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A Quasi-Experimental Intervention Study: Effectiveness of Reading Strategy Based Instruction with Adolescents

Doctor of Philosophy (PhD)

April 2013

ÖZGE RAZI

School of Education

Trinity College, University of Dublin

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Özge Razı

Summary

The study was designed as a quasi-experimental intervention study. There were two intervention groups and two control groups, with 119 students in total. A set of strategies corresponding to reading factors presented in literature was incorporated into the Strategy Based Instruction. The intervention group students attended SBI for 80 minutes each week for 16 weeks. The aim of the SBI was teaching students to use reading strategies in clusters in order to increase their reading comprehension. This aim was achieved by employing a SBI with two sequential phases. The first phase was used to introduce new strategies in a step by step manner. During the second phase students practised using the reading strategies that they had learned in the first phase, and experienced combining strategies in clusters. Each lesson was conducted with a self-evaluation stage in which students discussed the usefulness of strategies.

Both quantitative and qualitative data was collected. Quantitative data was collected before and after the intervention; and qualitative data was collected after the intervention. Quantitative data collection involved a Reading Strategy Questionnaire, an Attitudes Questionnaire and a Reading Comprehension Test, all of which were administered as pre- and post-tests. The qualitative data consists of 12 Think-aloud Protocols and Metacognitive Awareness Interviews. Out of 12 students, 6 of them were from the intervention and the other 6 from the control groups. These 6 students were further divided into three achievement levels - as high, medium and low. This division was done by their classroom teachers. The groupings were then used to make comparisons in terms of use of strategy-cluster deployment, among the achievement levels and between the intervention and control groups.

Quantitative data offered statistical information. The pre-test results indicated that there was not any significant difference among the groups at the start of the research. The post-test analysis shows improvement in reading strategy use, attitudes and reading comprehension in the intervention groups. Qualitative data provided detailed information on metacognition and strategy-cluster deployment. Although improvement in students' metacognition was observed, it does not show rapid, significant improvement. The analysis of the strategy clusters was conducted with a criterion that was developed based upon of

the qualitative data in this study. According to the analysis, the strategy clusters that were deployed by the intervention group students were more sophisticated, i.e. complex combinations of reading strategies.

The contributions of this study are twofold. It addresses the need for experimental Language Learner Strategies research in school settings in Northern Cyprus. Although there is abundant research on adolescents in L1 and L2 settings globally, research on school pupils is limited. This study also answers the call for research on strategy-cluster deployment in LLS research. Although there is a strong consensus among leading LLS researchers that effective learners use strategy-clustering, there is a lack of research in the area. Analysis of strategy clusters ensures a better understanding of student differences in the way strategies are orchestrated. Such understanding may introduce new perspectives on enhancing learning.

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And thanks to Dr Brenda Johnston and Professor Rosamond Mitchell who provided me with valuable guidance at the start of my project.

Dedication

I would like to dedicate this thesis to my husband, Buluç Çelik, who held my hand throughout this PhD journey and reassured me. Also, I am grateful to my parents for all their support and encouragement.

Abbreviations

LLS Language Learner Strategies

MFL Modern Foreign Languages

SBI Strategy Based Instruction*

SLA Second Language Acquisition

TRNC Turkish Republic of Northern Cyprus

*SBI and SI are used interchangeably.

Transcription Conventions

... Unclear utterance

( ) Explanation or clarification

/ / Students' read-aloud*

*Includes phonetic transcription; shows when students read aloud.

