showed that OCOMP, which is the most uncommon and unnatural (Ellis, 1994), did not occur at all in the learners' essays. This was to prove whether they were really able to use it due to their competence rather than conjecture. All of the sentences were approved of by an expert in Thai to make sure that they were grammatical and acceptable to native Thai speakers. Also, an expert in translation was asked to check these test sentences to ensure that the specific RC types, as opposed to some other possible variations, would certainly be elicited in translations.

It should be noted that the reason why the translation task was not used as one of the main research instruments for the present study lied in the fact that asking the participants to translate may be viewed as forcing them to produce the target

language, which could result in unnaturally-elicited language data. In comparison with the translation task, the descriptive essay and the oral descriptive task seemed to be more capable of eliciting far more natural language use since the learners had more opportunity to use the language features with which they were more familiar.

3.2.4 Questionnaire

The questionnaire used in this study was administered to the participants on the first day of the class before any research tools were administered. This was to sort out the qualified participants for the study. Although the questions were in English, the researcher orally translated them into Thai so that the participants whose English proficiency was low would be able to fully understand and give appropriate responses to them. They were allowed to answer in English or Thai and were asked to provide truthful responses. The questionnaire (see Appendix 1) adapted from Modhiran (2005), comprises two parts and it took approximately 20 minutes to complete.

The first part was designed to elicit the participants' personal information, such as their age, faculty, country of birth, or when they started learning English. The second part aims to collect information regarding the participants' EFL experience.

This type of questionnaire helped recruit the proper participants and exclude those whose EFL backgrounds did not count (e.g. students who were from international schools, or students who stayed in an English-speaking country for more than three consecutive months).

3.3 Data collection

The data collection was conducted in 2 phases:

(1) Two groups of Thai EFL learners were recruited from Thammasat University according to their English proficiency based on their O-NET scores. They were asked to complete the questionnaire provided so that it would be possible to select the appropriate ones as participants.

(2) Each of them was asked to write a descriptive essay every two weeks. They were supposed to submit their writing through their emails as well as in papers. The reason why their work should be in electronic forms lies in the fact that the data can subsequently be processed by the concordance program *ANCONC 3.2.1*, developed by Laurence Anthony from Waseda University, Japan, which is a free software program presenting all overt relative words found in learners' writing. This program can promptly show the search words (i.e. relative words) in context as well as word frequencies, so it was easier and more accurate, to great extent, to find and study the information needed. However, for the omitted relative words, they were manually studied.

Additionally, the participants were asked to talk about the topic they had chosen for writing. Their speech was recorded and subsequently transcribed to be used as the spoken data for this study. The translation was then typed and stored in Microsoft Word so that the recorded speech would also be able to be processed by the concordance program.

(137) The report [which Karen submitted ____] implicated several of her friends.

(Baker, 1989, p. 234)

The bracketed part in (137) is considered an ERC since it meets the criteria mentioned above. First of all, it is introduced by the relative pronoun *which*. Second, it has the finite structure *Karen submitted*. Moreover, there is a missing noun phrase in the RC-object position, equal to *it*, which is coreferential with *which*. The ERC modifies the head *the report*.

(138) The people [that ____ voted for Bill] dislike his policies.

(Baker, 1989, p. 235)

In (138), the ERC, which is bracketed, consists of the relative marker *that* and the finite structure *voted for Bill*. The missing noun phrase, equal to *they*, is in the RC-subject position and has the same reference as *that*. The ERC modifies the head *The people*.

(139) The accident [Jason caused ____] will be investigated.

(Baker, 1989, p. 235)

The ERC in (139) is bracketed. Here, it is introduced by nothing or *zero*. The finite structure is *Jason caused*, whereas the missing noun phrase is in the RC-object position. The whole ERC modifies the head *The accident*.

Baker (1989) also suggests that the deletion of relative markers is allowed only when the missing noun phrase is in an object RC position. When a missing noun phrase functions as a RDC subject, *zero* cannot be used, as in (140).

(140) *The journalists [____ exposed to the fraud] are being sued.

(Baker, 1989, p. 237)

In (140), the missing noun phrase is the subject of the ERC, so omitting the relative marker causes an ungrammatical construction. In other words, the relative pronoun *who* or the relative word *that* is required here.

There appear two major types of ERCs: restrictive RCs (RRCs), as seen in (137)-(139), and non-restrictive RCs (NRCs). Baker (1989) distinguished between these two ERC types, based on the following criteria. First, a RRC defines or restricts the noun (head) it modifies, while a NRC only adds some further information about the head. For instance, (141a) is regarded as a RRC, whereas (141b) is considered a NRC.

- (141) a. The books which were written by foreign authors were burned.
 b. The books, which were written by foreign authors, were burned.

(Baker, 1989, p. 271)

In (141a), the RRC shows that a particular subset of books is picked out, and it is asserted that all the books in this subset were burned. By contrast, in (141b), the NRC indicates that all the books were burned, with the added assertion that these books were all written by foreign authors.

The second distinction between RRCs and NRCs lies in the presence/absence of commas in written English. A RRC, as in (141a), does not involve the use of commas, while a NRC, as in (141b), is always set off by commas (Baker, 1989, p. 273). In a similar vein, in spoken English, intonation breaks or pauses are used to differentiate NRCs from RRCs. That is, A NRC is set off by a pause, whereas a RRC is not.

The third main RRC-NRC difference concerns the fact that NRCs can only be introduced by wh-relative markers, namely *who*, *whom*, *which*, and *whose*. As for RRCs, any relative words are permitted. For example, the use of *who(m)* in (142a) is grammatical, while using *that* results in an ill-formed structure, as in (142b).

- (142) a. Reagan, *who(m)* the Republicans nominated in 1980, now lives in California.
- b. *Reagan, *that* the Republicans nominated in 1980, now lives in California.
- (Baker, 1989, p. 272)

Another difference between RRCs and NRCs pertains to an omission of a relative marker, which is allowed in RRCs. In (143), *zero* or a relative-marker deletion is applied in the RRC. However, the NRC in (144) disallows such a deletion.

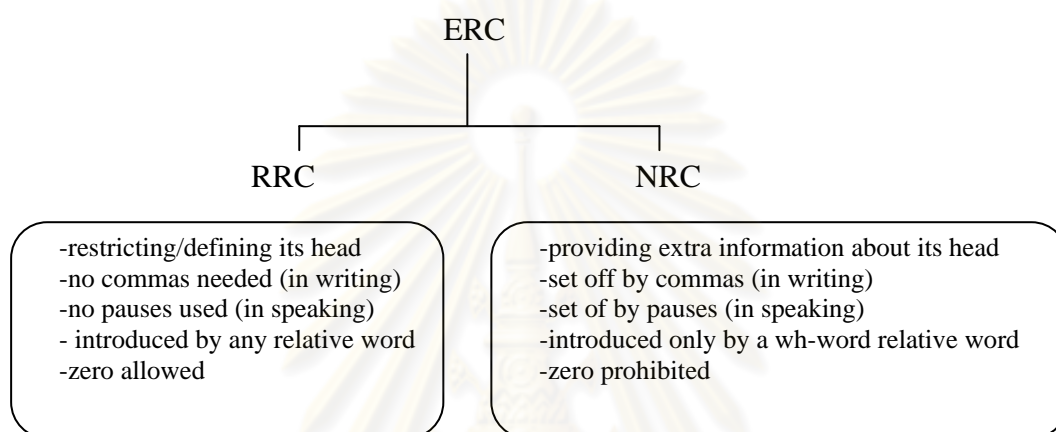
- (143) The man the Republicans nominated in 1980, now lives in California.
- (Baker, 1989, p. 272)

- (144) *Reagan, the Republicans nominated in 1980, now lives in California.

(Baker, 1989, p. 272)

Figure 2 below summarizes the key distinctions between RRCs and NRCs.

Figure 2: Distinctions between RRCs and NRCs



With regard to the analysis of interlanguage ERCs used by the participants in the current study, a head was identified first, followed by a relative pronoun, namely *who*, *which*, *whom*, *whose*, and *that*, and was followed by a finite verb or verb phrase. An omitted relative pronoun functioning as a RC object was also counted. Thus, a RC which corresponded to these above criteria was classified as a target-like RC. However, there were many other learners' RCs that seemed to deviate from the norm to a certain degree. For instance, some of the RCs contained a verb/VP that does not show an agreement with the head, as in (145). Some were found to have a resumptive pronoun, as in (146). Further, it was found that some NRCs were not set off by a comma, as in (147), despite the definiteness of the head. Based on the definite head, it was still considered a NRC. Additionally, when a RC head was definite, the RC was

also regarded as a NRC although the relative pronoun *that* was used to introduce it, as in (148). Some RCs, moreover, lacked an obligatory preposition, as in (149).

(145) * I think the one *who be there for me not only when I depressed or grieve but also when I joypus and happy*. That one is my best friend.

(146) * If you have a good job *which you like it*, I believe your life will nice and wonderful too.

(147) * I have dream to join in faculty of law in Thammasat Univerisity *which is the best university in Thailand*.

(148) * However, my favorite pet is Moo-Moo, *that I loved more and more*.

(149) * She gave me the best advice *that I never thought* __.

These erroneus learners' RCs were identified and analyzed to find the underlying causes. That is, the major problems with ERC learning and using will be explained in detail in Chapter 5.

3.4.2 Classification of ERC types

The ERC-type classification was based on a combination of two linguistic universals: the NPAH (Keenan & Comrie, 1977) and the PDH (Kuno, 1974). The NPAH, dealing with typological markedness, focuses on the function of the relative marker in a RC. These functions are SU, DO, IO, OPREP, GEN, and OCOMP. However, since OCOMP is considered very complicated and even unacceptable in some native speakers' view (Ellis, 1994) and since the results of the pilot study did not show its use at all, this RC type was not included in the analysis.

As for the PDH, which is based on the limitation of the human temporary memory, the function of the head NP, whether it is in the subject or object matrix position, is also taken into account. When merged together, the framework for the present study results in ten types, namely S-SU, S-DO, S-IO, S-OPREP, S-GEN, O-SU, O-DO, O-IO, O-OPREP, and O-GEN. The first letter stands for the matrix functions of the head NP, whereas the following code represents the relative marker function in the NPAH. In addition, as the pilot study indicated many tokens of RCs used as matrix subject complement right after *be*, it was advisable that the functions of relative markers in this position be investigated. Thus, five more RC types were involved: SC-SU, SC-DO, SC-IO, SC-OPREP, and SC-GEN.

Examples of all the RC types examined in the study are as follows:

Matrix position	RC type	Example
Subject	SU	The boy <i>who speaks Italian</i> is my friend.
	DO	The boy <i>who(m)/ø I met</i> was being angry.
	IO	The dog <i>which/that/ø I gave a bone to</i> was polite.
	OPREP	The man <i>who(m)/ø I voted for</i> graduated from England.
	GEN	A cat <i>whose leg is injured</i> is playing around me.
Object	SU	I know the bookshop <i>which/that has many Japanese magazines</i> .

	DO	Tim dislikes the boy <i>who(m)/∅ I met</i> .
	IO	Everyone likes the girl <i>who(m)/∅ I passed a note to</i> .
	OPREP	She found the rabbit <i>which/that/∅ I was looking for</i> .
	GEN	We saw a man <i>whose arms are strong</i> .
Subject Complement	SU	He is the boy <i>who/ that speaks Italian</i> .
	DO	He owns the snake <i>which/ that /∅ I hate</i> .
	IO	She was the girl <i>who(m)/ ∅ I passed a note to</i> .
	OPREP	This is the book <i>which/that/∅ I am interested in</i> .
	GEN	He is a man <i>whose arms are strong</i> .

3.4.3 Types of data analysis

The data gathered for the study were both quantitative and qualitative in nature. The data analysis was then conducted quantitatively and qualitatively.

Quantitative data analysis

The specific quantitative analyses focused on differences in performance on relative clauses used between both groups of participants' speech. The tabulation and calculation dealt with frequency of ERC types, embedding, relativizers etc. The statistics used was the chi-square test. According to Dornyei (2007), the Chi-square procedure is suitable for analyzing nominal data, i.e. data concerning facts that can be sorted into various categories such as proficiency, L1 backgrounds, sex, etc. For the

present study, in order to find relations between the two nominal variables, namely low-and-high proficiency learners and the use of various ERC types, it was necessary to compare the frequencies of ERC types observed in both proficiency groups with the expected frequencies (Seliger & Shohamy, 1989).

According to Hatch and Farhady (1982), the first step in using the Chi-square test is to state the null hypothesis, e.g. *there is no relationship between the use of ERC types and the learners' proficiency.*

With the raw data on frequencies, it is possible to test whether the difference between the obtained and the expected frequencies is large enough to reject the null hypothesis. The formula of the Chi-square test used for the comparison is:

$$x^2 = \sum \frac{(\text{observed}-\text{expected})^2}{E}$$

According to the formula, the Chi-square value is derived from the sum of the square of the difference between the observed and the expected values divided by the expected value. The calculation tool offered in the SPSS software program today makes it easy to gain the x^2 value and the p value. If the p value is less than 0.05, it is possible to reject the null hypothesis by stating that the two variables are significantly related.

Qualitative data analysis

The qualitative data analyses concentrated on explaining the occurrence of ERCs, the difficulty, transfer, and similarities as well as differences between high and

low proficiency learners' performance with regard to their ERC acquisition. The data were synthesized and analyzed from:

- (1) data from the descriptive essay
- (2) data from the descriptive speaking task



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

CHAPTER 4

FINDINGS AND DATA ANALYSIS

This chapter presents the findings of the interlanguage ERCs produced by Thai EFL learners. It also compares the use of ERCs in the written and spoken data by high-and-low proficiency learners, paying particular attention to the sentence positions of the ERCs as well as the ERC types as stated in the NPAH (Keenan & Comrie, 1977). Frequency and distribution of relative markers, in addition, are also shown in tables.

4.1 Analysis of learners' ERCs

Thai EFL learners were found to produce ERCs which are not only grammatical (target-like) but also ungrammatical (non target-like) in the written and spoken data. An ERC was identified according to the criteria suggested by Baker (1989). To sum up, an ERC begins with an introducing element which can be a relative pronoun (e.g. *who*, *whom*, *which*, or *whose*), the relative word *that*, or *zero*. It is also followed by a finite structure; furthermore, there must be a missing noun phrase within an ERC. (150)-(152) illustrate the ERCs used by Thai learners of English.

(150) I just wonder why they don't worry about the boy [who ___ didn't go to school].

In (150), the bracketed part is viewed as an ERC since it is introduced by the relative pronoun *who*. The ERC contains a finite structure *didn't go to school*, and it has a missing noun phrase in the subject position of the ERC. This ERC modifies the noun phrase *the boy*.

(151) I could see many beautiful views [that I never saw ___before].

In (151), the ERC is put in the brackets, introduced by the relative marker *that*. The EC comprises the finite structure *I never saw before*. Also, it contains a missing noun phrase in the RC-object position. The head modified by the ERC is *many beautiful views*.

(152) They taught me everything [∅ I should know ___ to survive in Germany].

Unlike the ERCs in (150)-(151), which begin with overt relativizers, the one in (152) is introduced by a zero relative marker, which is grammatically correct as the missing noun phrase inside the ERC occupies an object position. Additionally, this ERC contains a finite structure *I should know to survive in Germany*. The head which the ERC modifies is *everything*.

It is noticeable that (150)-(152) are examples of restrictive RCs (RRCs) because they correspond to the criteria identifying RRCs (Baker, 1989). In brief, the ERCs in these examples seem to modify and restrict the heads. Moreover, these ERCs are set off by commas. In addition to the punctuation use, the relative marker *that* and *zero*, which are allowed only in RRCs, are employed, as in (151) and (152) respectively.

The learner corpus also reveals a use of non-restrictive RCs (NRCs), which conform to the criteria proposed in the framework (Baker, 1989). That is, A NRC is used to modify but not restrict the head, which is definite. Also, a NRC is set off by commas in the written data, whereas those in the spoken data were identified by

pauses as well as the definiteness of the heads. Further, *wh*-relativizers and *zero* are not allowed in NRCs. (153)-(155) are examples of NRCs derived from the learner corpus.

(153) The reward is a chance to get alive again but he must live in the body of Kobayashi Makoto, *who is a frail manner body that just committed suicide.*

(154) Additionally, my favorite character is Femila Dienpentire, *who has many abilities such as she can play the piano really well and she can use magic about fire.*

(155) The teachers liked my friend called Wipawee, *who we also love so much.*

(153) is regarded as a NRC since the ERC, set off by commas, modifies the definite head *Kobayashi Makoto*. The relative marker is *who*, which is an overt *wh*-word relative marker. In (154), the head *Femila Dienpentire* is definite as well. The ERC is set off by a comma and is introduced by the relative pronoun *who*, an over *wh*-relativizer. Thus, this ERC is considered a NRC. Likewise, (155) is also a NRC since the modified head *Wipawee* is definite. A comma, in addition, is used to set off the ERC, and the relative pronoun *who* is a *wh*-word relativizer which is not omitted.

In contrast to the target-like ERCs, the participants also produced non target-like constructions of ERCs. These are ERCs which deviate from the standard or criteria suggested by Baker (1989). They are still regarded as ERCs since they do have some major ERC characteristics. That is, they follow and modify head nouns/NPs, and they start with a relative marker. These ERCs, however, seem to lack finite verb phrases, as in (156). Some contain verbs which do not agree in number with the heads, as in (157). Furthermore, it was shown that there were non-standard

ERCs which are composed of resumptive pronouns, as in (158). Some ERCs in the data lack an obligatory preposition, as in (159), where *with* is required.

(156) * I think the one *who be there for me not only when I depressed or grieve but also when I joypus and happy*. That one is my best friend.

(157) * Everybody *who come to my life* is good friend because those people come into with friendship.

(158) * Although the story is exciting, I think it hide good ideas *that you can use it in your life*.

(159) * In our life, we meet everyone *we talk, play, and work* ___ .

Further, some ERCs are ill-formed since they contain interim structures, as in (160) and (161), which seem to be a failure to use the genitive RC in English.

(160) * This organization manages the people *who their age* between fourteen to seventeen years old to be the exchange students.

(161) * The first work is Thai's drama *that drama name* is Full Hut.

Errors also appeared to be committed with regard to the RC structure of quantity as in (162), in which the proper construction *each of which* is required in place of *that each hobby*.

(162) * Everybody has own hobby *that each hobby is different*.

Regarding NRCs, the learners apparently had problems of using the relative pronoun *that* in this ERC type, which results in an ungrammatical structure, as in (163). In addition, commas are missing in the learners' NRCs, which also violates the NRC rule, as shown in (164).

(163) *When I am 13 years old, I study at Mahasarakham University Demonstration School, *that locates at Mahasarakham province.*

(164) *Now, I'm in Bangkok, *where is far away frommy house.*

The sources of these errors will be thoroughly discussed in Chapter 5.

4.2 ERCs in the written data

4.2.1 High-proficiency learners' use of ERCs

From the essays written by the participants of high proficiency, 525 ERCs were produced.

4.2.1.1 ERC embedding

As predicted by Kuno (1974), center embedding, as in (165) is claimed to be more difficult to acquire and thus occurs with less frequency, compared to right embedding as in (166). This is because, for center embedding, the RC is inserted between the subject of the matrix clause and the predicate, which makes learners become burdened with processing the heavy matrix subject comprising the RC. As for the right embedding, in contrast, the RC follows an element appearing at the end of the sentence, so such a sentence having a RC in the end is easier to understand and produce.

(165) *center-embedded RCs*

People *who take physical exercise* live longer.

(Swan, 2005, p. 479)

(166) *right-embedded RCs*

It's a book *which will interest children of all ages*.

(Swan, 2005, p. 477)

It was discovered, as illustrated in Table 2, which focuses on ERC embedding types, that the findings do support Kuno (1974)'s *Perceptual Difficulty Hypothesis* (PDH) in that ERCs in right embedding (82.29%) occurred much more frequently than those in center embedding (17.71%). The RCs with right embedding can also be classified into two subtypes: RCs attached to a matrix object, as in (167), and those added to a subject complement, as in (168). In this study, there arose more ERC modifying an object (53.71%) than those accompanying a subject complement (28.57%).

(167) The cow pushes the kangaroo that jumped over the goat.

(Diessel & Tomasello, 2005, p. 882)

(168) That is the sugar *that goes in there*.

(Diessel & Tomasello, 2000, p. 136)

Table 1: Distribution of relativizers in different sentence positions (high group)

relativizers	who	whom	which	that	whose	zero	Total	%
ERC types								
center-embedding								
S-SU	17	-	1	18	-	-	36	6.86
S-DO	4	2	4	29	-	-	39	7.43
S-OPREP	-	1	2	1	-	13	17	3.24
S-GEN	-	-	-	-	1	-	1	0.19
Total	21 (4%)	3 (0.57%)	7 (1.33%)	48 (9.14%)	1 (0.19%)	13 (2.48%)	93	17.71
right-embedding (object)								
O-SU	63	1	47	60	-	-	171	32.57
O-DO	1	5	7	65	-	11	89	16.95
O-OPREP	1	-	5	15	-	-	21	4
O-GEN	-	-	-	-	1	-	1	0.19
Total	65 (12.38%)	6 (1.14%)	59 (11.24%)	140 (26.67%)	1 (0.19%)	11 (2.10%)	282	53.71
right-embedding (subject complement)								
SC-SU	48	-	6	29	-	-	83	15.81
SC-DO	3	2	2	43	-	5	55	10.48
SC-OPREP	3	1	1	6	-	-	11	2.10
SC-GEN	-	-	-	-	1	-	1	0.19
Total	54 (10.29%)	3 (0.57%)	9 (1.71%)	78 (14.86%)	1 (0.19%)	5 (0.95%)	150	28.57
%	26.67	2.29	14.29	50.67	0.57	5.52	100	

Table 2¹⁰: Distribution of relativizers in center and right embedding (high group)

relativizers	who	whom	which	that	whose	zero	Total	%
ERC types								
Center-embedding (subject)	21	3	7	48	1	13	93	17.71
Right-embedding - object	65	6	59	140	1	11	282	53.71
-subject complement	54	3	9	78	1	5	150	28.57
Total	119	9	68	218	2	16	432	82.29
Total	140	12	75	266	3	29	525	100
%	26.67	2.29	14.29	50.67	0.57	5.52	100	

¹⁰ Table 2 is a summary of Table 1.

Table 3: Distribution of RCs in different RC types (high group)

RC types	frequency	%
SU	290	56.24
DO	183	34.86
OPREP	49	9.33
GEN	3	0.57
Total	525	100

4.2.1.2 ERC types

According to *the Noun Phrase Accessibility Hierarchy* (NPAH), proposed by Keenan and Comrie (1977), six possible types of RCs are existent in English (from the least marked to the most marked): subject (SU) > direct object (DO) > indirect object (IO) > object of preposition (OPREP) > genitive (GEN) > object of comparison (OCOMP).

However, the results of the current study indicate only four types: SU, DO, OPREP, and GEN. The learners were not found to use IO and OCOMP at all. Non-existence of OCOMP is not at all surprising as it is the most marked RC type. With respect to IO, although it is claimed to be less marked than OPREP, it was not produced at all, whereas the use of OPREP can be noticed.

Table 3 demonstrates the RC types found in the learners' essays. The results found strong support for the NPAH. That is, SU (56.24%) is the most frequent ERC type produced by the learners. Second to SU in frequency is DO (34.86%), while OPREP ranks third (9.33%). The least frequently-produced RC type is GEN (0.57%), which is the most marked of all the four types found, with only three tokens. The examples from the findings are shown in (169)-(172).

(169) Friends are someone *who can listen your problem and help you sometime*¹¹.

(SU)

(170) You'll learn many things *that you never know before when you stay with your friend*. (DO)

(171) Kunming was the first place *that I went to*. (OPREP)

(172) Doctor is a person *whose profession is to treat sick people*. (GEN)

Within the framework employed in this study, which is a combination of the NPAH and the PDH, only twelve types of ERCs are spotted, as can be seen in Table 1, namely S-SU, S-DO, S-OPREP, S-GEN, O-SU, O-DO, O-OPREP, O-GEN, SC-SU, SC-DO, SC-OPREP, and SC-GEN. As mentioned earlier, the RCs with right embedding occurred more frequently than the RCs with center embedding. The hierarchy (173) below presents these RC types according to frequency:

(173)

O-SU > O-DO > SC-SU > SC-DO > S-DO > S-SU > O-OPREP > S-OPREP >
 (32.57%) (16.95%) (15.81%) (10.48%) (7.43%) (6.86%) (4.0%) (3.24%)

SC-OPREP > S-GEN/O-GEN/SC-GEN

(2.10%) (0.19% each)

> means 'occurred more frequently than'

/ means 'occurred with the same frequency as'

¹¹ It should be noted here that the presented sentence examples are derived from the authentic learner corpus. All the grammatical errors are left uncorrected as the way they were originally produced by the learners.

From this hierarchy, the least frequent ERC types are S-GEN, O-GEN, and SC-GEN, all of which belong to the GEN type, which is, according to the NPAH, viewed as the most marked type found in this study.

4.2.1.3 Use of relative markers

The participants were found to use ERCs with six different relative markers: *who*, *whom*, *which*, *that*, *whose*, and *zero*. Even though they also produced relative adverbs, e.g. *when*, *where*, and *why*, these relative words were excluded from the present study since they did not fit into the framework of the data analysis as mentioned in 3.4.1. It is discovered that the most frequent relativizer is the complementizer *that*, (50.67%) as in (174). The second most frequent goes to *who* (26.67%), as in (175), while *which*, as in (176), is ranked third (14.29%). *Zero* relative marker (\emptyset), as in (177), is the fourth in frequency (5.52%). *Whom* (2.29%), as in (178), occurs less frequently than *zero*, thus considered the fifth. The least frequently-used is *whose* as in (179) occurring only 0.57%.

(174) I could see many wonderful views *that I never saw before*.

(175) I just wonder why they don't worry about me *who didn't go to school*.

(176) They want a pet *which can make them happy when they alone at home*.

(177) They taught me everything \emptyset *I should know to survive in Germany*.

(178) I feel very happy that I now I have best friend *whom I love and care very much*.

(179) The teacher *whose textbook is about politics in Thailand* gave a speech at the meeting.

When taken into consideration with RC positions in a sentence, more relative markers were found in right-embedded RCs (82.29%) than in center-embedded ones (17.71%). In particular, regarding right embedding, relative words occurred more in those attached to the matrix object (53.71%) than in those affixed to a subject complement (28.57%). Each relativizer being considered seems to occur more in right embedding than center embedding.

From Table 1, the relative markers *that*, *who*, *which*, and *whom* belong to the same pattern of distribution in that they all were used more frequently in right-embedded RCs with a matrix object (51.43%) than in right-embedded RCs added to a subject complement (27.43%) and in center-embedded RCs (15.04%) respectively.

As regards *that*, 26.67% is found in right-embedded RCs with a matrix object and 14.86% in right-embedded RCs with a subject complement. *That* in center-embedded RCs occurred 9.14%. In regard to *who*, it was produced with the highest frequency in right-embedded RCs with an object (12.38%). The second most frequent position for *who* is right embedding with a subject complement (10.29%), and *who* is found with the least frequency in center embedding (4%). With respect to *which*, 11.24%, 1.71% and 1.33 % occurred in right-embedded RCs with an object, right-embedded RCs with a subject complement, and center-embedded RCs respectively. Like the other three previously discussed, *whom* appeared with the most frequency in right-embedded RCs attached to an object (1.14%), with second most frequency in right-embedded RCs accompanying a subject complement (0.57%) as well as in center embedded RCs (0.57%).

Zero and *whose* have different distributional patterns. *Zero* or omitted relativizers were produced with the highest frequency in center-embedded RCs (2.48%), with the second-highest frequency in right-embedded RCs affixed to an

object (2.10%), and with the least frequency in right-embedded RCs with a subject complement (0.95%). Regarding *whose*, only one token was found in each of the three positions (0.19%).

4.2.1.4 resumptive pronouns

Table 4: Distribution of resumptive pronouns in different sentence positions in writing (high group)

embedding types	relativizers	who	whom	that	zero	Total	%
	ERC types						
center embedding (27.78%)	S-DO	1	1	2	1	5	27.78
right embedding (72.22%)	O-SU	-	-	3	-	3	16.66
	O-DO	1	1	3	-	5	27.78
	SC-DO	-	-	4	-	4	22.22
	SC-OPREP	1	-	-	-	1	5.56
Total		3	2	12	1	18	100
%		16.67	11.11	66.67	5.56	100	

According to Table 4, 18 tokens of resumptive pronouns were produced in the learners' writing. As to the ERCs in sentence positions, pronominal reflexes were found more in right embedding (72.22%), as in (180), than in center embedding (27.78%), as in (181). Such a result is predictable due to the fact that RCs were also found more in right-embedded RCs than in those with center-embedded ones, as mentioned earlier.

(180) Although I think like that, now I found the one *whom I can call **her** my best friend.*

(181) In my life, I have many friends but the friend *who I call **him** best friend* is Po.

Regarding the RC types proposed in the NPAH, the participants employed only three tokens (16.66%) of resumptives in SU, whereas 15 tokens are found in the other types (83.34%), which corresponds to *the Resumptive Pronoun Hierarchy* in the NPAH in that marked RC types have more likelihood to contain pronominal copies (Keenan & Comrie, 1977). In the current study, marked types of ERCs that have resumptives are DO, as in (182), and OPREP, as in (183).

(182) Golden Retriever is the one species *that many people like and have **it** although it has big size and sometimes has fear mode*. (SC-DO)

(183) The people in my room talked about the crime case *which the police were interested in **it** very much*. (SC-OPREP)

The present-study framework yields results of five RC types that have pronominal reflexes: S-DO, O-SU, O-DO, SC-DO, and SC-OPREP. Table 4 indicates that pronoun copies in S-DO, as in (184), and O-DO, as in (185), were equally supplied with the most frequency (27.78%). The second-most frequent type is SC-DO (22.22%), as in (182), and the third one is O-SU (16.6%), as in (186). Finally, pronoun retention occurred only once in SC-OPREP (5.56%), as in (183).

(184) The other quality *that I like **it*** is honesty. (S-DO)

(185) I will proud in my success *that I do **it** by myself* and I will share my happiness to others especially my parents certainly. (O-DO)

(186) Except, artworks and sports or any activities *that **they** are useless I am better than him.* (O-SU)

With respect to the relativizers in which pronoun retention occurred, the most frequent relative marker is *that* (66.67%). *Who* is the next most common one used with pronominal reflexes (16.67%), and *whom* is ranked third with 11.11%. Only one token of pronoun retention (5.56%) is found with a relative pronoun deletion (\emptyset).

4.2.1.5 Non-restrictive RCs

High-proficiency learners produced 38 tokens of non-restrictive relative clauses (NRCs), equal to 7.24% of the whole number of RCs. The presented number of NRCs comprises not only NRCs used accurately, as in (187), but also those attempts to employ NRCs. The latter refers to incorrect uses of NRCs, e.g. without commas or with the relative marker *that*, which are always forbidden in standard English. The major criterion to decide whether it is an attempt to use a NRC lies in the definiteness of the head. Where the head is definite, the following RC is regarded as a NRC, as in (188).

(187) When I arrived in Bavaria, *which is the one of the states of Germany*,
everything was new for me.

(188) I met lots of friends there, but the most especial one is Philippe(,) *who was very helpful to me throughout my year in Belgium.*

Table 5: Distribution of NRCs in different sentence positions in writing (high group)

embedding types	relativizers	<i>who</i>	<i>whom</i>	<i>which</i>	<i>that</i>	Total	%
	ERC types						
center embedding (15.79%)	S-SU	1	-	3	-	4	10.53
	S-DO	-	-	-	1	1	2.63
	S-OPREP	-	1	-	-	1	2.63
right embedding (84.21%)	O-SU	5	-	13	3	21	55.26
	O-DO	-	-	-	4	4	10.53
	O-OPREP	-	-	1	-	1	2.63
	SC-SU	2	-	1	3	6	15.79
Total		8	1	18	11	38	100
%		21.05	2.63	47.37	28.95	100	

With regard to the sentence positions of NRCs, Table 5 reveals that more NRCs were used in right embedding (84.21%) than in center embedding (15.79%). Where RC types are concerned, SU is found to be the position most frequently used with NRCs (81.58%). The second-most frequent type for NRCs to occur with is DO (13.16%), while the NRC type occurring with the least frequency goes to OPREP (5.26%).

Through an analysis within the present framework, it is indicated that O-SU appeared as the most common NRC type (55.26%), as in (189), and SC-SU is shown to be the second (15.79%), as in (190). There existed two NRC types with the third-highest frequency (10.53%), namely S-SU, as in (191) and O-DO, as in (192). The least frequent fall on three types of NRCs: S-DO, as in (193), S-OPREP as in (194), and O-OPREP, as in (195), each of which occurred 2.63%.

- (189) He teaches me English(,) *which is my favorite subject*. (O-SU)
- (190) My memorable experience has been happened recently. It was the ‘Say Good Bye Event’(,) *that was set in the last day of grade 12 testing date*. (SC-SU)
- (191) Singing, *which is often contrasted with speech*, is the act of producing musical sounds with the voice. (S-SU)
- (192) The teachers liked my friend called Wipawee, *who we also love so much*. (O-DO)
- (193) Furthermore, the jobs, *that I state above*, will give me a chance to know and talk to the great investors or the experts in another job to gain knowledge and unknown things. (S-DO)
- (194) The most significant reason why I love this person is she gave me birth. The teacher(,) *whom I am talking about*(,) is my mother. (S-OPREP)
- (195) She soothes me and provides me a guideline to pass the problems, *which I am faced with*. (O-OPREP)

Concerning the relative markers used in the NRCs, *which*, as in (189), (191), and (195), is ranked first in frequency (47.37%). *That*, as in (190) and (193), is viewed as the second (28.95%) in spite of the fact that its use is ungrammatical in NRCS. The third-most frequent is *who* (21.05%), as in (192), and the least frequent is *whom* (2.63%), as in (194).

4.2.2 Low-proficiency learners' use of ERCs

Overall, 406 ERCs were used in low-proficiency learners' essays.

Table 6: Distribution of relativizers in different sentence positions in writing (low group)

relativizers	who	whom	which	that	whose	zero	Total	%
ERC types								
center-embedding								
S-SU	16	-	1	10	-	-	27	6.65
S-DO	-	-	7	52	-	11	70	17.24
S-OPREP	-	-	-	1	-	-	1	0.25
S-GEN	-	-	-	-	-	-	-	-
Total	16 (3.94%)	-	8 (1.97%)	63 (15.52%)	-	11 (2.71%)	98	24.14
right-embedding (object)								
O-SU	49	-	15	37	-	-	101	24.88
O-DO	2	-	8	39	-	5	54	13.30
O-OPREP	-	-	1	5	-	1	7	1.72
O-GEN	-	-	-	-	-	-	-	-
Total	51 (12.56%)	-	24 (5.91%)	81 (19.95%)	-	6 (1.48%)	162	39.90
right-embedding (subject complement)								
SC-SU	48	-	6	27	-	-	81	19.95
SC-DO	3	2	2	42	-	5	53	13.05
SC-OPREP	3	1	1	6	-	-	11	2.71
SC-GEN	-	-	-	-	1	-	1	0.25
Total	54 (13.30%)	3 (0.74%)	9 (2.22%)	75 (18.47%)	1 (0.25%)	5 (1.23%)	146	35.96
%	29.80	0.74	10.10	53.94	0.25	5.42	100	

Table 7: Distribution of relativizers in center and right embedding in writing (low group)¹²

relativizers	who	whom	which	that	whose	zero	Total	%
ERC types								
Center-embedding (subject)	16	-	8	63	-	11	98	24.14
Right-embedding								
- object	51	-	24	81	-	6	162	39.90
-subject complement	54	3	9	75	1	5	146	35.96
Total	105	3	33	156	1	11	308	75.86
Total	121	3	41	219	1	22	406	100
%	29.80	0.74	10.10	53.94	0.25	5.42	100	

4.2.2.1 ERC embedding

According to Table 7, which highlights ERC embedding types, right-embedded RCs (75.86%) obviously outnumber center-embedded ones (24.14%), as in (196) and (197). When RCs with right embedding has been thoroughly examined, it is discovered that more right-embedded RCs attached to an object (39.90%), as in (198) were produced than those added to a subject complement (35.96%), as in (199). Such an occurrence confirms the PDH, which claims that center-embedded RCs are more complicated and more difficult to perceive and produce than right-embedded ones.

(196) Food *that she likes* is grill-lover. (DO)

(197) The pets *which I always keep* are rabbits and fish. (DO)

(198) We once had a fight *that nearly break* us apart. (SU)

(199) Next is Kay, she is the one *who make me comfortable being with lastly*. (SU)

¹² Table 7 is a summarized version of Table 6.

4.2.2.2 ERC types

Table 8: Distribution of RCs in different RC types in writing (low group)

RC types	frequency	%
SU	209	51.48
DO	177	43.60
OPREP	19	4.73
GEN	1	0.25
Total	406	100

Of all the six ERC types posited in the NPAH, four were produced in the essays, as demonstrated in Table 8. In other words, they used RCs the relativized element of which serves as subject (SU), direct object (DO), object of preposition (OPREP), and genitive (GEN). There is no use of indirect object (IO) and object of comparison (OCOMP). IO, claimed to be less marked than OPREP, was not produced in the essays of low-proficiency learners although OPREP was found. In addition, that there existed no production of OCOMP does not come as a surprise as it is the most marked type for learners as well as the native speakers (Ellis, 1994).

Table 8 exhibits all the four RC types used in the learners' writing. The occurrence of each type corresponds to what is predicted by the NPAH. That is to say, the participants produced SU, as in (198) and (199), the most (51.48%), followed by DO (43.60%), as in (196) and (197), and OPREP (4.73%), as in (200), respectively. The least frequent type is GEN (0.25%), as in (201), with only one token.

(200) Teacher *that I want to learn with* is kind teacher.

(201) I have one friend *whose house is near my house in the same village*.

According to Table 6, ten subtypes of ERCs, according to the present-study framework, are found: S-SU, S-DO, S-OPREP, O-SU, O-DO, O-OPREP, SC-SU, SC-DO, SC-OPREP, and SC-GEN. To be precise, O-SU is the most common and frequent type (24.88%) occurring in right embedding and the relativized element is in subject position (SU). This strongly supports the NPAH and the PDH. The least frequent ones belong to S-OPREP and SC-GEN (0.25% each).

The hierarchy presented in (1202) below begins with the most frequently-produced type to the least frequent one:

(202)

O-SU > SC-SU > S-DO > O-DO > SC-DO > S-SU > SC-OPREP >

(24.88%) (19.95%) (17.24%) (13.30%) (13.05%) (6.65%) (2.71%)

O-OPREP > S-OPREP/ SC-GEN

(1.72%) (0.25% each)

> means 'occurred more frequently than'

/ means 'occurred with the same frequency as'

4.2.1.3 Use of relative markers

According to Table 7, six different relative markers, namely *who*, *whom*, *which*, *that*, *whose*, and *zero*, were produced in the learners' writing. Other relative words categorized as relative adverbs are not included in the present study. In terms of frequency, *that*, as in (200), is regarded as the most common (53.94%) and *who*, as

in (203), the second (29.80%). The third most frequent is *which* (10.10%) as in (204), whereas *zero*, as in (205), is found to be the fourth (5.42%). *Whom* (0.74%), as in (206), occurred less frequently than *zero*, thus ranked fifth. The least frequent one is *whose* (0.25%), as in (201).

(203) In high school I have teacher *who I like most*.

(204) Teacher is one occupation *which make human have knowledge and quality for develop country*, so everybody should give respect and always think of favor.

(205) The food *ø they love to eat* is rice and fish.

(206) Actually, I have more than one for teacher *whom I like*, but teacher Yaowanit is really special.

Where RCs are attached to the matrix clause, relative markers were used more in right embedding (75.86%) than center embedding (24.14%). Furthermore, with regard to right-embedded RCs, relativizers were made more in RCs affixed to an object (39.90%) than in those added to a subject complement (35.96%).

The relative words *that* and *which* are of the same distribution pattern since they both occurred most frequently in right-embedded RCs with an object. They are found in right-embedded RCs attached to a subject complement with the second-highest frequency. The least frequent position for them to occur is in center embedding. 19.95% of the occurrences of *that* was in right-embedded RCs with an object, 18.47% in right-embedded RCs with a subject complement, and 15.52% in center-embedded RCs. With respect to *who*, its frequency in right-embedded RCs with an object (12.56%) and the frequency in right-embedded RCs with a subject

complement (13.30%) are very close. *Who* occurred with the least frequency in center embedding (3.94%).

As for *which*, it occurred 5.91% in right-embedded RCs with an object, 2.22% in right-embedded RCs with a subject complement, and 1.97% in center-embedded RCs. Concerning *zero*, it is found that an omission of relativizer was employed the most in center-embedded RCs (2.71%). Like *who*, *zero* occurred approximately with the same frequency in right embedding with an object (1.48%) and in right embedding with a subject complement (1.23%).

Whom and *whose* have a similar pattern of occurrence as they were used only in right-embedded RCs attached to a subject complement. Specifically, *whom* occurred 0.74%, while 0.25% of *whose* was spotted.

When each of the relativizers was taken into account, it is clearly seen that each appeared more in right embedding than in center embedding, except for *zero*, for which its frequency in both positions was equal (2.71%).

4.2.2.4 Resumptive pronouns

Table 9 clearly indicates how resumptive pronouns were employed in the low-proficiency participants' essays. In relation to the positions of ERCs in a sentence, resumptive pronouns were supplied considerably more in right-embedded RCs (88.88%) than in center-embedded ones (11.12%). This may result from the fact that more RCs were used in right embedding than center embedding.

Table 9: Distribution of resumptive pronouns in different sentence positions in writing
(low group)

embedding types	relativizers	who	which	that	zero	Total	%
	ERC types						
center embedding (11.12%)	S-SU	1	-	-	-	1	5.56
	S-DO	-	-	1	-	1	5.56
right embedding (88.88%)	O-SU	-	1	3	-	4	22.22
	O-DO	-	3	3	1	7	38.88
	O-OPREP	-	-	1	-	1	5.56
	SC-DO	-	-	4	-	4	22.22
Total		1	4	12	1	18	100
%		5.56	22.22	66.67	5.56	100	

As regards the NPAH, resumptive pronouns occurred less in the subject (SU) type (27.78%), as in (207), which is the least marked, whereas most of them are seen more in more marked RC types, namely DO, as in (208), and OPREP (72.22%), as in (209). This does conform to *the Resumptive Pronoun Hierarchy* under the NPAH, which postulates that resumptive pronouns are more likely to be used in more marked RC types.

(207) Although you can use many words *that **they** are not just the same*, they are all the same meaning. (O-SU)

(208) Job is important in our life because if you have a good job *which you like **it***, I believe your life will nice and wonderful too. (O-DO)

(209) You can meet new people for take care them and people *that you care for **them*** very respected. (O-OPREP)

(210) Pet is an animal *that we keep **them** to be companionship or for our enjoyment.*

(SC-DO)

(211) I think it like the magic and the people *who can make it **they** are like the*

magician and like the feeling of the magician. (S-SU)

(212) The pet *which I keep **it** is cat.* (S-DO)

Within the framework of the present study, the results reveal that the most frequent type in which pronoun retention occurred is O-DO (38.88%), as in (208). Then O-SU, as in (207), and SC-DO, as in (210), were used with the same frequency (22.22%), second to O-DO. The least frequent ones are S-SU, as in (211), S-DO, as in (212), and O-OPREP, as in (209), each of which has only 5.56% of pronoun copies.

In regard to the relative markers with which resumptives co-occurred, Table 9 demonstrates the complementizer *that* as the most common one to occur with pronoun retention (66.67%), as in (207). Second to *that* is *which* with 22.22% of resumptive pronouns, as in (208). *Who*, as in (211), and *zero*, as in (213), co-occurred with pronominal reflexes with the least frequency for each (5.56%).

(213) So when you find someone *∅ you think **he** is your best friend*, you should be nice to them and try to make good relationship with him.

4.2.2.5 Non-restrictive RCs

Learners with low proficiency employed 35 NRCs, equivalent to 8.62% of the total number of RCs in their writing. These NRCs are made up of grammatical ones and those with some problems, as mentioned earlier in 4.2.1.5.

Regarding the sentence positions of NRCs, it is discovered in Table 10 that right-embedded RCs (82.86%) tremendously outnumber center-embedded ones (17.14%). As regards the RC types according to the NPAH, SU is the most common type (82.86%), as in (214), is obvious. The next most frequent type falls on DO (11.43%) as in (215). OPREP, as in (216), is seen as the least common NRC type (5.71%).

(214) The reward is a chance to get alive again but he must live in the body of Kobayashi Makoto, *who is a frail manner body that just committed suicide.*

(O-SU)

(215) Even if we had left the old school, we always come back to this school(,) *that we love.* (O-DO)

(216) My hobby is playing internet. I do it every day and in my free time when I play internet, MSN, *that I can chat with m friends (on).* (O-OPREP)

Table 10: Distribution of NRCs in different sentence positions in writing (low group)

embedding types	relativizers	<i>who</i>	<i>whom</i>	<i>that</i>	Total	%
	ERC types					
center embedding (17.14%)	S-SU	3	-	1	4	11.43
	S-DO	-	-	2	2	5.71
right embedding (82.86%)	O-SU	9	6	3	18	51.43
	O-DO	-	-	1	1	2.83
	O-OPREP	-	1	1	2	5.71
	SC-SU	5	-	2	7	20
	SC-DO	-	-	1	1	2.86
Total		17	7	11	35	100
%		48.57	20	31.43	100	

With the framework used in this study, O-SU, as in (214), is the type where NRCs were produced the most (51.43%). The second-most frequent type is SC-SU, as in (217) produced 20%, and S-SU, as in (218), is considered the third (11.43%). There arose two types, equally ranked fourth, namely S-DO, as in (219), and O-OPREP, as in (216), occurring 5.71% each. The last two types, with the lowest frequencies, are SC-DO (2.86%), as in (220), and O-DO (2.83%), as in (221).

As for the relativizers found in the NRCs, three relative markers, namely *who*, *whom*, and *that*, were produced. Of the three, *who*, as in (214), occurred with the highest frequency (48.57%). Second to *who* is *that* (31.43%), as in (215), although it is not allowed in NRCs in standard English. The least frequent one is *whom* (20%), as in (221).

- (217) Additionally, my favorite character is Femila Dienpentire, *who has many abilities such as she can play the piano really well and she can use magic about fire.* (SC-SU)
- (218) Now I have importance teacher, his name is Somsak, *who has kind, fun, and come in class in time.* (S-SU)
- (219) The single of Shanye Ward(,) *that I like* is back at one the meaning inform about process of love make me more understand love. (S-DO)
- (220) However, my favorite pet is Moo-Moo(,) *that I loved more and more.* (SC-DO)
- (221) Actually, I really want to meet Rain, *whom I like indeed.* (O-DO)

4.2.3 Comparison between high-and-low proficiency learners in writing

In terms of how ERCs were embedded into matrix clauses, learners with high and low proficiency of English are similar in that they produced more ERCs in right embedding (H, L: 82.29%, 75.86%) than in center embedding (H, L: 17.71 %, 24.14%). In particular, right-embedded RCs attached to an object (H, L: 53.71%, 39.90%) outnumber those affixed to a subject complement (H, L: 28.57%, 35.96%) in both groups, which confirms the prediction of the PDH (Kuno, 1974) in such a way that RCs in right embedding are easier than those in center embedding.

As to the ERC types as outlined in the NPAH (Keenan & Comrie, 1977), the two groups of proficiency presented the same types of ERCs and similar frequency order as shown in (222):

(222)

SU	>	DO	>	OPREP	>
(H, L: 56.24%, 51.48%)		(H, L: 34.86%, 43.60%)		(H, L: 9.33%, 4.73%)	
GEN					
(H, L: 0.57%, 0.25%)					

When the subcategories of ERCs are concerned, high-proficiency learners produced ERCs in a slightly different manner than low-proficiency ones. That is, those with high level of proficiency used twelve ERC types as in (173), repeated below for convenience:

(173)

O-SU > O-DO > SC-SU > SC-DO > S-DO > S-SU > O-OPREP > S-OPREP >

(32.57%) (16.95%) (15.81%) (10.48%) (7.43%) (6.86%) (4.0%) (3.24%)

SC-OPREP > S-GEN/O-GEN/SC-GEN

(2.10%) (0.19% each)

By contrast, low-proficiency learners produced ten types of ERCs shown in (202) repeated here for convenience, all of which are the same as those produced by the high-proficiency group above, except S-GEN and O-GEN, which are not existent in the data of the low group.

(202)

O-SU > SC-SU > S-DO > O-DO > SC-DO > S-SU > SC-OPREP >

(24.88%) (19.95%) (17.24%) (13.30%) (13.05%) (6.65%) (2.71%)

O-OPREP > S-OPREP/ SC-GEN

(1.72%) (0.25% each)

(173) and (202) are alike in the highest and the lowest frequent ERC types, namely O-SU (H, L: 32.57%, 24.88%) and SC-GEN (H, L: 0.19%, 0.25%) respectively. A slight difference lies in the fact that high-proficiency learners also produced S-GEN and O-GEN, which are not existent in the essays of the low group. In contrast, for low-proficiency learners, S-OPREP is also found to be the least frequent type along with SC-GEN.

Table 11: Comparison between the proficiency groups of the use of ERC types from the written data

Proficiency	ERC Type			Total
	SU	DO	OPREP&GEN	
High	290	183	52	525
Low	209	177	20	406
Total	499	360	72	931

Table 12: Results of a Chi-square test on the relationship between ERC types and learners' proficiency from the written data

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.464 ^a	2	.002
Likelihood Ratio	12.786	2	.002
N of Valid Cases	931		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 31.40.

With respect to the relationship between the use of ERC types and the learners' proficiency, the Chi-square test revealed that there was a significant relationship between the ERC types used and the proficiency of the participants, $\chi^2 = 12.464$, $p = 0.002$, as illustrated in Table 12.

High-and-low proficiency learners, in addition, demonstrate a similar pattern as far as the use of relative markers is concerned. To be precise, the orders of frequency of relativizers used by the two groups are the same, as illustrated in (223) below:

(223)

that	>	who	>	which	>
(H, L: 50.67%, 53.94%)		(H, L: 26.67%, 29.80%)		(H, L: 14.29%, 10.10%)	
zero	>	whom	>	whose	
(H, L: 5.52%, 5.42%)		(H, L: 2.29%, 0.74%)		(H, L: 0.57%, 0.25%)	

(224) One occupation *which make human have knowledge and quality for develop country* is teacher, so everybody should give respect and always think of favor.

(225) In school, a teacher's duty is teaching the subjects *which are necessary in real life such as Mathematics, Science, Language or a specific subject like Law*.

(226) Harry Potter is a book *which is about a young boy wizard*.

When relativizers are considered in detail, it seems that *which* and *that* in both groups are of similar patterns. As for *which*, it is found with the highest frequency in right-embedded RCs added to an object (H, L: 11.24%, 5.91%), as in (225) and it occurred with the second highest frequency in right-embedded RCs with a subject complement (H, L: 1.71%, 2.22%), as in (226). The least frequent position for *which* is in center embedding (H, L: 1.33%, 1.97%), as in (224). In a similar vein, *that* was used with the most frequency in right-embedded RCs with a matrix object (H, L: 26.67%, 19.95%), as in (227). Also, *that* in right-embedded RCs with a subject complement, as in (228) and *that* occurring in center embedding, as in (229), are ranked second (H, L: 14.86%, 18.47%) and third (H, L: 9.14%, 15.52%) respectively.

- (227) You'll learn many things *that you never know before when you stay with your friend.*
- (228) Pet is an animal *that we keep **them** to be companionship or for our enjoyment.*
- (229) Furthermore, the jobs, *that I state above*, will give me a chance to know and talk to the great investors or the experts in another job to gain knowledge and unknown things.

The relative pronoun *who* is found in different orderings in the high and low groups. That is to say, in the high-level group, 12.38% of its occurrences was seen in right-embedded RCs with a matrix object, as in (230), and 10.29% occurred in those attached to a subject complement, as in (231). *Who* was used with the lowest frequency (4%) in center-embedded RCs as in (232). In the low group, more use of *who* appeared in right-embedded RCs with a subject complement (13.30%) than in those affixed to an object (12.56%). As with the high group, *who* in center embedding is found with the least frequency (3.94%).

- (230) The final purpose for being a lawyer of myself is to help those *who get disadvantages from justice system.*
- (231) Friends are someone *who can listen your problem and help you sometime.*
- (232) The first teacher *who everybody must have* is mother.

Whom, for high-proficiency learners, was produced with the highest frequency (1.14%) in right-embedded RCs attached to a matrix object, as in (233). Those added to a subject complement, as in (234) and those in center embedding, as in (235), were

produced with the same number (0.57%). In low-proficiency learners' writing, *whom* appeared only in right-embedded RCs with a subject complement (0.74%).

(233) I feel very happy that I now I have best friend *whom I love and care very much*.

(234) They can be your friend, your colleague, or even a person *whom you really do not know*.

(235) Humans *whom the monsters attacked on the plane* became seriously injured finally.

As regards the occurrence of relativizer omission, the use of *zero* in both groups exhibits the same pattern of distribution. It occurred the most in center-embedded RCs (H, L: 2.48%, 2.71%), as in (236), and the least in right-embedded RCs added to a subject complement (H, L: 0.95%, 1.23%), as in (237). Relative pronoun deletion in right-embedded RCs with an object, as in (238), is found with the second-most frequency (H, L: 2.10%, 1.48%).

(236) The food \emptyset *they love to eat* is rice and fish.

(237) Harry Potter is the novel \emptyset *I like most*.

(238) They taught me everything \emptyset *I should know to survive in Germany*.

As for *whose*, high-proficiency learners produced it in the three positions, namely in a RC added to a subject complement, as in (239), in a RC modifying an object, as in (240), and in a center-embedded RC, as in (241), with the same number

(0.19%), whereas those with a low level of proficiency used it only in right-embedded RCs affixed to a subject complement (0.25%).

(239) Doctor is a person *whose profession is to treat sick people*.

(240) I lived with and loved my aunt *whose house was far from my school*. So in the morning I have to get up early and go to school by myself and also go back by myself, too.

(241) This friend *whose name is Namtan* study at Thammasat University.

A statistical analysis was also applied to find a relationship between the use of relativizers and the way ERCs were embedded into a matrix clause. Interestingly, a Chi-square analysis revealed that there was a significant relationship between the use of relative markers by high-proficiency learners and the nature of embedding, $\chi^2 = 16.926$, $p = 0.000$, as illustrated in Table 13. Similarly, as for low-proficiency learners, it is worth noticing that the analysis also indicated that there was also a significant relationship between the relativizer use and the embedding manner, $\chi^2 = 19.124$, $p = 0.000$, as can be seen in Table 14.

Table 13: Result of a Chi-square test of the relationship between relative markers and ERC embedding from the written data of the high group

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.926 ^a	2	.000
Likelihood Ratio	13.793	2	.001
N of Valid Cases	525		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.14.

Table 14: Result of a Chi-square test of the relationship between relative markers and ERC embedding from the written data of the low group

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.124 ^a	2	.000
Likelihood Ratio	18.815	2	.000
N of Valid Cases	407		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.30.

According to Table 15, in high-and-low proficiency learners' essays, there was a significant relationship between the use of relative markers and how ERCs were embedded into the matrix clause.

Table 15: Comparison of the use of relative pronouns and ERC embedding in the written essays by the high and low proficiency groups

Group	Written data (Relative Pronoun – ERC Type)		
	Pearson's Chi-square	Significance	Contingency Coefficient
High	16.926	0.000	0.17
Low	19.124	0.000	0.212

With respect to resumptive pronouns, the two proficiency groups supplied more pronoun copies in right-embedded RCs (H, L: 72.22%, 88.88%), as in (242) and (243) than in center-embedded ones (H, L: 27.78%, 11.12%), as in (244).