Table of Contents

Summary ii

Acknowledgement iv

Dedication v

Abbreviations vi

Transcription Conventions vi

Table of Contents vii

List of Tables xi

List of Figures xiii

CHAPTER I – INTRODUCTION 1

1.1 Setting the Scene 1

1.2 Overview of the Present Study 2

1.3 Structure of this Thesis 5

CHAPTER II – CONTEXT 7

2.1 Introduction 7

2.2 Historical Developments: The Political and Social Context 7

2.3 Historical Developments: The Educational Context 8

2.4 The Current Educational Context 11

2.5 The Secondary School Curriculum 12

2.6 The Present Study: Participants and the Setting 15

2.7 Conclusion 16

CHAPTER III - LITERATURE REVIEW 18

3.1 Introduction 18

3.2 Section I – Reading 19

3.2.1 Definitions and Processes of Reading 19

3.2.2 Cognitive versus Social View of Reading 23

3.2.3 Models of Reading 25

3.2.4 Conclusion 29

3.3 Section II - Language Learner Strategies Research 30

3.3.1 Definitions of Language Learner Strategies 30

3.3.2 Identification of Language Learner Strategies 35

3.3.3 Classification of Language Learner Strategies 37
3.3.4 Strategy-Cluster Deployment 40
3.3.5 Strategy Based Instruction 42
3.3.6 Conclusion 48
3.4 Section III - Theoretical Background 48
3.4.1 Conclusion 59
3.5 Section IV - Empirical Studies 59
3.5.1 Empirical studies with adults 61
3.5.2 Empirical studies with adolescents 68
3.5.3 Conclusion 77
3.6 Chapter Conclusion 79
CHAPTER IV – METHODOLOGY 81
4.1 Introduction 81
4.2 Section I - Theoretical Frameworks 82
4.2.1 Theoretical Framework of LLS 82
4.2.2 Theoretical Framework of Reading 85
4.2.3 Conclusion 92
4.3 Section II – The Methodological Approach 93
4.3.1 The Design of the Study 95
4.3.2 Ways of obtaining information in LLS Research 105
4.3.3 Quantitative Data Collection instruments 108
4.3.3.1 Questionnaires 108
4.3.3.2 The Reading Comprehension Test 113
4.3.3.3 The Quantitative Data Bank 116
4.3.4 Qualitative Data Collection instruments 117
4.3.4.1 Think-aloud Protocols 118
4.3.4.2 Interviews 125
4.3.4.3 The Qualitative Data Bank 128
4.3.5 The Cycle of the Strategy Based Instruction 129
4.3.6 Data collection timetable 133
4.3.7 Lesson Plans and Teaching Materials 135
4.3.8 Conclusion 139

4.4 Chapter Conclusion 139
CHAPTER V – ANALYSIS AND FINDINGS 141
5.1 Introduction 141
5.2 The Individual and Socio-cultural Characteristics of the Groups 142
5.2.1 Individual Differences 143
5.2.2 Socio-economic Differences 145
5.3 Section I 148
5.3.1 Quantitative Data Bank - Analysis and Findings 148
5.3.2 The Reading Comprehension Test 149
5.3.3 The Reading Strategy Questionnaire 152
5.3.4 Attitudinal Differences 156
5.3.5 Summary of Findings and Conclusions 159
5.4 Section II 163
5.4.1 Metacognitive Awareness Interview 163
5.4.2 High Level students 164
5.4.3 Medium Level Students 167
5.4.4 Low Level Students 169
5.4.5 Summary of the Metacognitive Awareness Interview 171
5.5 Section III 173
5.5.1 Analysis and Findings: Think-Aloud Protocols 173
5.5.2 Analysis 175
5.5.2.1 Identification of Reading Strategies and Co-coding 175
5.5.2.2 Quantitative Analysis 183
5.5.2.3 Analysis of Strategy Clusters 186
5.5.3 Quantitative Findings 195
5.5.4 Findings: Student Profiles 199
5.5.4.1 Profile 1 – Claire: Intervention group successful student 200
5.5.4.2 Profile 2 – Kristina: Control group successful student 206
5.5.4.3 Summary of Profiles 1 and 2 210
5.5.4.4 Profile 3 – Mary: Intervention group medium level student 214
5.5.4.5 Profile 4 – Martin: Control group medium level student 221
5.5.4.6 Summary of Profiles 3 and 4 223

5.5.4.7 Profile 5 – Allen: Intervention group low level student 228
5.5.4.8 Profile 6 – Alfred: Control group low level student 230
5.5.4.9 Summary of Profiles 5 and 6 232
5.6 Chapter Conclusions 235
CHAPTER VI – DISCUSSION 237
6.1 Introduction 237
6.2 The Impact of the SBI on Reading Comprehension 237
6.3 Strategy-cluster Deployment and Metacognitive Awareness 247
6.4 Student Attitudes towards Reading 257
6.5 Summary 259
CHAPTER VII – CONCLUSION 262
7.1 Contribution to Knowledge 263
7.2 Implications 264
7.3 Limitations 266
7.4 Suggestions for Further Research 267
REFERENCES 269
Appendix I – Report of the Pilot Study 294
Appendix II – The formal permission letter 316
Appendix III – Ethical Approval 318
Appendix IV – A sample lesson plan 320
Appendix V – Sample teaching materials 322
Appendix VI – The Dutch Poem 326
Appendix VII – Reading Strategy Questionnaire (Pilot 1) 327
Appendix VIII – Reading Strategy Questionnaire (Pilot 2) 330
Appendix IX – Reading Strategy Questionnaire (Final Version - English) 333
Appendix X – Reading Strategy Questionnaire (Final Version - Turkish) 336
Appendix XI – Reading Comprehension Test (Cambridge ESOL Flyers) 339
Appendix XII – Think-aloud Protocols: Reading Text 351
Appendix XII – Transcriptions of Think-aloud Protocols & Motivation and Metacognitive Awareness Interview 352
Appendix XIII – Think-aloud Protocols: Analysis 395
Appendix XIV – Original Theoritical Frameworks of Act-R 397