(242) Although you can use many words *that **they** are not just the same*, they are all the same meaning. (O-SU)

(243) Pet is an animal *that we keep **them** to be companionship or for our enjoyment.*

(SC-DO)

(244) The pet *which I keep **it*** is cat. (S-DO)

The two groups were also alike in that they produced such resumptive pronouns in more marked positions, i.e. DO and OPREP, which are now merged into a broader category called an object. It appears from the written data that both groups employed more pronoun retention in RC objects (H, L: 83.34%, 72.22%), as in (243) and (244), than RC subjects (H, L: 16.66%, 27.78%), as in (242).

Concerning the subtypes of RCs, three subtypes were found in right-embedded RCs in both groups, namely O-SU (H, L: 16.66%, 22.22%), as in (245), O-DO (H, L: 27.78%, 38.88%), as in (246), and SC-DO (H, L: 22.22%, 22.22%), as in (247). Moreover, only high-proficiency learners produced pronominal reflexes in SC-OPREP (5.56%), as in (248), whereas the production of resumptives in O-OPREP, as in (249), was exclusive to those with low proficiency. In center embedded RCs, both groups produced resumptive pronouns in S-DO, as in (250), however, only low-proficiency learners used such a pronoun copy in S-SU, as in (251).

(245) Except, artworks and sports or any activities *that **they** are useless I am better than him.* (O-SU)

(246) I will proud in my success *that I do **it** by myself* and I will share my happiness to others especially my parents certainly. (O-DO)

(247) Golden Retriever is the one species *that many people like and have **it** although it has big size and sometimes has fear mode.* (SC-DO)

- (248) The people in my room talked about the crime case *which the police were interested in **it** very much*. (SC-OPREP)
- (249) You can meet new people for take care them and people *that you care for **them*** very respected. (O-OPREP)
- (250) The other quality *that I like **it** is honesty*. (S-DO)
- (251) I think it like the magic and the people *who can make it **they*** are like the magician and like the feeling of the magician. (S-SU)

In addition, pronoun retention was found to co-occur with five different relativizers: *who*, *whom*, *which*, *that*, and *zero*. *Whom* and *which* are exclusive to the high group and the low group respectively. The order of frequency of pronoun retention in the high group is:

- (252)
- | | | | | | | |
|----------|---|----------|---|----------|---|---------|
| that | > | who | > | whom | > | zero |
| (66.67%) | | (16.67%) | | (11.11%) | | (5.56%) |

By contrast, the frequency order of the low group is :

- (253)
- | | | | | |
|----------|---|----------|---|--------------|
| that | > | which | > | who/zero |
| (66.67%) | | (22.22%) | | (5.56% each) |

With regard to non-restrictive RCs (NRCs), high-proficiency learners produced 7.24% of NRCs in comparison to the whole number of RCs, whereas those with low proficiency used 8.62%. It is clear that the number of NRCs made by both

groups is close. Similarly, the two groups are also alike in that they used more NRCs in right embedding (H, L: 84.21%, 82.86%), as in (254), than in center embedding (H, L: 15.79%, 17.14%), as in (255). In relation to the RC types in the NPAH, the orders of frequency of the NRCs employed by the two groups are the same, as illustrated in (256).

(254) The teachers liked my friend called Wipawee, *who we also love so much*.

(O-DO)

(255) Singing, *which is often contrasted with speech*, is the act of producing musical sounds with the voice. (S-SU)

(256)

SU	>	DO	>	OPREP
(H, L: 81.58%, 82.86%)		(H, L: 13.16%, 11.43%)		(H, L: 5.26%, 5.71%)

Moreover, considering the subtypes of the NRCs, both groups were found to use seven subtypes of NRCs, most of which overlap. In particular, the high group used the following types of NRCs, according to frequency:

(257)

O-SU	>	SC-SU	>	S-SU/O-DO	>	S-DO/S-OPREP/O-OPREP
(55.26%)		(15.79%)		(10.53% each)		(2.63% each)

On the other hand, the next sequence reveals the NRC frequency of the low group:

(258)

O-SU > SC-SU > S-SU > S-DO/O-OPREP > O-DO/SC-DO
 (51.43%) (20%) (11.43%) (5.71% each) (2.86%)

From the two sequences above, NRCs appeared in S-OPREP, as in (262), only in the high group, while those found in SC-DO, as in (264), are exclusive to the group of low proficiency. Furthermore, it is evident that the first three most frequent positions for the NRC occurrence are O-SU, as in (259), SC-SU, as in (260), and S-SU, as in (261) for both groups, with an exception of O-DO, as in (263), which is the least frequent in the low group.

(259) He teaches me English(,) *which is my favorite subject.* (O-SU)

(260) My memorable experience has been happened recently. It was the ‘Say Good Bye Event’(,) *that was set in the last day of grade 12 testing date.* (SC-SU)

(261) Singing, *which is often contrasted with speech,* is the act of producing musical sounds with the voice. (S-SU)

(262) The most significant reason why I love this person is she gave me birth. The teacher(,) *whom I am talking about(,) is my mother.* (S-OPREP)

(263) Even if we had left the old school, we always come back to this school(,) *that we love.* (O-DO)

(264) However, my favorite pet is Moo-Moo(,) *that I loved more and more.* (SC-DO)

As regards the relative markers introducing the learners’ NRCs, high-proficiency learners employed four different relativizers, as in (265), whereas low-

proficiency ones used three relative markers with a different order of frequency, as in (266).

(265)

High group: which	>	that	>	who	>	whom
(47.37%)		(28.95%)		(21.05%)		(2.63%)

(266)

Low group: who	>	that	>	which
(48.57%)		(31.43%)		(20%)

It is noticeable that *whom* was not used in the low group's NRCs. Furthermore, the two hierarchies also indicate that the relative marker *that* was used in the NRCs to a certain degree in both groups even though such use led to ungrammaticality.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

4.3 ERCs in the spoken data

4.3.1 High-proficiency learners' use of ERCs

Table 16: Distribution of relativizers in different sentence positions in speech (high group)

relativizers	who	whom	which	that	zero	Total	%
ERC types							
center- embedding							
S-SU	4	-	1	2	-	7	6.36
S-DO	-	-	2	7	4	13	11.82
S-OPREP	-	-	-	3	-	3	2.73
Total	4 (3.64%)	-	3 (2.73%)	12 (10.91%)	4 (3.64%)	23	20.91
right-embedding (object)							
O-SU	7	-	9	12	-	28	25.45
O-DO	1	1	2	19	5	28	25.45
O-OPREP	-	1	1	1	2	5	4.55
Total	8 (7.27%)	2 (1.82%)	12 (10.91%)	32 (29.09%)	7 (6.36%)	61	55.45
right-embedding (subject complement)							
SC-SU	7	-	2	6	1	16	14.55
SC-DO	-	-	1	6	1	8	7.27
SC-OPREP	-	-	-	1	1	2	1.82
Total	7 (6.36%)	-	3 (2.73)	13 (11.82%)	3 (2.73%)	26	23.64
%	17.27	1.82	16.36	51.82	12.73	110	100

Table 17: Distribution of relativizers in center and right embedding in speech (high group)¹³

relativizers	who	whom	which	that	zero	Total	%
ERC types							
Center-embedding (subject)	4	-	3	12	4	23	20.91
Right-embedding - object	8	2	12	32	7	61	55.45
-subject complement	7	-	3	13	3	26	23.64
Total	15	2	15	45	10	87	79.09
Total	19	2	18	57	14	110	100
%	17.27	1.82	16.36	51.82	12.73	100	

¹³ Table 17 is a summarized version of Table 16.

The high-proficiency learners produced 110 ERCs in speech, compared with 525 ERCs which they used in the written task.

4.3.1.1 ERC embedding

According to Table 17, learners with the high level of English proficiency produced, in speech, 79.09% of right-embedded RCs and 20.91% of center-embedded RCs in comparison with 82.29% of right-embedded RCs and 17.71% of center-embedded RCs in writing. With more detailed analysis, two subtypes of right-embedded RCs can be found with 55.45% of occurrences in right-embedded RCs modifying an object, compared with 53.71% in writing and with 23.64% of those in right-embedded RCs following a subject complement, compared with 28.57% in the written data.

The fact that the right-embedded RCs vastly outnumber those with center embedding provides support for the PDH (Kuno, 1974), which posits that RCs in center embedding are really more difficult to process and produce than their right-embedded counterpart.

4.3.1.2 ERC types

Table 18: Distribution of RCs in different RC types in speech (high group)

RC types	frequency	%
SU	51	46.36
DO	49	44.55
OPREP	10	9.09
Total	110	100

There existed three different RC types, as stated in the NPAH (Keenan & Comrie, 1977), in the high-proficiency learners' spoken English, as shown in Table 18. They are SU, DO, and OPREP. SU, as in (267), was found to be produced with the most frequency (46.36%), compared with 56.24% in writing, and DO, as in (268), is ranked second with slightly lower degree of frequency (44.55%), compared with 34.86% in writing. The learners used OPREP, as in (269), with the least frequency (9.09%), while OPREP was produced 9.33% in the written task. GEN was not produced at all despite three tokens of GEN seen in the written data. Likewise, IO, which is less marked than OPREP, and OCOMP, the most marked type in the NPAH, cannot be spotted either.

(267) When I know the biography of them it made me know the story in the past *that have the effect at now* and I know the important success of them. (SU)

(268) Everyone has different hobbies *that he or she would like to do for fun or relaxation*. (DO)

(269) She's the one person *ø I can tell everybody to*, and she'll look me in the eyes and listen. (OPREP)

In regard to the subcategories of RC types, as mentioned in the framework of the present study, nine RC types were produced according to Table 16. To be precise, the most frequent RC types are O-SU, as in (270), and O-DO, as in (271) (25.45% each). Second to those two is SC-SU, as in (272), used 14.55%. S-DO (11.82%) as in (273) and SC-DO (7.27%), as in (274), are ranked third and fourth in frequency respectively, while the fifth and the sixth belong to S-SU (6.36%), as in (275), and

O-OPREP (4.55%), as in (276), respectively. S-OPREP, as in (277), occurred 2.73%, and hence considered the seventh in the ranking, whereas the least frequent type is SC-OPREP, as in (278), used only 1.82%.

(270) Or when I read newspaper, I'll know news daily *that tell me something change in this day*. (O-SU)

(271) I have one book *that I like most*. (O-DO)

(272) I'm one of those *that have hobbies* when I have free time. (SC-SU)

(273) I like all of them but the one *that I like most is 'Rai-sud-kua-kab-chua-sud-kid'*. (S-DO)

(274) What is the kind of book *that you read?* (SC-DO)

(275) The writer *who wrote this book* is Baison. (S-SU)

(276) In my leisure time I'll do something to reduce my stress from learning or working in each day and to get more knowledge *that I' tell you (about) ore later*. (O-OPREP)

(277) The important hobby *that I tell you (about) next* is growing plants. (S-OPREP)

(278) Hobbies are something *that we feel happy (about)*. (SC-OPREP)

It is not astonishing at all to discover O-SU and O-DO as the most frequent RC types since both are in right embedding, which are assumed to be easier for acquisition. The frequency of the RC types described above is outlined in (279).

(279)

O-SU/S-DO > SC-SU > S-DO > SC-DO > S-SU > O-OPREP >

(25.45 % each) (14.55%) (11.82%) (7.27%) (6.36%) (4.55%)

S-OPREP > SC-OPREP

(2.73%) (1.82%)

4.3.1.3 Use of relative markers

(280)

a. in speech

that	>	who	>	which	>	zero	>	whom
(51.82%)		(17.27%)		(16.36%)		(12.73%)		(1.82%)

b. in writing

that	>	who	>	which	>	zero	>	whom	>	whose
(50.67%)		(26.67%)		(14.29%)		(5.52%)		(2.29%)		(0.57%)

Five relative markers, in addition to relative adverbs, which are left untouched in the current study, were employed in the learners' speech, namely *who*, *whom*, *which*, *that*, and *zero*. According to (280 a), the complementizer *that*, as in (281), is ranked number one in the frequency (51.82%) compared to 50.67% in writing, while the relative pronoun *who*, as in (282), is ranked second with 17.27%, compared to 26.67% in writing, which is slightly higher than *which* (16.36%), as in (283), ranked third in frequency, compared to 14.29% in the written data. The fourth is the *zero* relative marker (\emptyset), as in (284), which was produced 12.73%, in comparison to 5.52% in the essays. The relativizer occurring with the lowest frequency is *whom* (1.82%), as in (285), as opposed to 2.29% in the written task. However, *whose*, occurring 0.57% in writing, is not existent in the learners' speech.

- (281) Hobby is activity *that a person does for pleasure*.
- (282) He is a Renaissance man *who is a perfect Italy man*.
- (283) For me, I like to read about a detective story, a historical story or book *which involve Leonado da Vinci because he is a hero for me*.
- (284) The book *ø I like most* is ‘Questions and answer about faith’ by Fethullah Gulan translate by Mr. Banjong Binkasan.
- (285) Everybody has her or his friends *with whom you share good or bad things*.

In connection with how RCs were embedded into a matrix clause, more relativizers were used in right-embedded RCs (79.09%) than in center-embedded ones (20.91%). As for the right-embedded RCs, it is noticeable that those with an object (55.45%) outnumbers RCs modifying a subject complement (23.64%). Moreover, all relative words including *zero* were used more in the former than in the latter.

Regarding *that*, 29.09% is discovered in right-embedded RCs with an object, as in (286), while 11.82% was employed in those with a subject complement as in (288). Additionally, *that* occurred 10.91% in center-embedded RCs, as in (287).

- (286) I have one book *that I like most*.
- (287) I like all of them but the one *that I like most* is ‘Rai-sud-kua-kab-chua-sud-kid’.
- (288) Hobby is activity *that a person does for pleasure*.

With respect to *who*, 7.27% appeared in right-embedded RCs with an object, as in (289), and 6.36% was found in right-embedded ones affixed to a subject

complement, as in (290). In center-embedded RCs, as in (291), *who* was produced 3.64%.

(289) I feel that I have a person *who stay with me*.

(290) The writer *who wrote this book* is Baison.

(291) He is a Renaissance man *who is a perfect Italy man*.

In addition, the learners were seen to produce 10.91% of which in right-embedded RCs added to an object, as in (292), and 2.73% in those attached to a subject complement, as in (293). Also, *which* produced with RCs in center embedding, as in (294), is equal to 2.73%, so does the right-embedded ones with an object.

(292) To be honest, I am not a great reader, so I sometimes read a book *which is not a book for my subjects*.

(293) The each hobby is activity *which you like or love to do*.

(294) Activity *which I often use in internet*, is chatting, looking information, music, clip, news and games etc.

As regards *zero*, 6.36% and 2.73% were discovered in right-embedded RCs attached to an object, as in (295), and those following a subject complement, as in (296), respectively. *Zero* is, further, found in RCs with center embedding, as in (297) with 3.64%. Finally, as for *whom*, it occurred 1.82% only in right embedding RCs with an object, as in (298).

- (295) People must have impressive book \emptyset *they like most*, me too.
- (296) She's the one person \emptyset *I can tell everybody to*, and she'll look me in the eyes and listen.
- (297) The book \emptyset *I like most* is 'Questions and answer about faith' by Fethullah Gulan translate by Mr. Banjong Binkasan.
- (298) My dog always loves anyone *whom I admire really*.

4.3.1.4 Resumptive pronouns

Table 19: Distribution of resumptive pronouns in different sentence positions in speech (high group)

embedding types	relativizers	which	that	zero	Total	%
	ERC types					
center embedding (40%)	S-DO	-	1	1	2	40
right embedding (60%)	O-DO	-	1	-	1	20
	SC-SU	1	-	-	1	20
	SC-DO	-	1	-	1	20
Total		1	3	1	5	100
%		20	60	20	100	

Table 19 shows the use of resumptive pronouns in the high-proficiency participants' speech. Concerning the positions of ERCs in a sentence, resumptives were used more in right-embedded RCs (60%) than in center-embedded RCs (40%), in comparison to 72.22% of pronominal reflexes in right-embedded RCs and 27.78% in center-embedded RCs in writing. With respect to the ERC types in the NPAH,

resumptives were inserted in SU and DO. 80% of pronoun copies were found in DO, compared to 77.78% in the same RC position in writing, whereas only 20% were seen in SU, compared with 16.66% in SU in the written task. Furthermore, no resumptive pronouns were used in OPREP in speech, whereas OPREP in the written data comprises 5.56% of pronoun copies. This result supports *the Resumptive Pronoun Hierarchy*, which postulates that more pronoun retention tends to be found in marked RC types. In this study, DO, which is more marked than SU, contained more resumptive pronouns than SU. This conforms to the hierarchy of resumptive pronouns.

With the framework of the present study, it was discovered that pronominal reflexes occurred most frequently in S-DO (40%), as in (299). The other three positions, namely O-DO, as in (300), SC-SU, as in (301), and SC-DO, as in (302), comprise the equal number of resumptives (20%). When relative markers are taken into consideration, *that* is ranked first as a relativizer co-occurring with pronoun retention (60%), as in (300) and (302), compared to 66.67% of *that* in writing. *Which*, as in (301), and *zero*, as in (299), are equal in frequency since they both were used with 20% of pronoun retention. It should be noted that, in the written data, *which* was not found to co-occur with a resumptive pronoun and *zero* occurred only 5.56% with pronoun retention.

(299) And the book *∅I like most it* is Kam Tit Cheewit by Thitinad Na Phattalung.

(S-DO)

(300) Sometime I have some big problems *that I can't find a way to solve it* but do not forget to think about my best friend. (O-DO)

(301) In conclusion, the Da Vinci Code is the renowned story *which it is very interesting*. (SC-SU)

(302) This is some part *that my best friend has it*. (SC-DO)

4.3.1.5 Non-restrictive RCs

Table 20: Distribution of NRCs in different sentence positions in speech (high group)

embedding types	relativizers	<i>who</i>	<i>which</i>	<i>that</i>	<i>zero</i>	Total	%
	ERC types						
center embedding (25%)	S-DO	-	-	1	1	2	25
right embedding (75%)	O-SU	1	-	2	-	3	37.5
	O-DO	-	-	1	-	1	12.5
	SC-SU	-	1	-	-	1	12.5
	SC-DO	-	-	1	-	1	12.5
Total		1	1	5	1	8	100
%		12.5	12.5	6.25	12.5	100	

High-proficiency learners produced 8 tokens of non-restrictive RCs (NRCs) in speech, equivalent to 7.27% of the entire number of RCs. The number of NRCs in this table encompasses both correctly-used ones and those attempted NRCs. The latter concerns ungrammatical NRCs, e.g. with the use of *that* as a relative marker. The determination of a NRC in speech was also based on the definiteness of the head.

From Table 20, more NRCs were used in right-embedded RCs (75%), compared with 84.21% in writing, than in center-embedded ones (25%), in comparison with 15.79% in the written data. With respect to the RC types, NRCs were equally produced in SU, as in (294), and DO, as in (295), each of which takes up 50% of frequency, whereas SU in the written NRCs occurred 81.58% and DO was

used 13.16% in NRCs. Moreover, 5.26% of OPREP was also found, while no OPREP was produced in spoken NRCs of high-proficiency learners.

Regarding the framework of this study, O-SU, as in (303), is the position where NRCs appeared most (37.5%). Second to it is S-DO, as in (304), occurring 25%. In addition, O-DO, as in (305), SC-SU, as in (306), and SC-DO, as in (307), were each used 12.5% and ranked third.

Considering the relative markers in the NRCs, *that* is regarded as the most common (62.5%). The others, namely *who*, *which*, and *zero*, were produced with the equal number (12.5% each).

(303) The central story are concerns Harry's struggle against the evil wizard Lord Voldermort,¹⁴ *who killed Harry's parents.* (O-SU)

(304) PePe, *which my Dad got from his friend*, often plays with plastic ball. (S-DO)

(305) You can find football competition in the internet, *that make life more comfortable.* (O-DO)

(306) But I am happier that he is Note, *who is my best friend.* (SC-SU)

(307) J.K. Rowling was the writer of Harry Potter, *who every children around the world know.* (SC-DO)

¹⁴ A comma is added here to mark a NRC in speech

4.3.2 Low-proficiency learners' use of ERCs in speech

Table 21: Distribution of relativizers in different sentence positions in speech (low group)

relativizers	who	which	that	zero	Total	%
ERC types						
center- embedding						
S-SU	4	2	2	-	8	8.89
S-DO	1	2	6	2	11	12.22
S-OPREP	-	1	2	-	3	3.33
Total	5 (5.56%)	5 (5.56%)	10 (11.11%)	2 (2.22%)	22	24.44
right-embedding (object)						
O-SU	7	4	10	-	21	23.33
O-DO	-	-	8	3	11	12.22
Total	7 (7.78%)	4 (4.44%)	18 (20%)	3 (3.33%)	32	35.56
right-embedding (subject complement)						
SC-SU	12	4	12	-	28	31.11
SC-DO	-	-	6	1	7	7.78
SC-OPREP	-	-	1	-	1	1.11
Total	12 (13.33%)	4 (4.44%)	19 (21.11%)	1 (1.11%)	36	40.00
%	26.67	14.44	52.22	6.67	100	

Table 22: Distribution of relativizers in center and right embedding in speech (low group)

relativizers	who	which	that	zero	Total	%
ERC types						
Center-embedding (subject)	5	5	10	2	22	24.44
Right-embedding - object	7	4	18	3	32	35.56
-subject complement	12	4	19	1	36	40.00
Total	19	8	37	4	68	75.56
Total	24	13	47	6	90	100
%	26.67	14.44	52.22	6.67	100	

4.3.2.1 ERC embedding

According to Tables 22 and 23, the participants with low proficiency level evidently used more RCs in right embedding (75.56%) in speech, in comparison with 75.86% in writing, than those in center embedding (24.44%) in speech, compared

with 24.14% in writing. As regards the right-embedded RCs alone, 40% were found in those placed adjacent to an object, compared with 39.90% in the essays, whereas right-embedded RCs attached to a subject complement were produced 35.56%, compared with 35.96% in the written data. That the right-embedded RCs greatly outnumber the center-embedded ones is not unusual as it has been posited in the PDH (Kuno, 1974), which has proposed that RCs in center embedding are assumed for cause more problems to learners than those in right embedding.

4.3.2.2 ERC types

Table 23: Distribution of RCs in different RC types in speech (low group)

RC types	frequency	%
SU	57	63.33
DO	29	32.22
OPREP	4	4.44
Total	90	100

Three types of ERCs can be observed from the speech of the low-proficiency learners: SU, DO, OPREP. It appears from Table 23 that the most commonly used type is SU (63.33%), as in (308), while they produced 51.48% of SU in writing. DO, as in (309), is ranked second in frequency (32.22%), compared to 4.73% in writing, which is approximately half of SU. The least frequent one found is OPREP (4.44%), as in (310). These occurrences of RC types obviously conform to the prediction of the NPAH in that more unmarked types are inclined to be produced more frequently than

marked ones. Here, SU is the most unmarked type produced with the largest number, while OPREP, the most marked type discovered, occurred with the lowest frequency. In addition, IO is not found although it is considered less marked than OPREP. Furthermore, GEN and OCOMP did not occur in speech of the learners with low proficiency.

(308) Pulakong is story about the developer *who is an orphan girl*. (O-SU)

(309) The chronicles of Narnia is the one *that I want to present*. (SC-DO)

(310) But the home *that I am going to talk (about)* is my home. (S-OPREP)

With regard to the framework used in the present study, it seems that there appeared eight ERC subtypes produced in the participants' speech, as indicated in Table 21. In particular, SC-SU, as in (311), is viewed as the most frequent type produced 31.11%. Second to it is O-SU, as in (308) and (312), occurring 23.33%. S-DO as in (313) and O-DO, as in (314), are both ranked third in frequency (12.22%). The fourth-most common goes to S-SU (8.89%), as in (315), while SC-DO, as in (309), holds the fifth rank (7.78%). The sixth and the least frequent ones are S-OPREP (3.33%), as in (310), and SC-OPREP (1.11%), as in (316), respectively.

(311) My favorite pet is dog *which is Siberian Husky*. (SC-SU)

(312) But we have many groups of animal *that is different*. (O-SU)

(313) The book *ø I like most* is 'The Secret'. (S-DO)

(314) When I have homework *that I don't understand* they usually help me and teach me. (O-DO)

- (315) I and my family, *which is composed of my father, my mother, my sister, my cousin, my aunt, my uncle, my nephew, and my niece*, are happy living together. (S-SU)
- (316) I can be someone *that my friends can lean on* when they have love situation by using others experience and opinion. (SC-OPREP)

It is normal to see SC-SU as the most frequent RC type as it occurred in right embedded RCs, corresponding to the PDH (Kuno, 1974). Additionally, the fact that SC-OPREP and S-OPREP belong to rare types is probably because OPREP is the most marked among all the RC types used in speech.

The frequency of the discussed RC types is illustrated in (317) below:

(317)

SC-SU > O-SU > S-DO/ O-DO > S-SU > SC-DO > S-OPREP > SC-OPREP
 (31.11%) (23.33%) (12.22 each) (8.89%) (7.78%) (3.33%) (1.11%)

4.3.2.3 Use of relative markers

(318)

a. in speech

that > who > which > zero
 (52.22%) (26.67%) (14.44%) (6.67%)

b. in writing

that	>	who	>	which	>	zero	>	whom	>	whose
(53.94%)		(29.80%)		(10.10%)		(12.73%)		(0.74%)		(0.25%)

There arose four different relative markers found in the speech of the low-proficiency learners, other than relative adverbs which are beyond our framework of analysis. The relative markers used are *who*, *which*, *that*, and *zero*. The most common one is the relativizer *that* (52.22%), compared to 53.94% in writing. Second to *that* is *who*, occurring with 26.67%, compared to 29.80% in writing. The third-most frequent is *which* (14.44%), compared to 10.10% in the written data, whereas the rarest one is *zero* (6.67%), in comparison to 12.73 % in the essays. *Whom* and *whose*, found in writing, were not used in their speech.

Concerning the way RCs were embedded into a matrix clause, more relative markers were found in RCs with right embedding (75.56%), compared to 75.86% in the essays, than those with center embedding (24.44%), compared to 24.14% in writing. As for the right-embedded RCs, 40% of relativizers were produced in those following a subject complement, in comparison to 35.96% in the written data, while those affixed to an object were used 35.56%, as opposed to 39.90% in writing.

When each of the relative words was analyzed, it was found that the relative marker *that*, as in (319), was used most (21.11%) in right-embedded RCs with a subject complement, in comparison to 18.47% in writing. Moreover, 20% of *that* is discovered in right-embedded RCs with an object, as in (320), compared to 19.95% in the written task, whereas 11.11% occurred in center-embedded RCs, as in (321), compared to 15.52% in writing. With respect to *who*, this relative pronoun was used with 13.33% in right-embedded RCs attached to a subject complement, as in (322),

compared with 13.30% in writing, and 7.78% in those added to an object, as in (323), compared with 12.56% in the written data. In center embedding, *who*, as in (324), was produced 5.56%, while 3.94% was found in writing.

- (319) Home is not only the place \emptyset we hide the sun and rain but it is the place *that give us warm and love*.
- (320) sometime they know something *that my own brother not know*.
- (321) The first activity *that we did* was singing and dancing.
- (322) I was someone *who made these children happy though it was a little happiness*.
- (323) For me, friend means a person *who has the same interests and opinions as myself*.
- (324) The man *who are superstar* like most woman.

As regards *which*, 5.56% of its occurrence was found in center-embedded RCs, as in (325), compared to 1.97% in writing. Additionally, 4.44% of *which* is found in both types of right-embedded RCs, as in (326) and (327), while in writing 2.22% of *which* occurred in right-embedded RCs added to a subject complement and 5.91% was found in those attached to an object. Lastly, *zero* was found with 3.33% in right-embedded RCs modifying an object, as in (328), compared to 1.48% in writing, and with 1.11% in those with a subject complement, as in (329), compared to 1.23% in writing. In center-embedded RCs, 2.22% of *zero* is seen, as in (330), compared to 2.71% in writing.

- (325) I and my family, *which is composed of my father, my mother, my sister, my cousin, my aunt, my uncle, my nephew, and my niece*, are happy living together.
- (326) My favorite pet is dog *which is Siberian Husky*.
- (327) Juay likes to tell me about her lifestyle in Switzerland, *which is interesting and I like to tell my lifestyle in Thammasat University to her as well*.
- (328) My father always bought the book *∅ I like*.
- (329) Home is not only the place *∅ we hide the sun and rain* but it is the place *that give us warm and love*.
- (330) The book *∅ I like most* is 'The Secret'.

4.3.2.4 Resumptive pronouns

Table 24: Distribution of resumptive pronouns in different sentence positions in speech (low group)

embedding types	relativizers	who	which	that	Total	%
	ERC types					
center embedding (50%)	S-SU	1	-	-	1	16.67
	S-DO	-	-	1	1	16.67
	S-OPREP	-	1	-	1	16.67
right embedding (50%)	O-DO	-	-	1	1	16.67
	SC-SU	-	1	-	1	16.67
	SC-DO	-	-	1	1	16.67
Total		1	2	3	6	100
%		16.67	33.33	50	100	

According to Table 24, resumptive pronouns were used in three types of RCs: SU, DO, and OPREP. DO was found to be the position in which resumptive pronouns

occurred most (50%), as in (331), compared to 66.67% in the essays, whereas SU contains 33.33% of pronominal reflexes, as in (332), compared to 27.78% in writing. OPREP, as in (333), is considered the least common type where pronoun copies were made (16.67%), in comparison to 5.56% in writing. The occurrences of resumptive pronouns as a whole lend support to *the Resumptive Pronoun Hierarchy*, which postulates that pronoun retention is more likely to be found in marked RC positions. That is, from the data, resumptive pronouns in object positions, i.e. DO and OPRREP, are higher in number than those in SU.

(331) It is the first dog *that my father bought it for me*. (DO)

(332) Someone *who he or she passes in my life* are my best friend. (SU)

(333) Some animals are tame *which you are take care of them* while some animals are fierce. (OPREP)

Related to the relative markers that co-occurred with resumptive pronouns, *that* shows its most frequency of use with pronominal reflexes (50%), as in (331), compared to 66.67% in the written task. Second to *that* is *which*, produced 33.33%, as in (333), compared to 22.22% in writing, whereas *who* occurred with pronoun retention, as in (332), with the least degree of frequency (16.67%), compared to 5.56% in writing.

4.3.2.5 Non-restrictive RCs

Table 25: Distribution of NRCs in different sentence positions in speech (low group)

embedding types	relativizers	<i>who</i>	<i>which</i>	<i>that</i>	Total	%
	ERC types					
center embedding (42.86%)	S-SU	-	2	-	2	28.57
	S-DO	-	-	1	1	14.29
right embedding (57.14%)	O-SU	2	1	-	3	42.85
	SC-SU	1	-	-	1	14.29
Total		3	3	1	7	100
%		42.85	42.85	14.29	100	

7 tokens of NRCs were noticed in the speech of the low-proficiency learners, equal to 7.78% of the whole number of RCs. It is noted that the NRCs shown in Table 25 not only include correct NRCs but also attempts to use NRCs, i.e. those with the relative word *that*. It is clearly seen from Table 25 that more NRCs were found in right-embedded RCs (57.14%) than center-embedded RCs (42.86%). Respecting the RC types, only two, i.e. SU and DO, were found to contain NRCs. To be precise, SU, as in (334), apparently has more NRCs (85.71%), compared to 82.86% in the essays, than DO (14.29%), as in (335), compared to 11.43% in writing. Unlike the written data, the spoken ones do not demonstrate the use of OPREP in NRCs.

With the framework of the current study, it is found that there are four subtypes comprising NRCs: S-SU, S-DO, O-SU, and SC-SU. The most frequent type where NRCs appeared is O-SU (42.85%), as in (336), while the second goes to S-SU (28.57%), as in (337). The least frequent ones belong to S-DO, as in (335), and SC-SU, as in (334), with 14.29% each.

- (334) The important one is Pook, *who cheers me up every time I'm down*. (SC-SU)
- (335) Later, Kaka, *that I fed him since 3 years ago*. (S-DO)
- (336) I accidentally knew Sopak Suwan, *who is a famous writer*. (O-SU)
- (337) Satoon, *which is one of the very nice place in south of Thailand*, was the place to travel with friends. (S-SU)

With regard to the relativizers used in the NRCs, *who*, as in (334) and (336), and *which*, as in (337), were produced with the same highest frequency (42.85%). The relative marker *that*, as in (335), occurred with the lowest frequency (14.29%).

4.3.3 Comparison between high-and-low proficiency learners in speech

According to the spoken data, the high-proficiency and low-proficiency learners were in common in the way they embedded ERCs into a matrix clause. That is, most of the ERCs they produced are right-embedded (H, L: 79.09, 75.56%) rather than center-embedded (H, L: 20.91%, 24.44%). However, it was discovered that, as regards right-embedded constructions, the high group used more RCs modifying a matrix object (55.45%) than those accompanying a subject complement (23.64%). By contrast, the low-proficiency group produced more RCs attached to a subject complement (40%) than the RCs added to a matrix object (35.56%).

Aside from the manner of RC embedding, the learners with high and low levels of proficiency similarly used three RC types: SU, DO, and OPREP. They also produced these in the same frequency order, as illustrated in (338) below:

(338)

SU > DO > OPREP
 (H, L: 46.36%, 63.33%) (H, L: 44.55%, 32.22%) (H, L: 9.09%, 4.44%)

It should be noted that the difference between the SU frequency and the DO frequency is minimal (1.81%) in the high group, whereas the difference in the low group is noticeable (31.11%).

with regard to the subtypes of RCs presented in the framework of the present study, high proficiency learners produced nine different ERC types in speech, demonstrated below in (339) according to frequency:

(339)

O-SU/S-DO > SC-SU > S-DO > SC-DO > S-SU > O-OPREP >
 (25.45 % each) (14.55%) (11.82%) (7.27%) (6.36%) (4.55%)
 S-OPREP > SC-OPREP
 (2.73%) (1.82%)

In contrast, the learners of low proficiency used eight types of ERCs, as in (340):

(340)

SC-SU > O-SU > S-DO/ O-DO > S-SU > SC-DO > S-OPREP > SC-OPREP
 (31.11%) (23.33%) (12.22 each) (8.89%) (7.78%) (3.33%) (1.11%)

From the above hierarchies, it is clearly seen that all the ERC subtypes used by both groups are identical except O-OPREP, which is unique to the high group. Nevertheless, the sequences of these types in the two groups are different, except SC-OPREP, with the lowest degree of frequency in both (H, L: 1.82%, 1.11%).

Table 26: Comparison between the proficiency groups in the use of ERC types from the spoken data

Proficiency	ERC Type			Total
	SU	DO	OPREP	
High	51	49	40	140
Low	57	29	4	90
Total	108	78	44	230

Table 27: Results of a Chi-square test of the relationship between ERC types and learners' proficiency from the spoken data

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.239 ^a	2	.000
Likelihood Ratio	28.752	2	.000
N of Valid Cases	230		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.22.

Table 26 shows a comparison between the use of ERC types in the spoken data drawn from both groups of proficiency. A Chi-square analysis revealed that there was a significant relationship between the ERC types the learners used and the proficiency of the participants, $\chi^2 = 25.239$, $p = 0.000$, as illustrated in Table 27.

Concerning the relative markers used in speech, both the high and low groups seemed to bear a close resemblance to each other, as can be seen in (341).

(341)	that	>	who	>	which	>
	(H, L: 51.82%, 52.22%)		(H, L: 17.27%, 26.67%)		(H, L: 16.36%, 14.44%)	
	zero	>	whom			
	(H, L: 12.73%, 6.67%)		(H, L: 1.82%, 0%)			

According to the order of frequency above, *whom*, as in (345), was found only in the high group's speech. *That* is the most frequent relativizer in the two groups. In the high group, *that* occurred the most frequently in right-embedded RCs attached to a matrix object, as in (342). Moreover, *that* in right-embedded RCs with a subject complement (11.82%), as in (344), and *that* in center-embedded RCs (10.91%), as in (343), are close in frequency. As for the group of low-proficiency learners, *that* in right-embedded RCs with a subject complement (21.11%) and *that* in those accompanying a matrix object (20%) occurred with slightly different degree of frequency. Only 11.11% of the occurrence of *that* was used in center embedding.

(342) I have one book *that I like most*.

(343) I like all of them but the one *that I like most* is 'Rai-sud-kua-kab-chua-sud-kid'.

(344) Hobby is activity *that a person does for pleasure*.

(345) Everybody has her or his friends *with whom you share good or bad things*.

As to the occurrence of *who*, center-embedded RCs, as in (346), were produced with the least frequency in both groups (H, L: 3.64%, 5.56%). Further, *who* in right-embedded RCs added to a matrix object, as in (347), occurred 7.27% in the high group's speech and 7.78% in the low one's. In those affixed to a subject complement, as in (348), high-proficiency learners used 2.73% of *who*, while 13.33% of *who* in such a position occurred in those with low level of proficiency. On the whole, the low-proficiency learners used *who* more frequently than the high-proficiency learners did.

(346) The writer *who wrote this book* is Baison.

(347) I feel that I have a person *who stay with me*.

(348) He is a Renaissance man *who is a perfect Italy man*.

With respect to the relative pronoun *which*, the high group was found to produce it the most frequently in right-embedded RCs following an object (10.91%), as in (349), whereas low-proficiency learners equally used it with the highest frequency in center-embedded ones (5.56%), as in (350). Furthermore, the high-proficiency learners used 2.73% of *which* in both RCs in center embedding and those in right embedding with an object. Likewise, the learners of low proficiency were seen to equally produce 4.44% in both kinds of right-embedded RCs.

(349) To be honest, I am not a great reader, so I sometimes read a book *which is not a book for my subjects*.

(350) I and my family, *which is composed of my father, my mother, my sister, my cousin, my aunt, my uncle, my nephew, and my niece*, are happy living together.

Zero in both groups occurred in a similar fashion. That is, the position with the highest frequency for both groups is the RC added to an object of the main clause (H, L: 6.36%, 3.33%), as in (351). The RC in center embedding, as in (352), is viewed as the next in frequency (H, L: 3.64, 2.22%). Finally, the least frequent one for the two groups is the right-embedded RCs adjacent to a subject complement (H, L: 2.73%, 1.11%), as in (353). Overall, the high group was found to produce more *zero* than the low-proficiency counterpart.

(351) People must have impressive book *∅ they like most*, me too.

(352) The book *∅ I like most* is 'Questions and answer about faith' by Fethullah Gulan translate by Mr. Banjong Binkasan.

(353) She's the one person *∅ I can tell everybody to*, and she'll look me in the eyes and listen.

A Chi-square analysis interestingly revealed that there was no significant relationship between such use of relative words by the high-proficiency learners and the way ERCs were embedded, $\chi^2 = 0.704$, $p = 0.717$, according to Table 28. Similar to the high group, a Chi-square test showed that there was no significant relationship between the relative marker use and the nature of ERC embedding, $\chi^2 = 0.646$, $p = 0.680$, according to Table 29.

Table 28: Result of a Chi-square test of the relationship between relative markers and ERC embedding from the spoken data of the high group

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.704 ^a	2	.703
Likelihood Ratio	.675	2	.714
N of Valid Cases	110		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.93.

Table 29: Result of a Chi-square test of the relationship between relative markers and ERC embedding from the spoken data of the low group

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	.646 ^a	2	.724	.680
Likelihood Ratio	.633	2	.729	.741
Fisher's Exact Test	.911			.680
N of Valid Cases	90			

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.47.

Table 30: Comparison of the use of relative pronouns and ERC embedding in the spoken data by the high and low proficiency groups

Group	Written data (Relative Pronoun – ERC Type)		
	Pearson's Chi-square	Significance	Contingency Coefficient
High	0.704	0.717	-
Low	0.646	0.680	-

Both groups of learners were found to use relativizers independently of the ERC embedding manner. In other words, there was no significant relationship between the two variables. This means levels of proficiency do not affect the learners' use of relative markers in relation to embedding of ERCs.

With respect to pronominal reflexes used in speech, more resumptive pronouns were added in right-embedded RCs (60%), as in (354), than center-embedded ones (40%), as in (355), in high-proficiency learners, while an equal number of pronoun copies were seen in both positions (50%) in the speech of the learners with low proficiency. Moreover, as it is proposed in *the Resumptive Pronoun Hierarchy*, which claims that pronoun retention is inclined to appear in more marked RC positions, the high group used 80% of resumptives in direct object RCs, and the low group supplied 66.68% in RC formation on direct objects and objects of preposition. In contrast, only 20% and approximately 33.34% of pronominal copies were employed in subject RCs by the high group and the low group respectively.

(354) Sometime I have some big problems *that I can't find a way to solve it* but do not forget to think about my best friend. (O-DO)

(355) And the book *∅ I like most it* is Kam Tit Cheewit by Thitinad Na Phattalung.
(S-DO)

Regarding the ERC subtypes, the same three types were spotted in right-embedded RCs in both groups, namely O-DO, as in (354), SC-SU, as in (356), and SC-DO, as in (357), with the same frequency each (H, L: 20%, 16.67%). In center embedding, learners with high proficiency produced pronominal reflexes only in

S-DO (40%), as in (355), while those with low proficiency produced the same frequency of resumptive pronouns (16.67%) in three subtypes of center-embedded RCs: S-SU, as in (358), SC-DO, as in (359), and S-OPREP, as in (360).

(356) In conclusion, the Da Vinci Code is the renowned story *which it is very interesting*. (SC-SU)

(357) This is some part *that my best friend has it*. (SC-DO)

(358) Someone *who pass in my life he or she* are my best friend. (S-SU)

(359) It is the first dog *that my father bought it for me*. (SC-DO)

(360) Some animals are tame *which you are take care of them* while some animals are fierce. (S-OPREP)

With respect to the relative markers used with resumptives, it was discovered that for both groups of learners, *that*, as in (357), is the first in frequency (H, L: 60%, 50%). In addition, *which*, as in (356), and *zero*, as in (355), in the high group, occurred with the same amount (20%). For those with low level of proficiency, *which* was used 33.33% and *who*, as in (358), with the lowest frequency (16.67%). It is important to note that the use of *zero* with pronoun retention is exclusive to only the high group, whereas *who* with a resumptive pronoun was only found in the low group.

As regards non-restrictive RCs (NRCs) in the learners' speech, the learners of high proficiency were found to produce 7.27% of NRCs, compared with the total number of RCs in speech, whereas the low-proficiency ones used 7.78%, which means both groups produced a very close number of NRCs in their speech. Furthermore, both were seen to employ more NRCs in right-embedded RCs (H, L:

75%, 57.14%), as in (361), than center-embedded ones (H, L: 25%, 42.86%), as in (362).

(361) But I am happier that he is Note, *who is my best friend*.

(362) PePe, *which my Dad got from his friend*, often plays with plastic ball.

Both the high-and-low proficiency learners are similar in the main types of NRCs. That is, according to (363), both produced SU and DO, but with different amounts. The high group used 50% of SU and DO, while the other used up to 86.71% of SU and 14.29% of DO. The difference between the frequency of SU and that of DO in the low group is significant (71.42%).

(363)

SU	>	DO
(H, L: 50%, 85.71%)		(H, L: 50%, 14.29%)

With regard to the ERC subtypes as outlined in the framework of the present study, high-proficiency learners used NRCs in five subtypes, shown below in (364), according to frequency.

(364)

O-SU	>	S-DO	>	O-DO / SC-SU / SC-DO
(37.5%)		(25%)		(12.5% each)

As for the low group, only four subtypes having NRCs can be noticed, indicated below in (365), according to frequency:

(365)

O-SU	>	S-DO	>	S-DO/ SC-SU
(42.85%)		(28.57%)		(14.29% each)

From the orders above, it is remarkable that the two groups are common in their production of O-SU with the most frequency. Moreover, SC-SU is viewed as one of the least frequent types in both.

When relative markers are taken into consideration, the high group employed four different relativizers in NRCs: *who*, *which*, *that*, and *zero*, whereas the group of low-proficiency learners used *who*, *which*, and *that*. *Zero* was only found in the high group (12.5%). The two groups are alike since *who* and *which* were used with the same quantity in each group. That is, the high group produced 12.5% of *who* and 12.5% of *which*, whereas, in the low group, 42.85% of *who* as well as *which* was noticed. Furthermore, *that* is the most frequent marker in the high group (62.5%), while it occurred with the lowest degree of frequency in the low group (14.29%).

CHAPTER 5

DISCUSSION OF THE FINDINGS

5.1 Acquisition stages of English relative clauses of Thai EFL learners

5.1.1 Acquisition of ERC types

Upon the analyses of both written and spoken data, it is likely to draw a conclusion on how Thai EFL learners acquire RCs in English. First of all, the results reveal that the acquisition orders of ERC types in both groups of proficiency tend to conform to *the Noun Phrase Accessibility Hierarchy* (NPAH), proposed by Keenan and Comrie (1977), in such a way that the subject relative (SU) was the first ERC type the learners acquired owing to its highest number of use. In other words, a feature is claimed to be acquired prior to another if its occurrences are higher in number (Brown, 1973; Dulay & Burt, 1973, 1974; Krashen, 1978; Gass & Selinker, 2001). In this case, the learners produced SU with the most frequency in writing (H, L: 56.24%, 51.48%) and speech (H, L: 46.36%, 63.33%).¹⁵

Table 31: Percentage of learners' accuracy in the translation task

RC types	% of correct translation of RCs from Thai to English	
	High group	Low group
SU	83.06	70.18
DO	71.15	61.09
IO	68.63	58.14
OPREP	66.23	57.70
GEN	58.72	52.85

¹⁵ The frequency order is used to determine the order of acquisition in several SLA works, e.g. Brown, 1973; Dulay and Burt, 1973, 1974.

This is also supported by the findings from the translation task, according to Table 31, which shows that SU is the RC type which the learners apparently master most (H, L: 83.06%, 70.18%).

They seemed to acquire the direct-object relative (DO) after SU since both groups used this RC type with the second-most frequency in writing (H, L: 34.86%, 43.60%) as well as in speech (H, L: 44.55%, 32.22%). Again, the translation task also lends support to this as the learners used DO with an accuracy of 71.15% in the high group and 61.09% in the low one; their performance is ranked second in grammatical correctness. The third RC type that the learners acquired appeared to be the object-of-preposition relative (OPREP), whose occurrences rank third in frequency in the essays (H, L: 9.33%, 4.73%) and the retold stories (H, L: 9.09%, 4.44%). Furthermore, the accuracy order of OPREP, which is lower than that of DO, in the translation task for both groups (H, L: 66.23%, 57.70%) confirms its order of acquisition.

The last type of ERC acquired by the learners is the genitive relative (GEN), which is found with the lowest degree of frequency. From the written data, GEN occurred 0.57% and 0.25% in the high group and the low group respectively. However, it is interesting that GEN was not at all produced in the speech of either group.

The hierarchy (366) below reflects the order of acquisition of ERC types:

(366) SU > DO > OPREP > GEN

The order of acquisition corresponds to the one posited by the NPAH, except that the indirect-object relative (IO) and the object-of-comparison relative (OCOMP) are not seen in the learner corpus. As for IO, it is often merged into OPREP in several

studies since these two types are very similar in nature. In other words, these two positions should be collapsed into one category due to their analogous behavior in ERCs (Gass, 1979; Cowan, 2008¹⁶). (367), which belongs to IO, and (368), representing OPREP, are alike in structure in such a way that each involves a preposition inside the RC. A minor difference between IO and OPREP lies in the fact that the relative pronoun *whom* in IO in (367) serves as an indirect object as well as the object of the preposition *to*, while *whom* in OPREP in (368) has only one function, i.e. as an object of the preposition *to*.

(367) The woman *whom I gave a dictionary to* was very happy.

(368) The woman *whom I look forward to* was Mary.

Apparently, there is no use of IO in the present study although the learners are capable of producing it, as indicated in the translation task. It appears from the translation task that the percentage of accuracy for IO (H, L: 68.63%, 58.14%) and that for OPREP (H, L: 66.23%, 57.70%) confirm the structural affinity between the two RC types. It is expected that some tokens of IO may be evidenced by future research involving more data.

With regard to the non-existence of OCOMP, this is not unpredictable because OCOMP is regarded as the most marked RC type in the NPAH. According to Gass (1979, 1980), the participants who were of different L1 backgrounds, namely French, Portuguese, Italian, Arabic, Persian, Chinese, Korean, Japanese, and Thai, seemed to be troubled most with OCOMP in the sentence-combining task. In other words, they made the most errors in the OCOMP position. Moreover, they scarcely used this RC

¹⁶ According to Cowan (2008, p. 423), IO relatives are limited to only two prepositions, namely *to* and *for*, while for OPREP relatives, a wider range of prepositions can be used.

type in free compositions. Pavesi (1986), in a comparative study of instructed and naturalistic Italian learners of English, discovered from elicited oral data that both groups of learners acquired ERCs in the way predicted by the NPAH; they obviously acquired the unmarked before the marked types. Interestingly, GEN and OCOMP were almost entirely missing in the naturalistic group. Ellis (1994, p. 419) remarked that OCOMP is very problematic, considered the most complicated, as a number of English native speakers do not accept that sentences comprising this RC type are grammatical. As a result, discovering no use of OCOMP in English learners' production as well as child native speakers' did not come as a surprise.

According to the Chi-square analysis, it was revealed that Thai learners in both writing and speaking used different ERC types in relation to their proficiency. There was somehow a significant relationship between the learners' proficiency and the types of ERC.

In summary, the order of ERC acquisition in Thai EFL learners' interlanguage clearly follows what is predicted by the NPAH. This is also supported by other previous studies focusing on the acquisition of ERCs by speakers of different native languages. As mentioned before, Gass (1979, 1980) found support for the NPAH when the participants of nine different L1s revealed such an acquisition order of ERCs stated in the NPAH. Pavesi (1986) conducted a study on how Italian speakers acquired ERCs, relying on oral picture-cued production task. The study discovered the same order of ERC acquisition as the NPAH prediction. In addition, Eckman, Bell, and Nelson (1988) revealed that once the ESL learners were taught a more marked RC type, they were successful in generalizing this to other less marked ones. Such markedness presented by the NPAH was then claimed to determine the order of difficulty and acquisition of ERCs. Also, Doughty (1988, 1991) used a written

sentence combination test, a grammaticality judgment test, and an oral picture-cued production test in studying ERC acquisition by adult L2 learners of English. The studies lent support to the NPAH.

Aarts and Schils (1995), investigating the acquisition of ERCs in Dutch learners of English, have provided partial support for the NPAH acquisition order, with an exception that the participants produced fewer errors in DO than SU, which means SU might not have been acquired before DO. Izumi (2003) examined ERC acquisition by learners of different native languages, namely Chinese, Arabic, French, Japanese, Kazah, Korean, Persian, Polish, Portuguese, Spanish, Thai, and Turkish. He found support for the NPAH in predicting processing difficulty as well in a sentence combination test and the grammaticality judgment test. In Chen (2004), the researcher scrutinized a use of ERC found in Taiwanese EFL learners' essays, presenting an order of ERC acquisition which generally accords with the NPAH. Similarly, Chou's (2006) study on an ERC acquisition by Taiwan EFL college students demonstrated that the learners' order of ERC type acquisition is largely constrained by the universal markedness postulated by the NPAH, except GEN and the order between IO and OPREP.

These studies cited above, by and large, evidently bear out the results of the current research, with regard to the prediction by the NPAH.

5.1.2 Acquisition of ERC embedding

The high-and-low proficiency Thai learners of English seemed to prefer right-embedded RCs to center-embedded ones since the number of ERCs in right embedding (H, L: 82.29%, 75.86%) is higher than that in center embedding (H, L: 17.71%, 24.14%) in writing. In the same vein, right-embedded ERCs in the speech of

both groups of learners (H, L: 70.09%, 75.56%) significantly outnumber center-embedded ones (H, L: 20.91%, 24.44%). Such results in both types of data correspond to the prediction of *the Perceptual Difficulty Hypothesis* or PDH (Kuno, 1974), which pays particular attention to the memory system of human beings in processing language. The PDH, in theory, states that center-embedded RCs have to do with an interruption of the way the matrix sentence is processed, making the whole proposition perceptually difficult. By contrast, right-embedded RCs, which involve no interruption, since they appear finally, are considered less difficult to process. For this reason, RCs in right embedding are easier to learn and use, compared to those in center embedding, in a nutshell (Izumi, 2003).

Moreover, right-embedded RCs are also abundant in the language of English-speaking children. According to Diessel and Tomasello (2000) and Diessel (2004, 2005), most of the earliest RCs found in the speech of children speaking English as L1 occur in copular constructions, as in (159), repeated here for convenience.

(168) That is the sugar *that goes in there*. (Diessel & Tomasello, 2000, p. 136)

That is, the RCs are used at the end of the sentence, thus regarded as right-embedded RCs. This is probably indicative of the fact that the right-embedded RC is acquired before the center-embedded counterpart. Additionally, Prideaux and Baker (1986) studied the L1 acquisition of RCs by adult English speakers, using three main means of data collection, i.e. a written sentence comprehension task, a written recall task, and a written video narration task. The findings give support to the PDH prediction in that RCs in right embedding were easier in terms of production and comprehension.

Plenty of research works in second language acquisition of ERCs evidently lend support to the central claim of the PDH. Ioup and Kruse (1977) used a grammaticality judgment task in their study on learners whose mother tongues were Chinese, Japanese, Arabic, Persian, and Spanish. This study strongly supports the PDH since center embedding was seen to cause more errors than right embedding. Furthermore, Schumann (1980) examined ERCs produced by non-natives in the United States and found that right-embedded RCs were preferred to center-embedded ones. This means center embedding conveys greater complexity than the other, which apparently confirms the PDH as well.

Sadighi (1994), in analyzing the acquisition of ERCs by Chinese, Japanese, and Korean adult native speakers, finds support for the interruption hypothesis, the claim of which is similar to that of the PDH. That is to say, the learners encountered more difficulty when RCs were inserted between the matrix subject and the predicate. Flanigan (1995) tested the comprehension and production of restrictive ERCs of those whose first languages were Chinese, Indo/Malay, Korean, Icelandic, Arabic, Spanish, Sinhalese, and Hebrew. The findings reveal the order of accuracy in which right-embedded RCs preceded center-embedded ones. The learners, put differently, performed better on RCs with right embedding, which strongly supports the PDH.

Izumi (2003) lends support to not only the NPAH, as discussed earlier, but also the PDH since all the tests used to elicit the data showed that center-embedded RCs, as opposed to right-embedded RCs, hampered sentence processing in the learners. Chou (2006), in addition to giving support to the NPAH, presents the results that indubitably followed the PDH in that the learners experienced more difficulty in center-embedded RCs than right-embedded ones.

All of the previous studies, which find support for the PDH, do corroborate the findings of the present research, which revealed that right-embedded RCs were acquired by Thai EFL learners earlier than those occurring in center embedding.

5.1.2.1 Right-embedded ERCs attached to a subject complement

Right-embedded ERCs attached to a subject complement are worth an in-depth discussion thanks to their considerable occurrences in both written and spoken data. The essays show that ERCs of this type were employed by both groups of participants with second-most frequency, following those attached to a direct object (H, L: 28.57%, 35.96%). In the speaking task, the high group produced 23.64% and the low one used 40% of this ERC type accompanying a subject complement. Obviously, lower-proficiency learners used more ERCs in right embedding to modify a subject complement. Moreover, it is also discovered that, in the spoken data, those with low proficiency even produced this type of ERCs the most frequently.

What makes the learners come up with substantial production of right-embedded RCs added to a subject complement is probably that the meaning of the whole sentence essentially falls on the RC's, which makes the sentence easy to understand (Diessel, 2004). In this case, the matrix subjects are often pronouns, especially *it*, as in (369), or the demonstrative pronoun *this*, as in (370), or *that*, as in (371).

(369) *It's* a period of time that is romantic.

(370) *This* was the thing that everybody always did.

(371) *That* is the book I like most.

The occurrences of such an ERC type are equal to copular clauses, i.e. clauses containing *be* as the main verb, found in children's spontaneous use of ERCs in their native language. Diessel and Tomasello (2000) revealed their discovery of copular clauses in observational oral data; children speaking L1 English created the constructions as such since they are semantically simple in nature with the principal meaning on the RC rather than the entire sentence, as can be seen in (168), repeated here for convenience. Such constructions are also characteristic of early RCs in children speaking other native languages, such as Hebrew (Dasinger & Toupin, 1994), French (Jisa & Kern, 1998), German (Brandt et al, 2005), and Indonesian (Hermon, 2005).

(168) That is the sugar *that goes in there.* (Diessel & Tomasello, 2000, p. 136)

The past studies cited above give support to the findings of the current study, explaining why such ERC types affixed to subject complement primarily occur in the speech of low-proficiency learners. That is, the child English speakers who are in the initial state of L1 acquisition can be equated with learners having low level of proficiency who have not much competence in applying some more complex structures in L2 (Ellis, 1994). This is why these learners are found to vastly produce a simple construction like a copular clause. Additionally, probably because the learners do not have much time or chance to monitor their speech or create more complicated structures, it follows that these simple copular clauses are abundant in the spoken data.

5.1.3 Acquisition of relative markers

(372) *The order of relative marker acquisition from the written data*

that	>	who	>	which	>
(H, L: 50.67%, 53.94%)		(H, L: 26.67%, 29.80%)		(H, L: 14.29%, 10.10%)	
zero	>	whom	>	whose	
(H, L: 5.52%, 5.42%)		(H, L: 2.29%, 0.74%)		(H, L: 0.57%, 0.25%)	

(373) *The order of relative marker acquisition from the spoken data*

that	>	who	>	which	>
(H, L: 51.82%, 52.22%)		(H, L: 17.27%, 26.67%)		(H, L: 16.36%, 14.44%)	
zero	>	whom			
(H, L: 12.73%, 6.67%)		(H, L: 1.82%, 0%)			

5.1.3.1 *That*

In terms of the relativizer acquisition order, Thai EFL learners in writing and speaking generally demonstrate a very similar order, except *whose*, which is not existent in the spoken data. Overall, it appears from both groups of data that the learners of either proficiency level are claimed to acquire the relative marker *that* first as it occurs with the highest frequency (Brown, 1973; Dulay & Burt, 1973, 1974; Krashen, 1978). This is probably because of the following reasons. First and foremost, *that* is a multipurpose relativizer in terms of grammatical functions. It can function as a subject or an object of a RC. It can also refer to a human or non-human (Master, 1996). This means *that* and *who* can be interchangeably used in a RC subject when the head is human, and *that* can be substituted for *whom* and *who* for a human

antecedent and for *which* in a RC subject or object for an antecedent which is non-human. Since *that* has an ability to occur in different grammatical environments, it is normal for the learners to produce it more often than others, which implies its first rank in the acquisition order.

The findings of the current work in respect of *that* are supported by two corpora of English. The first corpus, compiled by Quirk (1968), is based on impromptu talk between educated English speakers. *That* in an object position with a human antecedent, according to the corpus data, occurs the most frequently, i.e. almost twice as frequently as *who* and *whom*. The second corpus by Svartvik and Quirk (1980), consisting of 34 conversations between educated speakers of English, indicates a similar use of *that* in an object position with a human head. To be precise, *that*, as opposed to *who* and *whom*, is clearly preferred. The corpus-based information on the occurrence of *that* in such a particular context, explaining why *that* is prevalent in this position, i.e. with an object function modifying a human antecedent, accords with the results of the current study.

As regards the use of *that* in the written data, the data show that this relative marker was found with the highest frequency. Such a result is backed up by Biber et al (1999), which have reported the highest frequency of *that* in fiction. As the essays written by the learners concern their personal life and experience, they share several features with fiction. This confirms a large number of *that* in the participants' written data.

In addition, Biber et al (1999) also found strong support for the abundance of *that* in the learners' speech because the corpus data point out the greatest frequency of *that* in conversation, in subject and object positions.

To summarize, all the data from the above corpora clearly corroborate the findings of *that* found in the present study. Consequently, *that* is claimed to be the first relative marker acquired by Thai EFL learners.

5.1.3.2 *Who*

The relative pronoun *who* is viewed as the second relativizer that Thai EFL learners acquired according to the written and spoken data. The learners used *who* with high frequency to refer to a human head since it is allowed in both subject and object positions (Azar, 2003), while its objective counterpart, *whom*, has a limited use to appear only in an object position.

Table 32: Distribution of *who* in different RC positions in the written data

Proficiency	Relativizer	Subject	Objects	
			Direct object	Object of preposition
High	<i>who</i>	128 (24.38%)	8 (1.52%)	4 (0.76%)
Low	<i>who</i>	113 (27.83%)	5 (1.23%)	3 (0.74%)

Table 33: Distribution of *who* in different RC positions in the spoken data

Proficiency	Relativizer	Subject	Objects	
			Direct object	Object of preposition
High	<i>who</i>	18 (16.36%)	1 (0.91%)	0
Low	<i>who</i>	23 (25.56%)	1 (1.11%)	0

From the written data in Table 32, it is clear that, in both proficiency groups, *who* was used in a subject position with the highest frequency (H, L: 24.38%, 27.83%), in comparison to the low percentage of *who* in the object positions (H, L: 2.28%, 1.97%). In brief, the occurrence of *who* in writing resembles that in the speech of the learners. The preponderance of *who* in subjects in the written data is predictable because in a very formal style, e.g. writing, *who* is the most frequent relativizer referring to a human head and occupying a subject position, while *whom* is preferred in an object position (Swan, 2005). More use of *whom* implies the rare production of *who* in objects.

As for the spoken data in Table 33, *who* was found with the greatest frequency in subject positions (H, L: 16.36%, 25.56%) in both high-proficiency and low-proficiency learners, whereas it is rare in object positions (H, L: 0.91%, 1.11%). This is also borne out by corpus-based information from native speakers of English. The two mentioned corpora, created by Quirk (1968) and Svartvik and Quirk (1980), strongly support the findings of *who* in the spoken data, showing that *who* in subject positions vastly outnumbers *who* in object positions (385:8 tokens on average in the two corpora).

The fact that the learners acquired *who* after *that* is confirmed by a native-speaker corpus compiled by Biber et al (1999), which illustrates that the frequency of *who* is second to the frequency of *that* in conversation and that *who* as well as *which* appears to be less frequent only than *that* in fiction.

5.1.3.3 *which*

In the written and spoken data of both groups of learners, *which* is considered the third marker acquired, according to its third-most frequency seen in the data. *Which* is widely used perhaps because it is the single wh-word used to refer to a non-human antecedent. *Which*, modifying a non-human entity, can have its head ranging from a thing or an animal to even a place (Swan, 2005). Unlike *who* and *whom*, *which* has only one invariable form that can be used in an either subject or object position and, for this reason, it is likely to see plenty of *which* in the learner corpus.

Its occurrence being ranked third in the acquisition and frequency order, *which* was also found to appear less frequently than *that* and *who* respectively in conversation of native speakers (Biber et al, 1999). Comparing between *that* and *which* in the same context where these two refer to non-human heads, the present study has discovered that the use of *that* (H, L: 63.41%, 60.65%) in speaking outnumbers that of *which* (H, L: 36.59%, 39.35%). This also holds true for the written data (H, L: 61.52%, 58.16% for *that* and H, L: 38.48%, 41.84% for *which*). This result is in line with the corpus-informed data in Biber et al (1999), which have revealed *that* is preferred in conversation and most contemporary fiction since it has more informal associations. Specifically, 75% of the fiction texts in the corpus contain *that* in RCs.

5.1.3.4 *zero* (\emptyset)

Zero or an omission of a relativizer is permissible when the relativizer functions as a RC object. It is clearly seen in the present study that more use of *zero* occurred in speaking rather than writing. Precisely, in the spoken data the high group used 12.73% of *zero*, whereas only 5.52% was produced in the essays. For low-proficiency learners, 6.67% of *zero* was used in speaking, while 5.42% occurred in writing. All things considered, a deletion of relative markers seems to be characteristic of spoken rather than written English, as indicated in Thompson (2002) and Fox and Thompson (2007), both of which reported that spoken English of native speakers has much more use of *zero* than the written counterpart.

Regarding the acquisition order, *zero* is ranked fourth, in speaking and writing. This accords with Biber et al (1999), which have shown that in fiction the frequency of *zero* is lower than that of *that* and *which* respectively; *zero* approximately occurs as frequently as *who*. However, Biber et al (1999) have found that *zero* is more frequent than *who* and *which* in conversation, meaning *zero* is the second to be acquired, contrary to the result of the present study. The reason why *zero* occurs less frequently than *who* and *which* in this study may lie in the fact that the learners produced a greater number of subject relatives than object ones. In writing, both groups of learners used over 50% of SU, as discussed earlier, and in speech, the low-proficiency learners used up to 63.33% of SU, whereas, for the high-proficiency ones, almost half of the RCs belong to SU (46.36%). Because *zero* is never allowed in a subject position in standard English, it is less likely to be found in the present study in which the preponderance of the subject relative (SU) is manifest. Moreover, in an object position, the learners have a choice to use an overt relative marker in place of *zero*. This might reduce the likelihood of the occurrence of *zero* in the spoken data. Another

probable reason is when some of the learners are not sure as to in which context they can omit a relative word, they may avoid *zero* and use an overt relativizer instead. In addition, according to Carter and McCarthy (2006), *zero* is not allowed in non-restrictive RCs, which leads to its low use than some other relative words.

5.1.3.5 *whom*

Whom may be claimed to be the second from the last acquired by Thai EFL learners. High-proficiency learners used *whom* only 2.29% in writing and with lower frequency in speech (1.82%). Those with low proficiency produced only 0.74% of *whom*, while no use of *whom* was found at all in the speaking task. The very low percentage of this relative pronoun does not come as a surprise due to its limited distribution in use. To clarify, *whom* can be used only in an object position referring to a human head (Master, 1996). According to Biber et al (1999), native speakers of English use a very small number of *whom* in news, fiction, and academic prose, despite the fact that *whom* is said to be mostly existent in a formal style as in written language (Carter & McCarthy, 2006). Moreover, the corpus also indicates that *whom* is really scarce in conversation. The information based on the corpus of authentic English may account for the infrequent occurrences of *whom* in the learners' written and spoken language.

More evidence supporting the low use of *whom* can be seen in the corpus of spoken English by Quirk (1968), which has revealed that only 2.94% of *whom* is found in native speakers' language. In addition, Svartvik and Quirk (1980) have yielded a supportive result, pinpointing only 1.14% of *whom* in the spoken language of English speakers. The low use of *whom* may be due to the fact that in the environment where *whom* is used, i.e. in an object position with a human antecedent,

it is also possible for other relativizers to occur, namely *who*, *that* and *zero*. Many ESL/EFL learners choose *who* or *that* when they are not certain or confused about the proper use of *whom* (Celce-Murcia & Larsen-Freeman, 1999). This is probably because they are not familiar with *whom*, the occurrence of which is rare. On the other hand, they are more used to the relative markers *who* and *that*, whose saliency is much more noticeable and which are capable of appearing in subject as well as object positions.

The written data from the two groups of proficiency level confirm this notion in such a way that *whom*, compared to *who* and *that* in the same context where the relative marker acts as an object modifying a human head, is found to be the least frequent (H, L: 23.40%, 10.34%). Additionally, the findings from the spoken data show that, although *whom* used by the high group is not the lowest in frequency among the three markers, it occurs only 50%, equal to a combination in percentage of *who* and *that*. This means *whom* occurs very infrequently since it can appear only in this environment, whereas the others can be employed elsewhere. From the spoken data of low-proficiency learners, no use of *whom* was noticed, which supports the claim that *whom* is not a frequent relative marker.

It is interesting to note that *whom* in general occurs more in the high group than in the low one. This probably demonstrates that low-proficiency learners are in the beginning process of acquiring *whom*, so they have not completely internalized the use of *whom*. By looking at the interlanguage of those with higher proficiency, it may be assumed that more use of *whom* stems from their more experience of and exposure to English RC system. Therefore, they can produce more use of *whom* than low-proficiency learners.

5.1.3.6 *Whose*

The possessive relative marker *whose* may be viewed as the last relativizer acquired by Thai EFL learners of high and low proficiency. It was produced with the least frequency in the written task (H, L: 0.57%, 0.25%) and does not show up at all in the spoken one. Such results do correspond to the corpus of native speakers' use (Biber et al, 1999) in that the occurrence of *whose* is extremely low even in written genres, i.e. fiction, news, and academic prose. Furthermore, seldom does *whose* appear in spoken English, according to the corpus. In other words, it is the most infrequent relativizer in conversation.

The fact presented above indicates that even native speakers use *whose* with considerably low degree of frequency. This enables us to conclude that it is normal to find a very low number of *whose* in the EFL learner corpus. Another possible reason why *whose* occurs very infrequently is that it cannot occur alone but has to have a NP attached to it at all times (Master, 1996). This makes *whose* different from other relativizers, resulting in more difficulty to produce or comprehend. Moreover, the combination of *whose* + NP functioning as a RC object, as in (374), could be more problematic than the one serving as a RC subject, as in (375), since the former deals with moving the relativized element to the beginning to introduce the RC. Further, the complexity will become more intense if the genitive construction functioning as an object occurs in center embedding, as in (376) (Kuno, 1974).

(374) It was a meeting *whose purpose I did not understand*.

(Swan, 2005, p. 496)

(375) I saw a girl *whose beauty took my breath away*.

(Swan, 2005, p. 496)

(376) A meeting *whose purpose I did not understand* was eventually postponed.

(adapted from Swan, 2005, p. 496)

For the two groups of learners, it is found that the frequency of *whose* in the high group is higher than that in the low one, meaning that the low-proficiency learners, who represent beginner EFL learners, have not fully acquired the use of this possessive relativizer. As a result, they used it with lower frequency. In contrast, those of high proficiency, representative of upper-intermediate EFL learners, may have a better control over the use of *whose* and produced more tokens of *whose* with more accuracy.

To sum up, the learners with high proficiency produced more ERCs than those whose proficiency is lower. Additionally, the former can use more marked ERC types, especially OPREP and GEN, than the latter. As regards ERC embedding, both proficiency groups are alike since they produced more ERCs in right embedding than center-embedded ones. With respect to the relative marker use, the Chi-square analysis showed that the use of relativizers in writing is connected in some way with the types of ERCs, regardless of the learners' proficiency. There was no significant relationship between the use of relative markers and the ERC types.

5.2 Universality and Second language acquisition

5.2.1 The Perceptual Difficulty Hypothesis (PDH)

The Perceptual Difficulty Hypothesis (PDH), by Kuno (1974), as mentioned in 2.3.1.1, is strongly borne out by the findings of the present study in the learners' writing and speaking. In brief, most of the ERCs used by the participants occurred in right embedding because RCs in this manner are easier for processing by the human

memory system as well as for production. Center-embedded RCs, which interrupt the NP subject and its predicate, are considered more complicated. Hence, they are naturally produced in a lower number.

As previously discussed, the PDH proves true in predicting the processing difficulty of ERCs and the majority of embedding type to be seen in the learner corpus. For this reason, the PDH may be claimed to be a language universal which accounts for L2 acquisition of ERCs across learners from different L1 backgrounds.

5.2.2 The Noun Phrase Accessibility Hierarchy (NPAH)

The Noun Phrase Accessibility Hierarchy (NPAH), the claims of which have been discussed in 2.3.2.2.3, postulated by Keenan and Comrie (1977), also derives tremendous support from the findings of the current research. The posited hierarchy holds true in Thai EFL learners' production in writing and speech in that the subject relative (SU) is the most common and the first acquired ERC type, followed by the direct-object relative (DO), the object-of-preposition relative (OPREP), and the genitive relative (GEN) respectively. As can be seen in the previous discussion, OCOMP is assumed to be too advanced and too complex for the learners to acquire at this stage. In addition, IO shares several common features with OPREP, so its non-use is not surprising. The use of marked types, OPREP and GEN, is lower in the group of low-proficiency level, which supports the claim by the NPAH that more marked RC types are acquired later than less marked ones.

Now that the NPAH is largely supported by the present study, so is it by many other previous ones, it can also be regarded as a language universal which is useful to second language researchers aiming to investigate RC acquisition.

5.2.3 Resumptive pronouns

As stated in Chapter 4, more pronoun retention was discovered in right-embedded ERCs than center-embedded ones, in both writing and listening. This is in line with the PDH because it predicts that more RCs are found in right embedding and so more resumptive pronouns should be seen more in that position as well.

The existence of pronoun retention is also closely connected with *the Resumptive Pronoun Hierarchy*, introduced in 2.3.2.2.3, which is under the NPAH (Keenan & Comrie, 1977). According to the hierarchy, resumptive pronouns are claimed to be supplied more in marked RC types. The findings of the present study clearly lend support to *the Resumptive Pronoun Hierarchy*. To be specific, in the essays the learners with high proficiency employed 83.34% of pronominal copies in objects and only 16.66% in subjects, the most unmarked RC type. Low-proficiency learners, in a similar vein, used 72.22% of resumptives in objects and only 27.78% in subjects. As for the learners' speech, high-proficiency learners supplied 80% and 20% of pronominal reflexes in objects and subjects respectively. By the same token, those with a low level of proficiency produced 66.68% of pronoun retention in objects and 33.34% in subjects.

It should be noted that resumptive pronouns are not existent in standard English as well as standard Thai (Gass, 1979), the native language of the learners. Nevertheless, the participants produced pronoun copies in their ERCs. As a matter of fact, resumptive pronouns are universal since they are noticeable in L2 acquisition of RCs, regardless of the learners' first language. Hyltenstam (1984) revealed that, in his study on Swedish RC acquisition by speakers of Finnish, Spanish, Greek, and Persian, the Finnish and Spanish speakers, whose L1s do not have pronominal reflexes, were found to use resumptive pronouns, which are not allowed in the target language,

Swedish, either. The findings as such confirm the universality of pronominal reflexes and also support the findings of the present research.

With regard to resumptives in L2 acquisition of ERCs, Gass (1979) found that English learners whose native languages, namely French, Portuguese, Italian, Thai, Korean, and Japanese, do not have pronoun retention used resumptive pronouns, most of which appeared in marked positions, such as IO, OPREP, and OCOMP. The percentages of pronominal reflexes distributed in the RC types conform to *the Resumptive Pronoun Hierarchy* in that the more marked RC type, the more pronominal reflexes.

Gass and Ard (1984) have also provided supportive evidence that pronominal reflexes are most likely in OCOMP, the most marked RC type, and least likely in SU, the most unmarked ones, which was true for all the participants in their study. Such findings give strong support to *the Resumptive Pronoun Hierarchy*. Pavesi (1986), which examines ERC acquisition by Italian speakers, found support for Gass (1979) and Gass and Ard (1984). From the study, Italian does not permit pronoun retention, yet the Italian learners of English were found to use resumptive pronouns in their ERCs. To be specific, Pavesi divided her subjects into two groups: formally instructed English learners and informal learners who learned English in a natural setting. She discovered a pronoun-retention strategy employed by the two groups, each of which indicated an interestingly different result. That is, the formal learners used resumptive pronouns, whereas the informal ones produced resumptive noun phrases .

As can be seen from the use of resumptive pronouns in second language ERCs of those learners no matter whether their first languages have pronoun retention or not, it seems that resumptives are universal, usually occurring in the ERCs of L2 learners. The findings of the present study confirm the prediction of *the Resumptive*

Pronoun Hierarchy, which posits that pronoun copies tend to be used in more marked positions, so it is sensible enough to state that such a hierarchy is another language universal that explains the occurrences of pronominal reflexes in second language acquisition of ERCs. This is also supported by Braidı (1999), who has proposed that pronoun retention is cross-linguistically unmarked; consequently, L2 learners normally apply this strategy in their L2 ERC acquisition regardless of the existence of such pronoun copies in the L1. Braidı also remarks that pronouns are usually retained in the more marked positions on the NPAH because doing so makes the meaning of the RC more transparent. In particular, if the distance between the head and the trace is great, supplying a resumptive pronoun may help the interlocuter better understand the message in the RC (Ramat, 2000).

There is also evidence of pronominal reflexes in native speakers' language, especially in very informal speech, as in (377), which is derived from *the Cambridge International Corpus*.

(377) So with this Amtrak thing then, basically that's just a voucher *that* I take *it* to the station.

(Carter & McCarthy, 2006, p. 568)

Another support, (378), is from Loock (2007), based on the spoken section of *The British National Corpus* (BNC)

(378) My foot is narrow in the arch area, *which* I would've expected *it* to widen.

(Loock, 2007, p. 72)

In addition, Biber et al (1999) have reported an existence of resumptive pronouns in native speakers' authentic conversation, according to *Longman Spoken and Written English Corpus* (LSWE Corpus). Such pronoun copies are associated with the difficulties of online production. These difficulties cause the speakers to employ a non-standard construction of resumptive pronouns so as to make the RC meaning clearer, as in (379) and (380).

(379) There was a case of one girl_i *who*_i back in 1968 *she*_i killed two boys when she was eleven.

(Biber et al, 1999, p. 622)

(380) Usually, they give you a, a thing to return it, you know, a thing_i *that*_i you don't want *it*_i.

(Biber et al, 1999, p. 622)

In (379), the resumptive pronoun *she* in the RC and the relative pronoun *who* are coreferential with the head *one girl*.

In (380), the resumptive pronoun *it*, occupying the RC direct object position, and the relativizer *that* both refer to the head *a thing*.

All of the information from the above discussed corpora gives credence to the findings of the present study, as far as pronoun retention is concerned. That is to say, even native speakers are found to use resumptive pronouns in informal speech, so it is not strange at all to see such pronoun copies in the learner corpus. To put it differently, L2 learners in acquiring ERCs produce resumptive pronouns to clarify the meaning of RC, particularly in marked ERC positions.

5.3 Learning strategies and learners' problems

According to Selinker (1992), when learners are faced with problems or difficulties in second language acquisition and communication, they are often seen to rely on some strategies based upon cognitive processes in order to surmount these linguistic barriers and put the meaning across. The present-study participants were found to apply the following strategies below, some of which prove successful, whereas many result in deviations in L2.

5.3.1 First language transfer

Learners are inclined to depend on their native language (L1) when they encounter certain kinds of problems in their second language learning or communication. They then transfer the forms and meanings from L1 to the production and perception in the target language (Lado, 1957). Such a strategy could facilitate L2 learning on the condition that L1 and L2 share some similarities in that respect. In this manner, transfer is considered to be positive. In contrast, L1 transfer is frequently viewed as interference since it causes a negative effect on second language acquisition when the distance between the two languages is great (James, 1998).

Positive transfer in Thai EFL learners is evident as the RC systems in English and Thai bear a resemblance in several ways. First of all, in terms of head-directions, the two languages are right-branching. That is, the RCs in both languages follow its head (Sornhiran, 1978). Learning RCs in English, Thai learners can transfer the right branching of Thai RCs to their English RC production and comprehension. The second similarity between RCs in the two languages concerns the relativization strategy. Both English and Thai RCs are constituted through the relative-pronoun strategy (Keenan & Comrie, 1977). Explicitly, they similarly used relative markers to

introduce RCs. With the same strategy of relative clause formation, Thai learners could feel comfortable enough to apply the relative-pronoun strategy in producing ERC, so do they with their native RCs. The third affinity between RCs in English and Thai lies in the fact that they disallow the pronoun-retention strategy, using the relative-pronoun strategy instead (Song, 2001). The absence of resumptive pronouns in Thai, which is in line with the same phenomenon in English, probably prevents Thai learners from using a number of pronominal reflexes in ERCs. Such transfer of resumptive pronoun absence in Thai may confirm the findings of the present study that the pronoun retention employed by the learners should originate from some other sources, e.g. language universals as proposed in 5.2.3.

The evidence of the positive transfer in the learners' ERC acquisition is obvious in a huge number of ERCs they produced. Learners are less likely to use L2 RCs whose head direction is different from that in their native language (Schachter, 1974). The present study shows that the participants used a substantial number of ERCs in writing and speaking, thus meaning they did not have problems with the ERC direction. In addition to the head direction, the present research work obtains some evidence that Thai learners really carry over the relative-pronoun strategy from their native language into ERC learning because they mostly used relative markers to introduce ERCs. If this were not as a result of transfer, they should be found to produce considerably more resumptive pronouns, which are cross-linguistically more common and less marked than a use of relative pronoun (Comrie, 1989).

The transfer of non-existence of pronoun retention in standard Thai to English may account for the very low percentage of resumptive pronouns found in the learners' writing (H, L: 3.43%, 4.43%) and speaking (H, L: 4.55%, 6.67%). As mentioned before, pronoun copies were used as a result of the universality when

learners want to elucidate the RC meaning, even though such copies do not occur in L1. This can be seen as well in other learners speaking different L1s which do not have resumptive pronouns (Gass, 1979). They employ these pronouns in ERCs to make the meaning of the ERCs more transparent (Comrie, 1989; Ramat, 2000).

Aside from the positive transfer, the present study also found evidence of negative transfer in learners' interlanguage. From the current research work, both high-and-low proficiency learners seemed to be troubled with the object-of-preposition relative (OPREP). In the written and spoken data, the learners apparently transferred the lack of preposition stranding and pied piping from Thai to the OPREP construction of ERCs, which leads to ungrammatical target structures.

The problems arise because Thai does not have the structure of OPREP in its RC system (Gass, 1979; Suktrakul, 1975). Precisely Thai has merely three less marked RC types on the NPAH (Keenan & Comrie, 1977): SU, DO, and IO. Naturally Thai EFL learners who resort to their mother tongue RCs may transfer the absence of preposition to the OPREP in ERCs. That is, they omit a preposition in OPREP where there must be one as in (381)-(384).

(381) *She gave me the best advice that I never thought ____.

(She gave me the best advice that I never thought about/ of.)

(382) *In our life, we meet everyone we talk, play, and work ____ .

(In our life, we meet everyone we talk, play, and work with.)

(383) *My favorite hobby that I tell you __ first is playing internet in my free time.

(My favorite hobby that I tell you about first is playing internet in my free time.)

(384) *They make great companion they are very loyal ____.

(*They make great companion they are very loyal to.*)

All the above examples are ungrammatical due to the lack of preposition. Each represents an attempted use of English preposition stranding, without an obligatory preposition. The preposition *about* or *of* is needed in (381), whereas *with* in (382) is missing. As for (383), the preposition *about* is required. Similarly, (384) lacks the preposition *to*. In English RCs, either preposition stranding or pied piping is of necessity in forming an OPREP (Swan, 2005; Cowan, 2008). However, because OPREP does not exist in Thai RCs, Thai EFL learners are perhaps not aware of either construction in English, ending up not including a preposition in such a structure, which causes errors in the target language.

Previous studies on second language acquisition of ERCs have also presented evidence of L1 transfer, so does the current research work. Chang (2004) analyzed and described the difficulties facing Chinese learners of English in the ERC acquisition. The study has pointed out that, upon assessing the learners' receptive knowledge of ERCs, they had more problems with OPREP than SU and DO. Chang attributed these problems to the learners' lack of knowledge of the need for the preposition in OPREP. Being unaware of the necessity of the preposition was partly influenced by L1, Chinese, in which there does not exist preposition stranding. Xiao-rong, Yip, and Li-xia (2008) lend support to Chang (2004) when the Chinese EFL learners omitted prepositions in OPREP in a sentence combination task, as in (385).

(385) *The bed which the baby slept __ is expensive.

(Xiao-rong, Yip, and Li-xia, 2008, p. 4)

In (385), the preposition *in* is missing, which brings about the ill-formed construction. Erdogan (2005) also strongly supports the present research in that Turkish learners of English left out a preposition in OPREP, as Thai EFL learners do, since Turkish does not have RCs in the OPREP position. The learners were seen to resort to their native language and transfer such an absence of preposition to their ERC embedding, ending up creating a deviation in L2 grammar. Odlin (2003) found that, for several times, the absence of obligatory prepositions in a learner's interlanguage is concerned with the learner's native language. This observation may support the omission of preposition in OPREP discovered in the present study.

Apart from L1 transfer in OPREP, Thai EFL learners also seemed to transfer from their first language when using DO. This is exclusive to the high-proficiency learners in both speaking (1.82%) and writing (0.19%). The learners probably applied direct translation from Thai, omitting RC subjects as seen in (386)-(388). The subject pronouns *I* and *they* in (386) and (387) respectively are required in English. Likewise, the omitted position in (388) needs the pronoun *she*.

(386) * I not like other hobby such as tennis which __ cannot play without tennis ball.

(387) * People think, wealth, fame, honour is thing that __ need.

(388) * She hates difficult questions that __ must answer.

Thai, in fact, is a pro-drop language like Chinese (Song, 2001). That is, a noun deletion is permissible if that noun is understood in the context (Panthumetha, 1982). It follows that an omission of RC subject is likely in Thai and the learners might transfer this deletability of RC subjects into the RC use in English, resulting in unacceptable structures in the target language. On the other hand, English is a non-

pro-drop language, prohibiting the subject in declarative sentences from being deleted (White, 2003).

The present research also finds support for Tan (2008), which analyzed errors in compositions written via the researcher's web blog by Chinese EFL learners. Tan found that one of the common errors was missing subjects. The Chinese learners are likely to omit a subject because Chinese, which is also a pro-drop language, allows null subjects, while English does not. Chinese, in actuality, is a topic-prominent language, so the role of a subject is not so important as that of a topic. Because of this, an omission of subject is permitted in Chinese (Chen, 2004), and the learners seemed to transfer this feature in L1 into their English learning, committing an interlingual error of subject deletion. Like Chinese, Thai is also a topic-prominent language (Iwasaki & Ingkaphirom, 2005). Thus, an omission of a RC subject in English by Thai learners is common when the context is clear enough and the identification of that deleted RC subject is possible (Panthumetha, 1982).

However, it should also be noted that such errors in (386)-(388) might be caused by the learners' attempt to form passive constructions in English. They probably failed to use correct forms of passive voice, omitting *be* and using verbs in the base form rather than verbs in the past participle form. Accordingly, the target passive constructions of (386), (387), and (388) should be like (389), (390), (391) respectively.

(389) I not like other hobby such as tennis *which cannot be played without a tennis ball.*

(390) People think, wealth, fame, honour are things *that are needed.*

(391) She hates difficult questions *that must be answered.*

Furthermore, high-proficiency learners were probably influenced by their L1 in the SU position as well. This is spotted when they used the construction *that + each + noun* in place of the quantity structure *each of which* in writing as in (392).

(392) *Everybody has own hobby *that each hobby* is different.

The source of error in (392) is perhaps attributed to direct translation from Thai, as in (393).

(393)	thúkkhon	mii	ηaanàdìrèek	khǒŋtuaeeŋ	sýŋ
	everyone	have	hobby	own	REL
	ηaanàdìrèek	tèela	ηaan	tèektaaŋkan	
	hobby	each	classifier	different	

‘Everyone has their own hobby, each of which is different.’

(392) could be the corresponding Thai version of (393). The learners directly relied on the word order in L1 instead of the relative construction of quantity *each of which* in English, which is more appropriate. Another possible reason may lie in the fact that the learners do not have enough knowledge of L2 English, ending up producing such an interim deviant form in (392) (Littlewood, 1984).

GEN is also another position, where the learners with high and low proficiency are associated with negative transfer in writing the essays.

(394) *This organization manages the people *who their age* between fourteen to seventeen years old to be the exchange students.

(*This organization manages the people whose age between fourteen to seventeen years old to be the exchange students.*)

(395) *The first work is Thai's drama *that drama name* is Full Hut.

(*The first work is Thai's drama whose name/ the name of which is Full Hut.*)

In (394) and (395), the constructions *who their age* and *that drama name* reflect those in the learners' L1. They might directly translate Thai RCs into English RCs with dependence on the structure of their native language. Probably, the learners have not fully internalized the use of *whose* in English, coming up with ill-formed interlanguage constructions in (394) and (395) (Celce-Murcia & Larsen-Freman, 1999). To rectify the errors, *whose age* should replace *who their age* in (394) and *whose name* or *the name of which* is preferred to *that drama name* in (395).

The errors pertaining to the direct translation from L1 may also be explained by incomplete application of L2 rules, which involves “a failure to learn the more complex types of structure because the learner finds he can achieve effective communication by using relatively simple rules.” (Ellis, 1985, p. 53). From the present study, the learners probably have not learned the quantifying RC constructions, which are rarely present in most EFL textbooks having been explored, nor have they mastered the use of genitive RCs. Moreover, they may not realize that RC subjects cannot be omitted. Such incomplete application of rules in English leads to deviant structures as illustrated above.

5.3.2 Avoidance

Avoidance is another significant phenomenon in second language acquisition of RCs. Its occurrence is possibly due to several factors. According to Gass (1980), L2 learners' avoidance can be caused by high degree of markedness of structure they are learning. The findings of the current work strongly bear out Gass (1980) since marked ERC types on the NPAH seemed to be avoided. The overall learners were found to use more unmarked RC types, SU and DO. Meanwhile, more marked positions, OPREP and GEN, were produced with low frequency. In the written data, those with low proficiency used less OPREP (4.73%) and GEN (0.25%) than the high-proficiency learners, who produced 9.33% of OPREP and 0.57% of GEN. As for the spoken data, 9.09% and 4.44% of OPREP were employed by the learners with high proficiency and those with low proficiency respectively. However, no use of GEN was seen in the speech of both groups. The lower use of marked RC types in the low-proficiency learners lends support to Chiang (1980), which found out that avoidance is closely related to language proficiency in such a way that those with lower proficiency tend to avoid an L2 structure than higher-proficiency ones.

Both OPREP and GEN are claimed to undergo avoidance because the translation task, as shown in Table 31, repeated here for convenience, indicates that both the high-and-low proficiency learners were able to use these two marked types to a certain extent, the high group's performance being better than the low one's. Thus, the very low frequency of these types in writing and speaking confirms the learners' avoidance.

Table 31: Percentage of learners' accuracy in the translation task

RC types	% of correct translation of RCs from Thai to English	
	High group	Low group
SU	83.06	70.18
DO	71.15	61.09
IO	68.63	58.14
OPREP	66.23	57.70
GEN	58.72	52.85

In addition to OPREP and GEN, OCOMP is claimed to be avoided too. The high degree of markedness probably accounts for the absence of OCOMP, the most marked position on the NPAH. Even though OCOMP was not tested in the translation task, the extremely low use of OPREP as well as GEN and the non-existence of GEN in the spoken data may imply non-appearance of OCOMP, which is the farthest on the marked end of the NPAH.

Regarding types of ERC embedding, a center-embedded RC is considered more marked than a right-embedded one since the former is more complex and difficult for human processing system (Kuno, 1974). For this reason, ERCs in center embedding were probably avoided, according to the present research. Only 17.71% and 24.14% of center-embedded RCs has been spotted in the essays of the high group and the low group respectively. Likewise, in the speaking task, merely 20.91% and 24.44% of center-embedded ERCs were used in the high group and the low one in the order given.

Avoidance is also prominent as far as relative markers are concerned. As discussed earlier, GEN seems to be avoided in this study, which in turn results in low

use of *whose* as it is an important relative marker of genitive RCs. Precisely, only 0.57% and 0.25% of *whose* were found in the essays of the high and low groups successively. As explained in 5.1.3, *whose* appears to be the last relativizer acquired by Thai EFL learners due to its complicated construction of *whose + noun*. The fact that the low-proficiency learners avoided slightly more use of *whose* than the learners with high proficiency gives support to Chiang (1980), which has claimed that those with lower proficiency are more liable to avoidance.

Table 34: Use of overt relative markers as a RC object with a human head in writing (high group)

relativizers ERC types	who	whom	that
S-DO	4	2	6
S-OPREP	-	1	-
O-DO	1	5	8
O-OPREP	1	-	4
SC-DO	3	2	6
SC-OPREP	3	1	-
Total	12	11	24
%	25.53	23.40	51.03

Table 35: Use of overt relative markers as a RC object with a human head in writing
(low group)

relativizers ERC types	who	whom	that
S-DO	-	-	8
S-OPREP	-	-	1
O-DO	2	-	3
O-OPREP	-	-	3
SC-DO	3	2	3
SC-OPREP	3	1	-
Total	8	3	18
%	27.59	10.34	62.07

Apart from *whose*, the relative pronoun *whom* seems to be avoided as well. From the written data of the high group, as can be seen in Table 34, *whom* occurred with the lowest frequency (23.40%), in comparison to *that* (51.03%) and *who* (25.53%) in the same environment. Likewise, in the low group, according to Table 35, only 10.34% of *whom* was employed, compared with 27.59% of *who* and 62.07% of *that* in the particular position, i.e. in a RC object referring to a human antecedent. Hence, *whom* should be regarded as an avoided relativizer.

According to the data from the speech of the high-proficiency learners as in Table 36, although the use of *whom* (50%) outnumbers that of *who* (25%) and *that* (25%), it should be noted that only 2 tokens of *whom* occurred, which is a very small number. In contrast, *whom* was totally avoided in the speech of the low-proficiency learners. The reasons why *whom* and *whose* were low in frequency are provided in 5.1.3.

Table 36: Use of overt relative markers as a RC object with a human head in speech
(high group)

relativizers	who	whom	that
ERC types			
S-DO	-	-	1
S-OPREP	-	-	-
O-DO	1	1	1
O-OPREP	-	1	-
SC-DO	-	-	-
SC-OPREP	-	-	-
Total	1	2	1
%	25	50	25

In addition to the low level of L2 knowledge and high degree of markedness, avoidance is also associated with the role of the mother tongue. According to Kleinmann (1977), L2 learners often avoid structures or features in the target language that are different from those in the native language or those that pose problems for them. This notion bears out the present-study results as to marked ERC types. Thai allows relativization only in three positions on the NPAH, i.e. SU, DO, and IO (Gass, 1979). The other three more marked in English RCs, OPREP, GEN, and OCOMP do not exist in Thai. It is possible that the learners transferred the lack of these three marked RC types in L1 into their L2 acquisition of ERCs, which has given rise to their avoidance of these marked positions in the interlanguage. In short, L1 transfer apparently works in conjunction with markedness in making learners avoid marked types of RCs in English.

5.3.3 Transfer of training

Another learning strategy on which learners rely in acquiring ERCs is transfer of training. There can be some influences on L2 acquisition from the way learners are taught (Selinker, 1972). Occasionally some influences from previous instruction may be of benefit to the learners. However, they may sometimes suffer from committing errors as a result of such influences. In this present study, it has been discovered that many commercial English textbooks selected to be used in highschool offer plenty of explanations and exercises on subject relatives (SU) in almost all the levels starting on average from grade-9 to grade-12 textbooks. The contents regarding relativization on object-of-preposition relatives (OPREP) and possessive relatives (GEN) are relatively low in frequency. Doubtlessly, information on object-of-comparison (OCOMP) relatives is not present at all in the explored textbooks.

From the above survey, the learners seemed to gain more benefits from the abundance of information on SU, thus producing SU with the highest accuracy. They were found to use less DO than SU. That the learners produced OPREP and GEN in very low frequency and accuracy, and that there occurred no use of OCOMP possibly resulted from the influence of the contents in these textbooks about which they have been taught.

One more interesting drawback of transfer of training can be seen in the use of relative markers. Most of the textbooks investigated show a number of examples of *who* used in different grammatical positions, i.e. subjects and objects, while its objective counterpart *whom* is found in a very small number of instances. This could account for why the Thai EFL learners avoided *whom*, the usage of which they are not accustomed or not much exposed to, and then produce more use of *who* instead.

5.3.4 Overgeneralization

According to Richards (2002), overgeneralization is a process in which a learner extends the use of a grammatical rule or linguistic item beyond its acceptable uses in the target language. This phenomenon is often seen in the language of children acquiring their mother tongue as well as in the interlanguage of L2 learners (Littlewood, 2004). In the present study, the learners used the relativizer *that* with the highest frequency and also extended it to non-restrictive RCs. The application of *that* in NRCs, as in (396)-(398) violates the English rule which prohibits *that* in this RC type, resulting in an ungrammatical structure in English.

- (396) The single of Shanye Ward(,) *that I like* is back at one the meaning inform about process of love make me more understand love.
- (397) However, my favorite pet is Moo-Moo(,) *that I loved more and more*.
- (398) About 8 years ago, I went to Chiang Mai with my family, that consist of my father, mother, and sister.

In detail, the high-proficiency learners used 28.95% of *that* in NRCs, whereas those with low proficiency produced 31.43% of the relative word in NRCs in the essays. For the spoken data, 62.5% of *that* was found in NRCs used by the high group, and only 1.11% of the low group's NRCs contain *that*.

The findings concerning the use of *that* in NRCs provide support for Sattayatham and Honsa (2004), in which Thai medical students were found to rely on overgeneralization or system-simplification and violate the grammatical rule by employing *that* in NRCs. In a similar way, Turkish learners of English also overgeneralized the use of the relativizer *that* to NRCs (Erdogan, 2005). Erdogan

suggested that such an overextension could be influenced by Turkish, in which there is no differentiation between restrictive and non-restrictive RCs. The prohibition of *that* in English NRCs is considered an arbitrary grammar rule. It is quite difficult for English learners to naturally realize the rule unless they have enough exposure to English. This may explain why Turkish as well as Thai learners of English, especially those whose English proficiency is rather low, have failed to observe such a rule governing non-use of *that* in NRCs.

For Thai EFL learners, it seems that the learners' L1 could have an impact on their use of *that* in NRCs. In Thai, all the three relative markers are allowed in both RRCs and NRCs (Sornhira, 1978). Therefore, Thai learners can have difficulty learning the restriction of *that* and finally used it in English NRCs.



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

CHAPTER 6

CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

The present research project was aimed at investigating the ERC acquisition by Thai EFL learners with special emphasis on the types of ERCs postulated in the NPAH. Also in this study, the way ERCs were embedded into a matrix clause was examined in order to find which type of embedding, i.e. center or right embedding, caused more difficulty for the learners and which was acquired earlier. Furthermore, the acquisition of relative markers in English was studied in great detail. As the present study was based on the interlanguage of Thai learners of English, the participants were divided into two proficiency groups, i.e. high and low, to satisfy the need of a cross-sectional design. That is, learners' proficiency division was done to enable the researcher to clearly see the development of Thai learners in acquiring RCs in L2 English. The ERCs produced in the writing and the speech of the two groups were also compared and contrasted. The written data were obtained from the descriptive essays, while the story-telling was used to elicit their spoken ERCs.

The present study was also carried out to search for the evidence of native language transfer, which by some means could facilitate as well as hinder the process of the learners' ERC acquisition. Finally, the learning strategies based upon cognitive processes on which Thai learners dealing with ERCs depended were thoroughly analyzed. Some of them were considered effective in assisting the learners in learning and using ERCs. However, several strategies proved to be sources of the learners' errors. The explanations, in addition to the error identification, for these problems were supplied, which should be useful to English teachers who would like to know what real problems of ERCs do occur to their Thai students and what reasons underlie

these difficulties. In other words, the findings of this study could help the teachers enhance their ERC instruction to Thai and probably even other EFL learners.

In parallel with all the above objectives, the present study had primary goals to provide answers for the following research questions addressed in Chapter 1:

- 1 What are the types of ERCs used by Thai EFL learners?
- 2 What is the evidence of transfer found in the ERCs in Thai EFL learners' interlanguage?
- 3 What are the similarities and differences in the IL of Thai EFL learners of high and low proficiency levels with respect to ERC acquisition?
- 4 What are the problems underlying the use of ERCs for Thai EFL learners?

The following hypotheses were therefore formulated and tested:

Hypothesis 1:

The subject relative (SU) is the most common in the interlanguage of Thai EFL learners. Furthermore, the learners avoid using marked ERC types. Resumptive pronouns are also employed, especially in the marked types, to clarify the ERC meaning although these pronouns are allowed neither in the learners' native language nor in the target language.

Hypothesis 2:

Transfer both facilitates and hinders the ERC acquisition of Thai EFL learners.

Hypothesis 3:

The ERCs produced by high-proficiency Thai EFL learners comprise more marked RC types than those used by low-proficiency ones. Additionally, the learners with low level of proficiency produce more ERCs introduced by *that* and *who*, the salience of which is remarkable in English; furthermore, more resumptive pronouns are found in the interlanguage of low-proficiency learners.

Hypothesis 4:

The problems with which Thai EFL learners are faced are attributed to transfer, avoidance, and overgeneralization.

This final chapter comprises three sections. The first one will discuss the major findings of the current study. The second section will provide some recommendations for further research in this area. In the final section, certain implications to language pedagogy are offered.

6.1 Major findings of the study

In response to the first research question, all of the ERC types were sought in the written and spoken data. Generally speaking, four types of ERCs on the NPAH, i.e. SU, DO, OPREP, and GEN, were produced in the essays of the high-and-low proficiency learners. As for the speaking task, no production of GEN was noticed in both proficiency groups, which might be because of its far higher degree of

markedness compared to the other existing types. Moreover, no existence of GEN may be attributed to the fact that GEN is uncommon in spoken English (Biber et al, 1999; Carter & McCarthy, 2006). This may also imply that GEN was acquired later than the others, which were less marked. SU, regarded to be the most unmarked ERC type, occurred in both groups of learners with the highest frequency in writing (H, L: 56.24%, 51.48%) and speaking (H, L: 46.36%, 63.33%). The preponderance of SU in the two tasks strongly confirms the first hypothesis, which has predicted that the subject relative would be the most common type of ERCs found in the learner corpus.

As regards resumptive pronouns, it has been predicted in Hypothesis one that pronoun retention would appear in the interlanguage ERCs of Thai EFL learners in spite of the fact that the learners' mother tongue does not have such use of pronouns. The results of the present study apparently bear out this hypothesis because the learners with high and low levels of proficiency produced resumptive pronouns not only in the written data (H, L: 3.43%, 6.67%) but also in the oral data (H, L: 4.55%, 6.67%). The existence of resumptive pronouns did not result from the role of the learners' native language in the second language acquisition of ERCs. To be precise, *the Resumptive Pronoun Hierarchy* (Keenan & Comrie, 1977) was claimed to be responsible for the production of pronominal reflexes in Thai learners' ERCs. Across languages, resumptive pronouns are unmarked and occur in many languages of the world (Comrie, 1989). As proposed in Zobl (1980) and Ramat (2000), to use resumptive pronoun can help learners make the meaning of a RC more transparent and clearer. Even native English speakers are found to use such resumptive pronouns in spoken language to repeat the head when a RC is too long and complex (Carter & McCarthy, 2006).

Accordingly, it is normal and natural for English learners in general, e.g. the participants of the present study, to employ pronoun retention in their ERCs, irrespective of the presence of pronoun copies in L1.

In the light of *the Resumptive Pronoun Hierarchy*, which posits that resumptive pronouns are likely to be used in more marked RC positions, the present research evidently gives support to such a claim. From the written data, high-proficiency learners and those with low level of proficiency supplied 83.34% and 72.22% of pronoun copies respectively in object positions, which are more marked than subject positions containing only 16.66% and 27.78% of resumptive pronouns in the high and low group in the given order. The data from the speaking showed a similar result. That is, the high group of learners was seen to use 80% of resumptives in objects, while the low one came up with 66.68% in the same position. In contrast, the subject position, which is the least marked, had only 20% and 33.34% of pronominal reflexes used by the high and low groups respectively. The fact that resumptive pronouns in objects tremendously outnumbered those in subjects confirms *the Resumptive Pronoun Hierarchy* as well as the first hypothesis of this study.

The second research question concerns transfer in the acquisition of ERCs by Thai EFL learners. The transfer came in two types: first language transfer and transfer of training. With respect to the transfer from the native language, it played a role in facilitating the ERC learning process, due to the similarities between Thai and English. To be specific, RCs in both languages have the same head direction, occurring to the right of the head (Sornhiran, 1978). In addition, Thai and English rely on the same relativization strategy. They both constitute a RC with a relative pronoun, whereas some other languages depend on different strategies. The other similar point is that the two languages, in standard forms, do not permit resumptive pronouns.

Therefore, Thai EFL learners tended to transfer such a lack of resumptive pronouns in L1 into their ERC production, enabling them to be more successful in using the target RCs in English.

Apart from the positive transfer mentioned above, L1 transfer also had a negative effect on the learners' acquisition of ERCs, leading them to commit errors in L1 learning. Most of the problems stemming from negative transfer lied in the OPREP position. OPREP is not existent in the native language of Thai EFL learners who are more familiar with the three less marked positions, i.e. IO, DO, and SU. That is, a preposition does not occur as an obligatory element to form a RC in Thai. When they transferred the absence of preposition in L1 RCs to OPREP production in English, deviant constructions in the target language could emerge. In this study, the participants omitted an obligatory preposition in OPREP, which is ungrammatical in English.

Moreover, when the learners depended on direct translation from Thai, they produced errors in DO and SU positions. For DO, the learners were found to omit a RC subject. This was influenced by L1, which allows a noun deletion in case the particular noun is understood in the context (Panthumetha, 1982). In the position of SU, some of the learners failed to use a relative structure of quantity and supplied a deviant structure based on their L1 knowledge. Also, negative transfer from Thai can also be seen in GEN, where some of the learners showed an attempt to employ a stage in their interlanguage which will develop towards the target language end. In other words, they are expected to eventually master the use of *whose* when their proficiency increases.

In addition to L1 transfer, there was also some evidence of transfer of training in this study. The learners seemed to be able to use SU with the highest frequency and

accuracy, as a result of the fact that the information about RCs in several commercial textbooks used in Thailand has been geared towards the use of SU. By contrast, OPREP and GEN appear in a relatively low quantity in more advanced textbooks. This probably made the learners not proficient in using RCs in these two positions, thus producing them in far less quantity and quality. Also, that no textbooks in the survey contain any information of OCOMP may explain why the learners did not produce any token of OCOMP.

Furthermore, transfer of training could also account for the more use of *who* than *whom* in the learner corpus. The investigation of EFL textbooks in Thailand indicated that most of the explanations and examples were given to *who* rather than *whom*. This was why the learners were probably less exposed to the use of *whom* and then avoided it in the writing and speaking tasks.

The evidence of native language influence and transfer of training in the present study, up to this point, is clearly seen. As described above, both kinds of transfer played a positive role in aiding the ERC acquisition of Thai EFL learners. Meanwhile, they also negatively impacted on their ERC learning, creating a range of difficulties. The evidence of positive and negative transfer proves *Hypothesis 2*, which claimed that transfer facilitated and hampered the learners' acquisition of ERCs.

In terms of the comparison between the high-and-low proficiency learners, both similarities and differences were discovered in many respects. First, the orders of acquisition of ERC types on the NPAH, according to the written and spoken data, were the same in the two groups. In other words, the learners appeared to acquire SU before DO and OPREP respectively; GEN was apparently the last they acquired. A major difference between the two groups lies in the fact that, as predicted in

Hypothesis 3, the learners with high proficiency used more ERC types which have higher degree of markedness than the low-proficiency ones. In the essays, the high group produced 9.33% of OPREP, while the low one used only 4.73%. As for GEN, 0.57% was employed by the high group, whereas those with low proficiency used merely 0.25% of GEN. Regarding the spoken data, those with high level of proficiency used 9.09% of OPREP, while only 4.44% of this type was found in the low group.

With regard to the acquisition of ERC embedding, both proficiency groups in the two tasks were similar in producing more right-embedded ERCs than center-embedded ones, which are more marked and more perceptually difficult. In the essays, the high group used 82.29% and the low one produced 75.86% of ERCs in right embedding. On the other hand, only 17.71% and 24.14% of ERCs in center embedding were discovered in the high and low groups respectively. Concerning the spoken data, 70.09% and 75.56% of right embedded ERCs were used by high-and-low proficiency learners in the given order. Only 20.91% and 24.44% of center-embedded ERCs were found in the speech of the high and low groups respectively. All in all, it appeared from the data that the RC in right embedding was acquired earlier than the one in center embedding, which supports the PDH (Kuno, 1974), which has claimed that right-embedded RCs are easier to understand and acquire than center-embedded ones.

The ways the learners from both groups acquired relative markers are identical in the same sequence of relativizer acquisition, as shown below:

that >¹⁷ *who* > *which* > *zero* > *whom* > *whose*

¹⁷>means 'acquired earlier than'

However, there are some differences in frequency of certain relative markers between the two types of learners. That is, the low-proficiency learners produced more use of *that* (53.94% in writing and 52.22% in speaking) than the learners of high proficiency (50.07% in writing and 51.82% in speaking). Likewise, *who* was made with higher frequency in the low group (29.80% in writing and 26.67% in speaking), whereas those whose proficiency was higher used *who* less frequently (26.67% in writing and 17.27% in speaking). On the other hand, the low-proficiency learners used the other relativizers, i.e. *which*, *zero*, *whom*, and *whose*, less frequently than those with the high level of proficiency. Such findings could be explained on the basis of salience. Since *that* and *who* are viewed as the most common and salient relative markers, English learners are then more likely to be exposed to their uses in learning English. Learners, chances are, could consider *that* and *who* to be the easiest in comparison with the other markers. This was why beginner learners, represented by the low-proficiency learners in the present study, produced more uses of *that* and *who* and less frequently employed the other relative markers which are less salient or more difficult to use. Nonetheless, as the learners' experience and development increased over the time, they tended to use more relativizers which are uncommon and less salient. Such learners at a higher stage of interlanguage have been represented by the high-proficiency learners of this study. The findings as to *that* and *who* discussed here prove *Hypothesis 3*, which claimed that the low-proficiency learners used these two relative words more than the high-proficiency ones.

In comparing the use of pronominal reflexes between the two groups, it was shown that both groups of proficiency similarly produced more reflexes in marked RC positions, i.e. objects, than the least marked one, subjects, as illustrated earlier. Nevertheless, these two groups slightly differed in frequency of pronoun retention.

The low group appeared to use slightly more resumptive pronouns than the high group, both in writing (L, H: 4.43%, 3.43%) and in speaking (L, H: 6.67%, 4.55%), which confirms the third hypothesis. Presumably, this occurred as a consequence of the different levels of proficiency between the two groups. The low-proficiency learners, who have been the embodiment of English learners whose L2 knowledge was at the beginning level, might not have had much experience of L2 and then supplied pronoun copies to clarify the RC meaning without awareness of the ungrammaticality in L2 caused by the copies as such. Conversely, the high-proficiency learners seemed to have developed more L2 competence and probably realized the constraint on pronoun retention in English. Hence, they used fewer resumptive pronouns than those with lower proficiency.

As regards the fourth research question, it was demonstrated in this study that the learners' problems were caused by learning strategies in L2 learning, namely transfer, avoidance, and overgeneralization. Evidence of L1 transfer and transfer of training that caused problems for Thai EFL learners has been fully discussed earlier. In addition to transfer, avoidance was also another strategy that the learners relied on when encountering some difficulties in L2 (Ellis, 1994). According to the present study, marked types of ERCs, such as OPREP and GEN, were avoided because their uses were quite low in writing. In speech, furthermore, GEN was not at all produced, which was probably owing to avoidance as well.

In terms of ERC embedding, center-embedded ERCs were found to be avoided as the learners produced more right-embedded RCs instead. It has also been discovered that, as far as relative markers were concerned, *whose* and *whom* dealt with avoidance behavior as well. *Whose* was avoided as a result of the low use of GEN. As for *whom*, the learners had other options, such as *who*, *that*, and *zero*, in this

particular context, so they could find it easier to avoid *whom*, which is less salient, and use any other relative markers with which they were more acquainted. Like transfer, avoidance was closely connected with the degree of markedness in that more marked features were often avoided as the learners were probably not completely certain of their proper use. Although avoidance does not lead to ungrammatical construction in L2, it is considered an overt error since it causes the learning pace to slacken. The deceleration of learning could end up with fossilization, meaning the learners cannot have any more development of their interlanguage (Corder, 1981).

Another source of errors pertaining to the strategies employed in L2 learning was overgeneralization. The current research indicated that the learners probably assumed that the relative marker *that* were able to be used with no limitation and extended its use to non-restrictive RCs (NRCs). Doing so resulted in an ill-formed grammatical structure in the target language.

To sum up at this point, evidently the learners' main area of problems involved the learning strategies which frequently led them to deviations in L2 English. The strategies, based upon cognitive processes found in the study, were transfer, avoidance, and overgeneralization. Such findings do support the fourth hypothesis of the present study.

6.2 Recommendations for further research

Owing to the time constraints in conducting the present study, not all the aspects of ERC acquisition by Thai EFL learners could be explored. As stated in the limitations of the study, the current research project focused only on the study of relative markers that fitted into the framework of the study, viz. *who*, *whom*, *which*, *whose*, *that*, and *zero*. This means relative adverbs, namely *where*, *when*, and *why*,

were beyond the scope and so left untouched here. For this reason, it should be interesting and useful to undertake a further study on ERCs introduced by these relative adverbs. In addition, in the present research, there existed some sorts of ERCs that could have been examined but were not, due to the restriction of our framework. For instance, the RC in an existential construction *there be + NP + RC*, as in (399), was often seen to be both properly and incorrectly used by the participants. Thus, a research design for a future study could be developed for an investigation of such a construction of ERC.

(399) There is a car *which I want to own*.

The next point in which researchers in the field of second language acquisition of ERCs might be interested concerns free ERCs. Because the present study aimed to examine the bound ERC, as mentioned in the scope of the study, a future research work can also be carried out on the free relative construction of English found in the interlanguage of Thai EFL learners. Aside from the free ERC, it is also useful to do research on how Thai EFL learners acquire reduced ERCs, which begin with a verb in the present or past participle form. The reduced constructions as such appear to be problematic to EFL/ESL learners (Celce-Murcia, 1999), so a study on them can make a valuable contribution towards English language teachers and researchers.

Those who have an interest in English instruction may conduct a study to find out the most effective method to teach ERCs to Thai EFL learners. Furthermore, teachers whose interest is in material development may also rely on the results of the current study to create such materials that best provide knowledge of ERCs for students.

6.3 Pedagogical implications of the study

As discussed earlier, Thai EFL learners acquire ERCs in a similar way as other learners speaking different native languages. In other words, the acquisition of ERCs by Thai learners is primarily governed by language universals, so is the ERC acquisition by other EFL learners. This way, the results of the present study can be beneficial to EFL teachers in general, in addition to those teaching EFL in Thailand.

It is advisable that EFL teachers introduce the least marked type of ERCs, i.e. SU, to the learners, especially those in the beginner level as this is the easiest one to learn. Later, once the learners are accustomed to the RC formation in English, more marked and complicated types may then be instructed in a step-by-step fashion. Also, IO and OPREP can be merged into one lesson since they are syntactically very close, as noted in Chapter 5. Additionally, more emphasis should be placed on GEN teaching because it is the position which learners find extremely difficult and commit various types of errors on, through such learning strategies as native language transfer and avoidance. As can be seen in Chapter 5, most commercial EFL textbooks used widespread in Thailand contain little information on marked ERC types like OPREP and GEN, those teaching Thai EFL learners and the instructors fundamentally using these internationally-sold textbooks in other countries should consider adding more details, explanations, and exercises to their lesson planning so that their students will have more opportunity to become familiarized with these marked ERC types and ultimately be able to use them in a more accurate manner. As for OCOMP, which is the most marked ERC type, EFL teachers may not have to include this in their ERC instruction because it is very rare in real use (Carter & McCarthy, 2006) and even considered to be grammatically unacceptable in some native English speakers' view

(Ellis, 1994). There will be minimal chance for the students to come across or produce OCOMP in daily life.

In regard to teaching the way ERCs are embedded into a matrix clause, the present study suggested that it should be more sensible to first instruct right-embedded ERCs, which are perceptually simple as there is no interruption between the matrix subject and the predicate. Once the learners appear to have developed a skill in forming a RC in English, the teachers may then try introducing center-embedded ERCs, which are now more challenging for the learners at this stage.

For an instruction of relative markers in English, EFL teachers could see from the results of this study that the relativizers *that*, *which*, and *who* are not much problematic to Thais, except for the misuse of *that* in NRCs. As for *zero*, the learners should be reminded of its ungrammaticality in a subject position. Since *zero* is a major feature found in spoken English, teachers are supposed to emphatically point out its occurrences in such a genre or provide the students with examples and exercises of relativizer omission, based on spoken-English corpora. In a similar vein, in teaching *whom*, EFL teachers are advised to present the texts derived from corpora of written English. The learners should be taught to have awareness of the fact that *whom* is more formal than other equivalent relativizers. Moreover, as explained in Chapter 5, *whose* is regarded as the most problematic since it has to have an accompanying noun. Thus, *whose* should be carefully taught through plenty of sample sentences based on authentic English from corpora as well.

To successfully teach English relative markers, EFL teachers are recommended that they encourage an inductive learning method. That is to say, the learners should be given a lot of information on L2 relative words and how they really occur in sentences. Then they can learn individually, in pairs, or in groups to draw a

comparison and make a distinction between the relativizers. After this, they may exchange their findings with their classmates' and revise their generalizations. The teachers may ask them to present what rules they have discovered for each relative marker, and they can give corrective feedbacks when some of the formulated rules seem to be inappropriate. Also, the teacher can supply some additional information not included in the learners' findings. The instruction of relativizers as such is possibly more exciting and challenging for the learners who play an active part in looking for new knowledge of English grammar on their own.

The present study also demonstrates actual problems pestering Thai EFL learners. These problems should be directly paid attention to since they prove to be real sources of the learners' errors. The following points need to be taken into consideration. First of all, the problems that result from L1 transfer should be prevented. When teaching OPREP, the EFL teachers are expected to pinpoint the importance of obligatory prepositions in constituting preposition pied-piping and preposition stranding. Furthermore, the teachers should make it a point that a RC subject deletion is impossible in standard English, even though this deletion is often acceptable in Thai. Having taught the basic rules of ERC formation, the teachers are also expected to introduce a quantity construction of ERCs, e.g. *each of which*, *all of which*, *some of whom*, etc, otherwise the learners not knowing the proper structure in question may resort to their L1 and produce some forms of deviations. Further, correct usage of GEN has to be instructed as well so that the learners would not create certain ill-formed constructions reflecting their L1 influence as described in Chapter 5.

The second kind of problems originates from learners' avoidance strategy when they are confronted with difficult or marked features in English. A solution to

this problem is possibly to highlight such marked structures, e.g. OPREP and GEN, in pedagogy perhaps by providing more exercises and instances to help make them more familiar with the marked features in the hope that the learners will so improve the ability to use them. Another source of problems arises when the learners transfer what they have been taught to ERCs learning at the present time. As discussed earlier, this could make them overproduce some features presented repeatedly in those textbooks or by the previous instructors at the expense of certain structures rarely found in the learning experience. EFL teachers who are conscious of this problem should prepare some extra materials or supplements on these features, alongside the selected main textbooks. This will probably increase the learners' opportunity to expand their horizons on what is scarcely mentioned in the texts.

The last variety of problems has to do with the overgeneralization of the relative marker *that* in non-restrictive RCs. This rule is somewhat arbitrary and hard for learners to observe from the corpus data alone. It is necessary for EFL teachers to directly inform them of the main differences in meaning between restrictive and non-restrictive RCs comprising the same words. The teachers are also required to point out that only *wh*-relatives are allowed in NRCs. In other words, *that*-relatives cannot be used in this particular type of ERC. The explicit instruction like this is likely to help prevent the learners from producing *that* in NRCs.

Sample lesson plans are also available in Appendix 3. These lesson plans are based on form-focused instruction, which concentrates on teaching linguistic form, e.g. ERCs, when learners appear to have problems with it in L2 communication (Long & Robinson, 1998). Here the ERC is the highlighted construction which will be presented to the learners. Teaching ERCs should be planned to do alongside communicative tasks. Thus, not only will the learners practice the communicative

English skills, but they can also have direct access to the grammar points which they need to produce well-formed target structures of ERCs.



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

REFERENCES

- Aarts, F. & Schils, E. (1995). Relative clauses, the Accessibility Hierarchy and the Contrastive Analysis Hypothesis. *IRAL*, 33, 47-63.
- Adjemian, C. (1976). On the nature of language systems. *Language Learning*, 26(2), 297-320.
- Ard, J. & Gass, S. (1987). Lexical constraints on syntactic acquisition. *Studies in Second Language Acquisition*, 9, 235-255.
- Azar, B. (2003). *Understanding and using English grammar*. New Jersey: Prentice Hall.
- Bardovi-Harlig, K. (1987). Markedness and salience in second-language acquisition. *Language Learning*, 37, 385-407.
- Bates, E., Devescovi, A. & D'Amico, S. (1999). Processing complex sentences: A cross-linguistic study. *Language and Cognitive Processes*, 14, 69-123.
- Bates, E., & Macwhinney, B. (1989). Functionalism and the competition model. In B. Macwhinney & E. Bates (Eds.), *The cross-linguistic study of sentence processing* (pp. 77-117). Cambridge: Cambridge University Press.
- Bever, T G. (1970). The cognitive basis for linguistic structures. In J. R. Hayes (Ed.), *Cognition and development of language* (pp. 279-352) New York: Wiley.
- Biber, D., Johansson, S., Leech, G., Conrad, S. & Finegan, E. (1999). *Longman Grammar of Spoken and Written English*. Singapore: Pearson.
- Biber, D., Conrad, S & Reppen, R. (1998). *Corpus Linguistics: Investigating language structure and use*. Cambridge: Cambridge University Press.
- Bley-Vroman, R. (1990). The logical problem of foreign language learning. *Linguistic Analysis*, 20, 3-49.
- Bley-Vroman, R. & Houn, C. (1988). Why do Chinese use few relative clauses in English. *University of Hawai'i Working Papers in ESL* 7, 93-98.
- Braidi, S. (1999). *The acquisition of second-language syntax*. New York: Arnold.
- Brandt, S. (2004). The acquisition of relative clauses in German and English. Unpublished master's thesis, University of Leipzig.
- Brandt, S., Diessel, H., & Tomasello, M. (2005). The acquisition of German relative clauses: A case study. Leipzig: Max Planck Institute for Evolutionary Anthropology, and Jena: University of Jena.

- Brandt, S., Diessel, H., & Tomasello, M. (2008). The acquisition of German relative clauses: A case study. *Child Language*, 35, 325-348.
- Brown, H. Douglas. (1971). Children's comprehension of relativized English sentences. *Child Development*, 42, 1923-1936.
- Brown, R. (1973). *A first language: The early stages*. Cambridge, Mass.: Harvard University Press.
- Burnard, L. & McEnery, T. (Eds.) (2000). *Rethinking language pedagogy from a corpus perspective*. Frankfurt: Peter Lang.
- Carter, R. & McCarthy, M. (2006). *Cambridge grammar of English. A comprehensive guide. Spoken and written English grammar and usage*. Cambridge: Cambridge University Press.
- Celce-Murcia, M. & Larsen-Freeman, D. (1999). *The grammar book: An ESL/EFL teacher's course, 2nd edition*. Singapore: Heinle & Heinle Publishers.
- Chan, A. (2004). Syntactic transfer: Evidence from the interlanguage of Hong Kong Chinese ESL learners. *The Modern Language Journal*, 88(1), 56-74.
- Chang, Y. (2004). *Second language relative clause acquisition: an examination of cross-linguistic influences*. National Chung Hsing University.
- Chen, H. C. (2004). Asymmetrical performances of English null subjects and null objects for Chinese college students. *Selected Papers from the Thirteenth International Symposium on English Teaching*, 138-148.
- Chiang, T. (1981). *Error analysis: A study of errors made in written English by Chinese learners*. Unpublished MA Thesis, National Taiwan University, Taipei, Taiwan.
- Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht, The Netherlands: Foris.
- Chomsky, N. (1986). *Barriers*. Cambridge, MA: MIT Press.
- Chou, Y. (2006). *Acquisition of English relative clauses by Taiwanese EFL college students*. MA thesis, National Sun Yet-Sen University.
- Clancy, P, Lee, H. & Zoh, M. (1986). Processing strategies in the acquisition of relative clauses: Universal principles and language-specific realizations. *Cognition*, 24, 225-262.
- Cohen, A. (1990). *Language learning*. New York: Newbury House.
- Comrie, B. (1988). Linguistic typology. *Annual Review of Anthropology*, 17, 145-59.

- Comrie, B. (1989). *Language universals and linguistic typology*. 2nd edition. Oxford: Blackwell.
- Comrie, B. (2002). Typology and language acquisition: The case of relative clauses. In A. Giacalone Ramat (Ed.), *Typology and second language acquisition* (pp. 19-37). Berlin: Mouton de Gruyter.
- Comrie, B. (2007). The Acquisition of relative clauses in relation to language typology. *Studies in Second Language Acquisition*, 29(2), 301-310.
- Cook, V. (1973). The comparison of language development in native children and foreign adults. *International Journal of Applied Linguistics*, 11, 13-28.
- Cook, V. (1993). *Second language acquisition and linguistics*. London: Macmillan
- Cook, V. & Newson, M. (2007). *Chomsky's universal grammar*. New York: Blackwell.
- Corder, S. P. (1981). *Error analysis and interlanguage*. Oxford: Oxford University Press.
- Cornilescu, A. (1981). Non-restrictive relative clauses: An essay in semantic description. *Revue Roumaine de Linguistique*, 26(1), 41-67.
- Correa, L. (1982). Strategies in the acquisition of relative clause, In J. Aitchinson and N. Harvey (Eds.), *Working Papers of the London Labelle Psycholinguistics Research Group*, 4, 37-49.
- Cowan, R. (2008). *The teacher's grammar of English: A course book and reference guide*. Cambridge: Cambridge University Press.
- Croft, W. (1990). *Typology and universals*. Cambridge University Press: Cambridge.
- Crompton, P. (2005). Where, in which, and in that: A corpus-based approach to error analysis. *RELC journal*, 36(2), 157-176.
- Croteau, K. C. (1995). Second language acquisition of relative clause structures by learners of Italian. In E.R. Eckman, D. Highland, P. W. Lee, J. Mileham, & R.R. Weber (Eds.), *Second language acquisition theory and pedagogy* (pp. 115-128). Mahwah, NJ: Erlbaum.
- Crystal, D. (2001). *Dictionary of language*. Chicago: The University of Chicago Press.
- Crystal, D. (2004). *Making sense of grammar*. Essex: Pearson Education.
- Dasinger, L & Toupin, C. (1994). *The development of relative clause functions in narratives*. In Berman and Slobin (Eds.) (pp. 457-514). Cambridge: Cambridge University Press.

- Diessel, H. (2004). *The acquisition of complex sentences*. Cambridge: Cambridge University Press.
- Diessel, H. (2007). Construction-based analysis of the acquisition of East Asian relative clauses. *Studies in Second Language Acquisition*, 29(2), 311-320.
- Diessel, H. & Tomasello, M. (2000). The development of relative clauses in English, *Cognitive Linguistics*, 11, 131-151.
- Diessel, H. & Tomasello, M. (2005). A new look at the acquisition of relative clauses. *Language*, 81, 882-906.
- Dorsey, Z. (2007). *Research methods in applied linguistics*. Oxford: Oxford University Press.
- Dorsey, Z. & Scott, M. (1997). Communication strategies in a second language: Definitions and taxonomies. *Language Learning*, 47, 173-210.
- Doughty, C. (1988). *The effect of instruction on the acquisition of relativization in English as a second language*. Unpublished Doctoral dissertation, University of Pennsylvania.
- Doughty, C. (1991). Second language instruction does make a difference. *Studies in Second Language Acquisition*, 13, 431-469.
- Doughty, C. (2003). Instructed SLA: Constraints, compensation, and enhancement. In C. J. Doughty & M. H. Long (Eds.), *The handbook of second language acquisition* (pp. 256-310). Oxford: Blackwell.
- Dulay, H. & Burt, M. (1973). Should we teach children syntax. *Language Learning*, 23, 235-252.
- Dulay, H. & Burt, M. (1974). Natural sequences in child second language acquisition. *Language learning*, 24(1), 37-53.
- Dulay, H., Burt, M. & Krashen, S. (1982). *Language two*. Oxford: Oxford University Press.
- Eastwood, J. (2005). *Oxford guide to English grammar*. Oxford: Oxford University Press.
- Eckman, F. (1977). Markedness and the contrastive analysis hypothesis. *Language Learning*, 27, 315-330.
- Eckman, F., (1985). The markedness differential hypothesis: theory and application. In Wheatly et al, *Current Approaches to Second Language Acquisition*. (pp. 3-21) Bloomington, in Indiana University Linguistics Club.

- Eckman, F., Bell, L., & Nelson, D. (1988). On the generalization of relative clause instruction in the acquisition of English as a second language. *Applied Linguistics*, 9, 1-20.
- Eckman, F. (2007). Hypotheses and methods in second language acquisition: Testing the Noun Phrase Accessibility Hierarchy on relative clauses. *Studies in Second Language Acquisition*, 29(2), 321-328.
- Ekniyom, P. (1971) *Relative clauses in Thai*. M.A. thesis, University of Washington, Seattle, USA..
- Eisenberg, S L. (2002). Interpretation of relative clauses by young children: Another look. *Journal of Child Language*, 29, 177-188.
- Ellis, R. (1985). *Understanding SLA*. Oxford: Oxford University Press.
- Ellis, R. (1987). Interlanguage variability in narrative discourse: Style shifting in the use of the past tense. *Studies in Second Language Acquisition*, 9, 12-20.
- Ellis, R. (1994). *The study of second language acquisition*. Oxford: Oxford University Press.
- Erdogan, A. (2005). Use of English relative clauses by Turkish learners: A study of errors. <http://sunzil.lib.hku/hkjo/view/10/100022.pdf> .
- Finegan, E. (2007). *Language: Its structure and use*. Heinle & Heinle: California.
- Flanigan, B. O. (1995). Anaphora and relativization in child second language acquisition. *SSLA*, 17, 331-351.
- Flynn, S & Lust, B. (1980). Acquisition of relative clauses. Developmental changes of their heads. In Harbert, W. Herschensohn (Eds.), *Cornell Working Papers in Linguistics* (pp.33-45).
- Flynn, S. (1989). The role of the head-initial/head-final parameter in the acquisition of English relative clauses by adult Spanish and Japanese speakers. In S. Gass & J. Schachter (Eds.), *Linguistic perspectives on second language acquisition* (pp. 89-108). New York: Cambridge University Press.
- Fox, B. A. (1987). The Noun Phrase Accessibility Hierarchy reinterpreted: subject primacy or the absolute hypothesis? *Language*, 63, 856-70.
- Fox, B & Thompson, S. (2007). Relative clauses in English conversation: Relativizers, frequency, and the notion of construction. *Studies in Language*, 31, 293-326.
- Gass, S. (1979). Language transfer and universal grammatical relations. *Language Learning*, 29(2), 327-344.

- Gass, S. (1980). An investigation of syntactic transfer in adult second language learners. In R. Scarcella & S. Krashen (Eds.), *Research in second language acquisition*. Rowley, MA: Newbury House.
- Gass, S. (1981). From theory to practice. Paper presented at the 15th Annual TESOL Convention, Detroit, MI.
- Gass, S. (1982). From theory to practice. In M. Hynes & W. Rutherford (Eds.), *On TESOL '81: Selected papers from the fifteenth Annual Conference of teachers of English to Speakers of Other Languages* (pp.129-139). Washington, DC: TESOL.
- Gass, S. (1984). A review of interlanguage syntax: Language transfer and language universals. *Language Learning*, 34, 115-132.
- Gass, S. & Ard, J. (1984). L2 acquisition and the ontology of language universals. In W. Rutherford (Ed.), *Second language acquisition and language universals* (p.33-68). Amsterdam: John Benjamins.
- Gass, S. & Lee, J. (2007). Second language acquisition of relative clauses. *Studies in Second Language Acquisition*, 29(2), 329-336.
- Gass, S. & Selinker, L. (2001). *Second language acquisition: An introductory course*. New Jersey: LEA.
- Gibson, E. (1998). Linguistic complexity: Locality of syntactic dependencies. *Cognition*, 68, 1-76.
- Goodluck, H. & Stojanovic, D. (1997). The structure and acquisition of relative clauses in Serbo-Croatian. *Language Acquisition*, 5, 285-315.
- Greenberg, J. H. (1963). Some universals of grammar with particular reference to the order of meaningful elements. In J. H. Greenberg (Ed.), *Universals of Language* (pp. 73-113). Cambridge, MA: MIT Press.
- Guy, R. & Bailey, R. (1995). On the choice of relative pronouns in English. *American Speech*, 70(2), 148-162.
- Hakuta, K. (1981). Grammatical description versus configurational arrangement in language acquisition: The case of relative clauses in Japanese. *Cognition*, 9, 197-237.
- Hamilton, R. (1994). Is implicational generalization unidirectional and maximal? Evidence from relativization instruction in second language. *Language Learning*, 44, 123-157.

- Hamilton, R. (1995). The noun phrase accessibility in SLA: Determining the basis for its developmental effects. In E.R. Eckman, D. Highland, P. W. Lee, J. Mileham, & R.R. Weber (Eds.), *Second Language acquisition theory and pedagogy* (pp. 101-114). Mahwah, NJ: Erlbaum.
- Hasegawa, T. (2005). Relative clause production by JSL children. In M. Minami, H. Kobayashi, M. Nakayama, & H. Shirai (Eds.), *Studies in language sciences 4: Papers from the Fourth Annual Conference of the Japanese Society for Language Sciences* (pp.189-204). Tokyo: Kurocio.
- Hashimoto, F. (1974). *Japanese translation of The Great Gatsby*. Tokyo: Hayakawa Shoboo.
- Hatch, E. M. & Farhady, H. (1982). *Research design and statistics for applied linguistics*. Rowley, MA: Newbury House.
- Hawkins, J. A. (1994). *A performance theory order and constituency*. Cambridge: Cambridge University Press.
- Hawkins, J. A. (1999). Processing complexity and filler-gap dependencies across grammars. *Language*, 75, 244-285.
- Hawkins, J. A. (2007). Acquisition of relative clauses in relation to language universals. *Studies in Second Language Acquisition*, 29(2), 337-344.
- Hawkins, R. (1989). Do second language learners acquire restrictive relative clauses on the basis of relational or configurational information? *Second Language Research*, 5, 15/8-188.
- Hawkins, R. (2007). The Noun phrase accessibility hierarchy: Lame duck or dead duck in theories of SLA? *Studies in Second Language Acquisition*, 29, 345-350.
- Hermon, G. (2005). The acquisition of relative clauses in colloquial Jakarta Indonesian. Max Planck Institute for Evolutionary Anthropology, Leipzig.
- Hsiao, F. & Gibson, E. (2003). Processing relative clauses in Chinese. *Cognition*, 90, 3-27.
- Hunston, S. (2002). *Corpora in applied linguistics*. Cambridge: Cambridge University Press.
- Hyltenstam, K. (1984). The use of typological markedness conditions as predictors in second language acquisition: The case of pronominal copies in relative clauses. In R.W. Andersen (Ed.), *Second languages: A cross-linguistic perspective* (pp. 39-60). Rowley, MA: Newbury House.

- Ioup, G. & Kruse, A. (1977). Interference vs. structural complexity in second language acquisition: Language universals as a basis for sequencing. In H. Brown, C. Yorio, & R. Chrymes (Eds.), *On TESOL '77 –Teaching and learning English as a second language: Trends in research and practice* (pp. 159-171). Washington, DC: TESOL.
- Iwasaki, S & Ingkaphiron, P. (2005). *A reference grammar of Thai*. Cambridge: Cambridge University Press.
- Izumi, S. (2000). Promoting noticing and SLA: An empirical study of the effects of output and input enhancement on ESL relativization. Unpublished doctoral dissertation, Georgetown University, Washington DC.
- Izumi, S. (2003). Processing difficulty in comprehension and production of relative clauses by learners of English as a second language. *Language Learning*, 53(2), 285-323.
- Izumi, S. (2007) Universals, methodology, and instructional intervention on relative clauses. *Studies in Second Language Acquisition*, 29, 351-360.
- James, C. (1998). *Errors in language learning and use: Exploring error analysis*. London: Longman.
- Jeon, K. (2004). *Interaction-driven learning: Characterizing linguistic development*. Doctoral dissertation, Georgetown University, Washington, DC.
- Jeon, K. & Kim, H. (2007). Development of relativization in Korean as a foreign language: The Noun Phrase Accessibility Hierarchy in head-internal and head-external relative clauses. *Studies in Second Language Acquisition*, 29(2), 253-276.
- Jisa, H. & Kern, S. (1998). Relative clauses in French children's narrative texts. *Journal of Child Language*, 25, 623-652.
- Johnson, J. & Newport, E. (1991). Critical period effects on universal properties of language: The status of subjacency in the acquisition of a second language. *Cognition*, 39, 215-258.
- Juffs, A. (2007). Second language acquisition of relative clauses in the languages of East Asia. *Studies in Second Language Acquisition*, 29, 361-366.
- Kachru, Y. (2008). Language variation and corpus linguistics. *World Englishes*, 27(1), 1-8.
- Kamimoto, T., Shimura, A. & Kellerman, E. (1992). A second language classic reconsidered—the case of Schachter's avoidance. *Second Language Research*,

- 8, 251-277.
- Kanno, K. (2007). Factors affecting the processing of Japanese relative clauses by L2 learners. *Studies in Second Language Acquisition*, 29(2), 197-218.
- Karasawa, S. (2001). *Relevance theory and redundancy phenomena in second language learners' written English discourse: An interlanguage pragmatics perspectives*. Doctoral dissertation, University of Arizona.
- Karasawa, S. (2003). Patterns of elaboration and inter-language development: An exploratory corpus analysis of college student essays. In Archer et al. (Eds.), 394-401.
- Keenan, E. (1985). Relative clauses. In Shopen, T. (Ed.), *Language typology and Syntactic Description volume II: Complex constructions* (pp. 141-170). Cambridge: Cambridge University Press.
- Keenan, E. & Comrie, B. (1977). Noun Phrase Accessibility Hierarchy and universal grammar. *Linguistic Inquiry*, 8, 63-99.
- Keenan, E. & Comrie, B. (1979). Data on the Noun phrase accessibility hierarchy, *Language*, 55, 333-51.
- Kellerman, E. (1995) Crosslinguistic influence: Transfer to nowhere. *Annual Review of Applied Linguistics*, 15, 125-150.
- Kidd, E. & Bavin, E. (2002). English-speaking children's comprehension of relative clauses: evidence for general-cognitive and language-specific constraints on development. *Journal of Psycholinguistics Research*, 31, 599-617.
- Kleinmann, H, (1977). Avoidance behavior in adult second language acquisition. *Language Learning*, 27, 93-107.
- Krashen, S. (1978). Relating theory and practice in adult second language acquisition. *SPEAQ Journal*, 2, 9-32.
- Kullavanijaya, P. (2006). Noun modifying clauses. In Prasithrathsint (Ed.), *Controversial constructions in Thai grammar: Relative clause constructions, complement clause constructions, and passive constructions* (pp. 7-65). Bangkok: Chulalongkorn University Press.
- Kuno, S. (1974). The position of relative clauses and conjunctions. *Linguistic Inquiry*, 5, 117-136.
- Kuno, S. & Wongkhomthong, P. (1981). Relative clauses in Thai. *Studies in Language* 5. Amsterdam: John Benjamins.

- Labelle, M. (1996). The acquisition of relative clauses: Movement or no movement? *Language Acquisition*, 5, 95-120.
- Lado, R. (1957). *Linguistics across culture*. Ann Arbor, MI: University of Michigan Press.
- Lau, E. (2006). *The acquisition of relative clause by Cantonese children: An experimental approach*. Master's thesis, University of Hong Kong.
- Leech, G. and Svartvik, J. (2002). *A communicative grammar of English*. Harlow, Essex: Pearson Education Limited.
- Lekawatana, P. et al (1969). *A contrastive study of English and Thai*. Bangkok: The English Language Center.
- Letourneau, M. S. (2001). *English grammar*. NY: Harcourt.
- Li, J. (1996). Underproduction does not necessarily mean avoidance: Investigation of underproduction using Chinese ESL learners. In Lawrence F. Bouton (Ed.), *Pragmatics and language learning: Monograph series*, 7, 171-187. University of Illinois at Urbana-Champaign.
- Lightfoot, D. (1989). The child's trigger experience: Degree-0 learnability. *Behavioral and Brain Sciences*, 12, 321-375.
- Limber, J. (1973). The genesis of complex sentences. In Timothy E. Moore (Ed.), *Cognitive development and the acquisition of language*. (pp 169-185), New York: Academic Press.
- Limber, J. (1976). Unraveling competence, performance and pragmatics in the speech of young children. *Journal of Child Language*, 3, 309-318.
- Littlewood, W. (1984). *Foreign and second language learning*. Cambridge: Cambridge University Press.
- Littlewood, W. (2004). Second language learning. *Handbook of Applied Linguistics*. UK: Blackwell Publishing Ltd.
- Liu, Ming-Yi. (1998). *An experimental study of English relative clauses by Chinese junior high school students in Taiwan*. Master thesis, National Taiwan Normal University, Taipei, Taiwan.
- Lock, J. (1996). *Functional English grammar*. New York: Harper Collins.
- Loock, R. (2007). Appositive relative clauses and their functions in discourse. *Journal of Pragmatics*, 39, 336-362.

- Long, M. and Robinson, P. (1998). Focus on form: Theory, research, and practice. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp.15-53). Cambridge: Cambridge University Press.
- Mallison, G. and Blake, B. J. (1981). *Language typology: Cross-linguistic studies in syntax*. North Holland: Amsterdam.
- Maniruzzaman, M. (2008). Avoidance Behaviour in EFL Learning: A Study of Undergraduates. www. Articlebase.com
- Master, P. (1996). *Systems in English grammar: An introduction for language teachers*. Fresno: Prentice Hall Regents.
- Matsumoto, Y. (2007). Interaction of multiple factors in relative clause construal and acquisition. *Studies in Second Language Acquisition*, 29, 367-374.
- Maxwell, D. N. (1979). Strategies of relativization and NP accessibility. *Language*, 55, 352-371.
- McKee, C. & McDaniel, D. (2001). Resumptive pronouns in English relative clauses. *Language Acquisition*, 9, 113-156.
- Mclaughlin, B. (1987). *Theories of second language learning*. London: Edward Arnold.
- Menyuk, P (1969). *Sentences children use*. Cambridge, Mass.: MIT Press.
- Modhiran, P. (2005). *Correction making among Thais and Americans: A study of cross-cultural and interlanguage pragmatics*. Ph.D. thesis, Chulalongkorn University.
- Moravcsik, E. (1997). Principles and parameters of the metalanguage of linguistic typology. In Kera Singer, Randall Eggert & Gregory Anderson (Eds.), *Chicago Linguistic Society 33. Papers from the Panels* (pp. 223-238). Chicago: Chicago Linguistic Society.
- Nozaki, T. (1974). *Japanese translation of The Great Gatsby*. Tokyo: Shinchosha.
- Odlin, T. (1989). *Language transfer: Cross-linguistic influence in language learning*. Cambridge: Cambridge University Press.
- Odlin, T. (2003). Cross-linguistic influence. In C. J. Doughty & M. H. Long (Eds.), *The handbook of second language acquisition* (pp. 436-486). Oxford: Blackwell.
- Odlin, T. (2005). Crosslinguistic influence and conceptual transfer: What are the concepts? *Annual Review of Applied Linguistics*. 25, 3-25.

- O'Grady, W. (1997). *Syntactic development*. Chicago: The University of Chicago
- O'Grady, W. (1999). Toward a new nativism. *Studies in Second Language Acquisition*, 21, 621-633.
- Oonuki, S. (1957). *Japanese translation of The Great Gatsby*. Tokyo: Kadakawa Shoten.
- Ouhalla, J (1999). *Transformational grammar: From rules to principles and parameters*. New York: Edward Arnold.
- Ozeki, H. (2005). Does the acquisition of the noun-modifying constructions in L2 Japanese follow the Noun Phrase Accessibility Hierarchy? *Acquisition of Japanese as a Second Language*, 8, 64-82.
- Ozeki, H. & Shirai, Y. (2007). Does the noun phrase accessibility predict the difficulty order in the acquisition of Japanese relative clauses? *Studies in Second Language Acquisition*, 29, 169-196.
- Panthumetha, N. (1982). *Thai grammar*. Bangkok: Chulalongkorn University Press.
- Parker, F. & Riley, F. (2005). *Linguistics for non-linguists: A primer with exercises*. Boston: Allyn and Bacon.
- Pavesi, M. (1986). Markedness, discursal modes, and relative clause formation in a formal and an informal context. *Studies in Second Language Acquisition*, 8, 38-55.
- Prasithratsint, A. (2000). Adjectives as verbs in Thai. *Linguistic Typology*, 4, 251-271.
- Prideaux, G., & Baker, W. (1986). *Current issues in linguistic theory: Vol. 46. Strategies and structures: The Processing of relative clauses*. Amsterdam: John Benjamins.
- Quirk, R. (1968). Relative clauses in educated spoken English. In R. Quirk (Ed.), *Essays on the English language, Medieval and Modern*. London: Longman.
- Ramat, A. G. (2000). Typological considerations on second language acquisition. *Studia Linguistica*, 54(2), 123-135.
- Richards, J. C. (1980). Second language acquisition: Error analysis. In R.B. Kaplan (Ed.), *Annual Review of Applied Linguistics* (pp. 91-107). Cambridge: Cambridge University Press.
- Richards, J. C. (2002). *Dictionary of language teaching and applied linguistics*. Longman: Pearson Education.

- Romaine, S. (1984). *The language of children and adolescents: The acquisition of communicative competence*. New York: John Wiley.
- Roth, F. P. (1984). Accelerating language learning in young children. *Journal of child language*, 11, 89-107.
- Sadighi, F (1994). Is there a role for learner treatment in comprehending relative clauses. *RELC Journal*, 25(1), 56-74.
- Sakamoto, T. & Kubota, A. (2000). On acquisition of Japanese relative clauses. *The Bulletin of the Center for International Education*, 1, 114-126.
- Sattayatham, A. & Honsa, S. (2004). Medical students' most frequent errors at Mahidol University, Thailand. *Asian EFL Journal*, 9 (2). http://www.asian-efl-journal.com/June_07_as&sh.php.
- Savetamalya, S. (1989). Thai nouns and noun phrases: A lexicase analysis. Doctoral dissertation, University of Hawaii.
- Savetamalya, S. (1996). Verbal relative clauses as adnominal modifiers in Thai. *Proceedings of the Fourth International Symposium on Languages and Linguistics*, 2, 627-646.
- Schachter, J. (1974). An error in error analysis. *Language Learning*, 24, 205-214.
- Schachter, J. (1989). Testing a proposed universals. In S. Gass & J. Schachter (Eds.), *Linguistic perspectives on second language acquisition* (pp. 73-88). New York: Cambridge University Press.
- Schachter, J. (1990). On the issue of completeness in second language acquisition. *Second Language Research*, 6, 93-124.
- Schuele, C. & Nicholls, L. (2000). Relative clauses: Evidence of continued linguistic vulnerability in children with specific language impairment. *Clinical Linguistics and Phonetics*, 14, 563-585.
- Schumann, J. (1978). The acquisition of English relative clauses by second language learners. In R. Scarcella & S. Krashen (Eds.), *Research in second language acquisition: Selected papers from the Los Angeles Second Language Research Forum* (pp. 118-131). Rowley, MA: Newbury House.
- Seliger, H. & Shohamy, E. (1989). *Second language research methods*. Oxford: Oxford University Press.
- Selinker, L. (1972). Interlanguage. *IRAL*, 10, 209-231.
- Selinker, L. (1992). *Rediscovering interlanguage*. London: Longman.
- Sheldon, A. (1974). The role of parallel function in the acquisition of relative clauses

- in English. *Journal of Verbal Learning and Verbal Behavior*, 13, 272-281.
- Sheldon, A. (1977). On strategies for processing relative clauses: A comparison of children and adults. *Journal of Psycholinguistic Research*, 6, 305-318.
- Slobin, D. I. (1973). *Cognitive prerequisites for the development of grammar*. In Ferguson and Slobin (Eds.) (pp. 175-208). Amsterdam: John Benjamins
- Slobin, D. I. (1986). The acquisition and use of relative clauses in Turkic and Indo-European languages. In Dan I. Slobin and Karl Zimer (Eds.), *Studies in Turkish Linguistics* (pp. 273-294), John Benjamins: Amsterdam.
- Slobin, D. I. & Bever, T. (1982). Children use canonical sentence schemas: A crosslinguistic study of word order and inflections. *Cognition*, 12, 229-265.
- Song, J. J. (2001). *Linguistic Typology*. Pearson: Singapore.
- Sornhiran, P. (1978). *A transformational study of relative clauses in Thai*. PhD. dissertation, University of Texas at Austin.
- Suktrakul, S. (1975). *Contrastive analysis of relative clauses in Thai-English*. Doctoral dissertation, UMI Dissertation Information Service, Ann Arbor, Mich.
- Svartvik, J. & Quirk, R. (1980). *A corpus of English conversation*. Lund: CWK Gleerup.
- Swan, M. (2005). *Practical English usage*. Oxford: Oxford University Press.
- Tan, Hui-mien. (2008). A study of EFL learners' writing errors and instructional strategies. <http://dspace.lib.ksu.edu.tw:8080/dspace/handle/123456789/6036>.
- Tao, H. & McCarthy, M. (2001). Understanding non-restrictive which-clauses in spoken English, which is not an easy thing. *Language Sciences*, 23, 651-677.
- Tarone, E. (1988). *Variation in interlanguage*. London: Edward Arnold.
- Tarone, E. (2006). Interlanguage. In K. Brown (Ed.), *Encyclopedia of Language and Linguistics* (2nd ed.), 5, (pp. 747-752). Oxford: Elsevier.
- Tavakolian, S. (1977). *Structural principles on the acquisition of complex factors*. Doctoral dissertation, University of Massachusetts, Amherst.
- Tavakolian, S. (1981). The conjoined-clause analysis of relative clauses. In S. Tavakolian (Ed.), *Language acquisition and linguistic theory* (pp. 167-187). Cambridge, MA: MIT Press.
- Thompson, S. (2002). Object complements and conversation: Towards a realistic account. *Studies in Language*, 26(1), 125-164.

- Townsend, D. & Bever, T. (2001). *Sentence comprehension. The integration of habits and rules*. Cambridge, Mass: MIT Press.
- Van Riemsdijk, H (1978). A Case study in syntactic markedness: The binding nature of prepositional phrases. *Studies in Generative Grammar*, 4, 1-313,
- Wanner, E. & Maratsos, M. (1978). An ATN approach to comprehension. In Morris Halle Joan Bresnan, and George A Miller (Eds.), *Linguistic theory and psychological reality*. (pp. 119-161) Cambridge, Mass: MIT Press.
- Whaley, L. (1997). *Introduction to typology*. California: SAGE Publications.
- White, L (2003). *Second language acquisition and universal grammar*. Cambridge: Cambridge University Press.
- Wolfe-Quintero, K. (1992). Learnability and the acquisition of extraction in relative clauses and wh-questions. *Studies in Second Language Acquisition*, 14, 39-70.
- Xiao-rong, Z., Yip, V. & Li-xia, L. (2008). Relative pronouns in the acquisition of English relative clauses by Chinese EFL learners. *Sino-US English Teaching*, 5, 1-4.
- Yabuki-Soh, N. (2007). Teaching relative clauses in Japanese: Exploring alternative types of instruction and the projection effect. *Studies in Second Language Acquisition*, 29(2), 219-252.
- Yamashita, J. (1994). An analysis of relative clauses in the Lancaster/IBM spoken English corpus. *English Studies*, 75 (1), 73-84.
- Yaowapat, N. & Prasithrathsint, A. (2006). Reduced relative clauses in Thai and Vietnamese. In Sidwell, P. & Tadmor, U. (Eds.), *the 16th meeting of the Southeast Asian Linguistics Society* (pp.143-159), Canberra, Pacific Linguistics.
- Yip, V. & Matthews, S. (1991). Relative complexity: Beyond avoidance, ERIC Document Reproduction Service No. 363 103.
- Yip, V. & Matthews, S. (2000). Syntactic transfer in a Cantonese-English bilingual child. *Bilingualism: Language and Cognition*, 3, 193-207.
- Yip, V. & Matthews, S. (2006). Assessing language dominance in bilingual acquisition: A case for mean length of utterance differentials. *Language Assessment Quarterly*, 3, 97-116.
- Yip, V. & Matthews, S. (2007). Relative clauses in Cantonese-English bilingual children: Typological challenges and processing motivations. *Studies in Second Language Acquisition*, 29(2), 277-300.

- Zhao, R. (1989). A discourse analysis of relative clauses in Chinese and English: An error in 'An error in error analysis'. *IDEAL*, 6, 105-17.
- Zobl, H. (1980). Developmental and transfer errors: Their common bases and possible differential effects on subsequent learning. *TESOL Quarterly*, 14(4), 469-82



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



APPENDICES

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Appendix 1: questionnaire

English Language Exposure Questionnaire

Guidance Information:

This questionnaire is composed of 2 parts: 1) personal information, and 2) English by exposure. The second part has 3 sections: A, B, and C. Please provide your answer by placing a cross (X) or writing down on the space given according to your true experience.

I. Personal Information

1. Faculty _____
2. Major _____
3. Age _____ years old
4. I was born in Thailand
 other countries (please specify) _____
5. The first language I learned to speak is
 Thai
 other languages (please specify)

6. The language I usually use with my family is 1. _____
2. _____
7. The language/languages I comfortably use is/are:
1) _____ 2) _____ 3) _____
8. I have studied English for _____ years.
9. I studied in an English/international program
 a Thai program at school

II. English Language Exposure

A. Please place a cross (X) on one of the boxes to indicate your true experience at school.

- 1.) On average, my grades in English courses at school were.

Grade	1	2	3	4

- 2.) On average, this was how long my English Thai teachers at school spoke English to me in English course within an hour. (60 minutes)

Min: 1hr.	0 min.	1-10 min.	11-20 min	21-30 min	31-40 min	41-50 min	51-60 min

B. Please thoroughly read every situation in this section and write down your answers according to your true experience. If any of these situations do not correspond with your experiences, you may omit them.

1. I have done some extra curricular activities/part-time jobs using English:

English tutor: _____ hours per week

tour guide : _____ hours per week

correspondent: _____ hours per week

public relations: _____ hours per week

operator : _____ hours per week

2.

a. I have been to some English-speaking countries _____ time(s):

1st time: country name: _____ from _____ to _____.

2nd time: country name: _____ from _____ to _____.

3rd time: country name: _____ from _____ to _____.

b. While staying in the country/countries reported above, I could place a cross (x) to indicate the average extent to which I think I used English.

No use of English

Exclusive use of English



0 %	1-20%	21-40 %	41-60 %	61-80 %	81-100 %

3. I have taken some English course(s) in an English speaking country _____ time(s).

1st time: country name: _____ from _____ to _____.

English study time : _____ hours per week.

2nd time: country name: _____ from _____ to _____.

English study time : _____ hours per week.

3rd time: country name: _____ from _____ to _____.

English study time : _____ hours per week.

4. I have taken intensive course(s) of English in Thailand _____time(s).

1st time: an intensive course of _____hours per week: from _____ to _____

2nd time: an intensive course of _____hours per week: from _____ to _____

3rd time: an intensive course of _____hours per week: from _____ to _____

C. Please place a cross (x) to indicate the extent to which you think you had or have opportunities to expose to English at school or now by estimating on average how many hours per week.

Situations	Time						
	Never	Less than 4 hours a week	4-8 hours a week	8-12 hours a week	12-16 hours a week	16-20 hours a week	More than 20 hours a week
1. I had English classes at school							
2. I studied English with a native English speaking teacher.							
3. I studied English with a foreign teacher (who is a non-native English speaker)							
4. I studied in an English lab.							
5. I presented reports/projects in English.							
6. I read English textbooks.							
7. I wrote papers/assignments in English							

8. I joined extra-curricular activities							
9. I attended extra English courses besides the school time.							
10. I listen to English songs.							
11. I watch English films/DVDs.							
12. I read English fiction/ cartoon books.							
13. I read English newspaper/magazines.							
14. I read information from English websites.							
15. I play computer games in which the information is in English.							
16. I watch English news/ documentaries.							
17. I practice speaking English or have English conversations with foreigners.							
18. I write letters/emails in English.							

Thank you very much for your kind cooperation.

Appendix 2: translation task

คำสั่ง จงแปลประโยคต่อไปนี้เป็นภาษาอังกฤษโดยเขียนคำแปลลงบนที่ว่างที่กำหนดให้

Directions: Translate the following sentences into English, writing your translation on the space provided.

1. เพลงที่เราฟังเมื่อคืนนี้ไพเราะมาก

คำแปลภาษาอังกฤษ The song to which we listened last night was very beautiful.

2. ฉันชอบเรียงความที่คุณเขียน

คำแปลภาษาอังกฤษ I like the essay which you wrote.

3. เด็กผู้หญิงคนที่ชนะการแข่งขันหัวเราะเสียงดัง

คำแปลภาษาอังกฤษ The girl who won the competition laughed loud.

4. ผู้หญิงคนที่ฉันให้พจนานุกรมขยันเรียนมาก

คำแปลภาษาอังกฤษ The woman to whom I gave a dictionary is very studious.

5. ฉันรู้จักผู้ชายคนที่จักรยานถูกขโมย

คำแปลภาษาอังกฤษ I know the man whose bicycle was stolen.

6. หนังสือสองเล่มที่เขาซื้อเมื่อวานมีราคาแพง

คำแปลภาษาอังกฤษ The two books which he bought yesterday were expensive.

7. เด็กผู้ชายคนที่ฉันซื้อกระเป๋าตังค์ให้ยิ้มกว้าง

คำแปลภาษาอังกฤษ The boy for whom I bought a wallet smiled broadly.

8. ฟุตบอลเป็นกีฬาเพียงอย่างเดียวที่ฉันสนใจ

คำแปลภาษาอังกฤษ Football is the only kind of sports in which I am interested.

9. นักเรียนคนที่นั่งข้างฉันกำลังนอนหลับ

คำแปลภาษาอังกฤษ The student who is sitting next to me is sleeping.

10. น้องสาวของฉันมีลูกชายซึ่งผมสีน้ำตาล

คำแปลภาษาอังกฤษ My sister has a son whose hair is brown.

Appendix 3: Sample lesson plans

Sample lesson plan 1

Grammar focus: Introduction to English relative clauses

Level: grade 9-10

Time: 60 minutes

Introduction

English relative clauses (ERCs) are postnominal modifiers, introduced by relative markers such as *who*, *which*, *that*, etc. EFL learners are required to know what they look like and what functions they perform so that they can effectively use them in their writing and speaking.

Step 1 (5 minutes): The teacher reviews the basic concept of adjectives, providing students with 5-6 pairs of an underlined adjective and a noun, e.g. *big houses*, *brave soldiers*, *kind teachers*, etc. Then the teacher asks students about the relationship between the adjective and the noun in each pair. They should identify the relationship in such a way that the preceding word (adjective) modifies the following word (noun).

Step 2 (5 minutes): The teacher shows colorful pictures, one by one, on the visualizer and also gives students a prompt under each picture, such as

John is a boy who_____.

They are cats which always_____.

Then the teacher randomly asks students to complete the blanks with a verb phrase appropriate for the pictures. The teacher writes all the students' answers on the whiteboard. After that, he/ she tells them that the underlined parts, referred to as relative or adjective clauses, function as adjectives and contain a finite verb agreeing with the antecedent.

Step 3 (5 minutes): After students are taught about the function of a RC as a noun-modifying clause, the teacher provides them with nine sample sentences containing *who*, *which*, and *that* functioning as RC subjects, in order that students can observe the basic use of these relative words. That is, from the data given, they should come up with some fundamental rules governing the use of these markers. For instance,

who is used with a human antecedent, *which* modifies a non-human antecedent, and *that* can be employed when the head is human or non-human. At this stage, the teacher is expected to limit the sample sentences to restrictive RCs in order not to confuse or put more burden on students. Moreover, the sentences should comprise only right-embedded RCs because this RC type is easier for beginner learners to process or understand (Kuno, 1974; Izumi, 2003).

After that, students are asked to work in pairs to figure out how and in what context each relative marker is used. The teacher then randomly asks some to present their findings or observations. He/ she should also ask for some peer comments. The teacher can help refine the rules they have and finally supply them with the final complete version of the usage of these relativizers.

Sample sentences: All the sentences should be jumbled over so it takes students time and effort to discover the use of each relative word.

I have a cat which is cute.

Sally introduced me to a man who wears a red shirt.

Mary bought a new pencil which looks expensive.

We are the school representatives who can make a decision on this matter.

Please give me the book that has my pictures.

They met a doctor who loves children.

My dog chased the thief that broke into my house last night.

Joe wanted the ice that was in the freezer.

My friend will lend me a magazine that includes lots of colorful images.

Step 4 (25 minutes): Now it is time for students to practice using the relative words they have learned. The teacher uses a gap-fill exercise which requires students to complete each blank with a proper relative marker. Again, all the RCs should be right-embedded, and the relative markers should be RC subjects.

Sample exercise

Daisy usually reads novels _____ are about romance.

Teachers like students _____ study hard.

It is advisable that the relative word *that* be not allowed in this exercise as it can be filled in every blank. This is to prevent them from taking advantage of *that* as a multi-purpose relative marker.

After finishing the task, students are asked to compare their answers with their classmates'. The teacher may randomly ask some students to provide their answers with the supporting reasons. The teacher finally gives them the correct answer and reason for each item.



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Sample lesson plan 2

Grammar focus: relative clause formation/ direct-object relatives

Level: grade 9-10

Time: 60 minutes

Introduction

In this lesson students will be familiarized with how to form RCs in English. A sentence-combination exercise will be used as the main task to make students clearly see how a complex sentence with a RC is transformed from two independent clauses. At the end of this lesson, the object relative will be introduced through corpus-based information.

Step 1 (5 minutes): Students at this point are supposed to know how RCs look like and what kind of function it has. The teacher may begin this lesson by reviewing the usage of *who*, *which*, and *that*, by relying on the table below:

Relative markers	When to use	examples
who	with human head	John is a man <i>who cares for other people</i> .
which	with non-human head	Tortoises are animals <i>which live in the sea</i> .
that	with human/ non-human head	John is a man <i>that cares for other people</i> . Tortoises are animals <i>that live in the sea</i> .

Step 2 (10 minutes): The teacher shows two simple sentences on the board:

- a. Mary needs a mobile phone.
- b. A mobile phone can take photographs.

Then he/ she asks students to identify the shared phrases *a mobile phone* in a. and b. Students are then asked to supply a suitable relative word to replace *a mobile phone*. In this case, *which* is the one. After they are able to select the right marker, the teacher shows how to join a. and b. with *which*, producing c. as a result.

- c. Mary needs a mobile phone *which can take photographs*.

The relative clause should be underlined or highlighted to make it more prominent. The teacher can even show the relationship between the RC and the head it modifies, *a mobile phone*.

Step 3 (20 minutes): Now the teacher shows five more pairs of sentences (one by one) and asks a volunteer from the class to combine each pair on the board. After each complex sentence containing a RC is produced, the teacher may ask another student to judge whether it is correct or not. If not, he/ she has to correct it. In order not to confuse students, the teacher should make it a point that it is b. that will be made a RC. Please note that of all the five pairs, two should be devoted to RCs in center embedding like:

- a. A dog is healthy.
- b. A dog barks very loudly.

Result c. A dog *which barks very loudly* is healthy.

Step 4 (25 minutes): Now the teacher asks students to match the main clauses in Column A. with the RCs in Column B. They are divided into two large groups. Each member of the first group has a card containing a main clause, while each from the other group has one with a RC. They have to find the other card from the other group that help them form a grammatical and meaningful sentence by walking around and ask others about the message in the card. They are not allowed to look at the message in others' cards. Nor can they show their own. Those who can find the right pair immediately sit down. The last pair of students will be considered the losers. However, the teacher also has to check the correctness of each pair sitting down. If the combination yields an incorrect result, they will be disqualified.

It is also important for the teacher, after the activity, to point out the sentences with object RCs on the prepared slides, indicating that *whom* and *who* can be interchangeably used in object RCs, whereas *which* has only one invariable form in such a position.

Sample exercise

- | | |
|--|--|
| 1. A television is an instrument (e.) | a. who lives in a small town in Thailand |
| 2. Mrs. Jones is a great teacher (d.) | b. which is used to cook food |
| 3. An oven is a tool (b.) | c. whom all the villagers feared |
| 4. She gave me a dictionary (f.) | d. who every student respects |
| 5. The police finally arrested the murderer (c.) | e. which the family members enjoy watching |
| 6. She is a fantastic singer (i.) | f. which I always use in my writing class |
| 7. She knows an old woman (a.) | g. that licks its long tail |
| 8. I have a pretty white cat (g.) | h. who cares for his adopted son |
| 9. Mr. Smith is a great father (h.) | i. whom the audience admires |
| 10. Durham Castle is a wonderful place (j.) | j. that we visited last year |



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Sample lesson plan 3

Grammar focus: object-of-preposition (OPREP) relatives

Level: grade 9-10

Time: 60 minutes

Introduction

This lesson introduces the object-of-preposition (OPREP) relative, which is one-step more difficult than the direct-object (DO) relative, to students. Pictures can be used to elicit this type of RCs from learners. It should also be emphasized that an omission of an obligatory preposition is ungrammatical in English.

Step 1 (10 minutes): the teacher reviews the major concept of how direct-object (DO) relatives can be formed, placing emphasis upon the relativizers that mark this RC type. He/ she may write sentences with DO RCs on the board to help remind students of the previous lesson.

The dog ***which / that*** he rescued from the street is healthy.

The woman ***who/ whom/ that*** he loves betrayed him.

The teacher should also suggest an omission of relativizers (\emptyset) as another possible alternative when the relative markers serve as RC objects.

Step 2 (15 minutes): Students are supposed to have a clear understanding of RC formation on direct-objects now, so it should be easy enough for them to learn OPREP. The teacher shows them a picture of a man sitting on a chair labeled B among other chairs. Then, the teacher asks which one is Table B and writes the prompt below on the board:

It is the table which _____

Students are expected to complete the blank with *a man is sitting on*. The teacher can try asking three or four students at random before supplying them with the correct answer. It is necessary for him/ her to highlight the importance of the

preposition *on*, which they tend to ignore since a preposition is not existent or obligatory in Thai RCs (Gass 1979; Panthumetha, 1982).

Afterwards he/she can elicit more RCs with some other pictures until students become familiar with this RC type.

Step 3 (10 minutes): Now the teacher gives students around 20 concordance lines, asking them to identify the preposition in each line. He/she is advised to include five examples of preposition pied-piping, where a preposition is placed right before a relative marker, such as

*This is the best method **on which** most people depend.*

The teacher asks them to find those lines with preposition pied-piping, which look different from the majority.

The teacher then shows a slide of these five sentences with preposition pied-piping, telling them that these sentences are equal in meaning to but more formal than the preposition stranding counterparts.

Step 4 (15 minutes): A sentence-combination task (10 items) is used to check whether students are able to constitute OPREP RCs. They are asked to come up with both versions of OPREP (preposition stranding and pied-piping).

Step 5 (10 minutes): Students are randomly asked to write the answers on the board before these will undergo peer-correction. Finally the teacher can give them some useful guidance or appropriate answers.

BIOGRAPHY

Mr. Supakorn Phoochaoroensil obtained his Bachelor of Arts (Hon.) in English from Faculty of Arts, Chulalongkorn University in 2000. Having taught English at Bangkok Christian College for one full year, he decided to further his study at the same institute, where he later graduated with a Master of Arts in English in 2003. Since then, he has been working as a full-time English lecturer at the Language Institute of Thammasat University. His extremely keen interest in English linguistics inspired him to study for his Ph.D. in the English as an International Language Interdisciplinary Program of the Graduate School at Chulalongkorn University in 2006 with a grant from the Office of the Commission on Higher Education under Ministry of Education of Thailand.

His doctoral dissertation concerns an investigation of Thai EFL learners' acquisition of English relative-clause constructions. He presented the major findings of his study at the 14th International Conference of Pan-Pacific Association of Applied Linguistics (PAAL 2009) in Kyoto, Japan in July 2009. His paper was published in Proceedings of PAAL 2009. Additionally, he also presented his research paper at the 7th International Conference of Asia TEFL in Bangkok, Thailand in August 2009, and had his paper published in Proceedings of Asia TEFL 2009. He also presented his research project based on his doctoral dissertation at the Re-orienting English: Paradigms in/of Crisis Conference at the National Taiwan University on December 5, 2009. Furthermore, Mr. Phoocharoensil presented the results of the Ph.D. study at the 3rd Hong Kong Association for Applied Linguistics (HAAL) Research Forum on December 12, 2009.