List of Tables

Table 1: Models for Language Learning Strategy Instruction (from Chamot, 2004)..... 46
Table 2: Reading strategies versus theoretical distribution of reading factors..... 87
Table 3: Research Questions and Methods of Data Collection..... 104
Table 4: The quantitative data bank..... 116
Table 5: Student and data information..... 128
Table 6: The qualitative data bank..... 129
Table 7: The cycle of strategy based instruction..... 130
Table 8: Data Collection Timetable..... 135
Table 9: Group comparison on help students received outside classroom..... 144
Table 10: The gender distribution..... 145
Table 11: Socio-economic backgrounds..... 146
Table 12: Reading comprehension pre- and post-test comparisons..... 150
Table 13: Descriptive statistics and Cohen's d on the reading comprehension test..... 151
Table 14: Pre-test results: Comparison of intervention and control groups..... 154
Table 15: Comparison of intervention and control groups on the basis of post-test results..... 155
Table 16: Descriptive statistics and Cohen's d on the reading strategies questionnaire..... 156
Table 17: Statistical analysis on students' attitudes on reading in English..... 158
Table 18: The metacognitive awareness interview: high level students..... 165
Table 19: The metacognitive awareness interview: medium level students..... 167
Table 20: The metacognitive awareness interview: low level students..... 169
Table 21: Participants of think-aloud protocols according to the achievement levels and groups..... 173
Table 22: Students whose profiles are presented later in this chapter..... 174
Table 23: Strategy deployment from Mary's protocol (extract 1)..... 177
Table 24: Strategy deployment from Mary's protocol (extract 2)..... 177
Table 25: Strategy deployment from Iona's protocol (extract 3)..... 177
Table 26: Strategy deployment from Claire's protocol (extract 4)..... 178
Table 27: Illustration of strategy lists for the purpose of comparison..... 180
Table 28: An example of a chunk from Iona's think-aloud protocol (extract 5)..... 184

Table 29: Strategy deployment from Iona's protocol (extract 6) 185
Table 30: Strategy deployment from Claire's protocol (extract 7) 186
Table 31: Strategy deployment from Claire's protocol (extract 8) 187
Table 32: Strategy deployment from Mary's protocol (extract 9) 187
Table 33: Strategy deployment from Mary's protocol (extract 10) 188
Table 34: Genre characteristics 189
Table 35: Group cluster characteristics 191
Table 36: Terms indicating the quality of strategy clusters 191
Table 37: Strategy deployment from Claire's protocol (extract 11) 192
Table 38: Strategy deployment from Claire's protocol (extract 12) 194
Table 39: Strategy deployment from Claire's protocol (extract 13) 194
Table 40: Inter-group comparisons in terms of duration of protocols, strategy-chains and strategy-clusters 196
Table 41: Strategy-cluster types 198
Table 42: Claire's think-aloud protocol (chunk 3) 202
Table 43: Claire's think-aloud protocol (chunk 4) 203
Table 44: Claire's think-aloud protocol (chunk 5) 204
Table 45: Claire's think-aloud protocol (chunk 6) 205
Table 46: Kristina's think-aloud protocol (chunk 4) 208
Table 47: Kristina's think-aloud protocol (chunk 7) 209
Table 48: Comparison of Claire's and Kristina's think-aloud protocols 210
Table 49: Quantitative summary of Claire's selected strategy clusters 211
Table 50: Quantitative summary of Kristina's selected strategy clusters 212
Table 51: Mary's think-aloud protocol (chunk 4) 216
Table 52: Mary's think-aloud protocol (chunk 5) 217
Table 53: Mary's think-aloud protocol (chunk 7) 219
Table 54: Mary's think-aloud protocol (chunk 8) 220
Table 55: Mary's think-aloud protocol (chunk 9) 221
Table 56: Martin's think-aloud protocol (chunk 3) 222
Table 57: Comparison of Mary's and Martin's think-aloud protocols 224
Table 58: Quantitative summary of Mary's selected strategy clusters 225
Table 59: Quantitative summary of Martin's strategy clusters 226
Table 60: Allen's think-aloud protocol (chunk 1) 229
Table 61: Allen's think-aloud protocol (chunk 4) 230

Table 62: Alfred's think-aloud protocol (chunk 4) 231
Table 63: Comparison of Allen's and Alfred's think-aloud protocols 232
Table 64: Quantitative summary of Allen's selected strategy clusters 233
Table 65: Quantitative summary of Alfred's selected strategy clusters 234

List of Figures

Figure 1: Theoretical Framework of LLS 83
Figure 2: Illustration of the categories for the intervention group 176

CHAPTER I – INTRODUCTION

1.1 Setting the Scene

I became interested in Language Learner Strategy (LLS) research when I was doing my masters in TEFL and Applied Linguistics at Middlesex University, in London. This research field came to my attention as a significant part of the Second Language Acquisition (SLA) research. I completed my MA thesis on the writing strategies of university students. My increased interest in pursuing research in LLS led me to do a PhD in this research area. While I was working as part of the lecturing team for the Department of English Language Teaching at Cyprus International University in Northern Cyprus, I realised that the English Curriculum for Lower Secondary School (ECLSS) was updated in 2005 according to the Common European Framework of Reference (CEFR, 2001). The objectives of the CEFR were summarised and presented as a new set of principles of the English Curriculum. Two of the new principles in the English Curriculum are: 1) "to meet the needs of the multilingual and multicultural Europe by appreciably developing the ability of Europeans to communicate with each other across linguistic and cultural boundaries, which requires a sustained, lifelong effort to be encouraged" (ECLSS, 2005, p. 5); and 2) "[l]ifelong learning, based on the valuable skill of 'learning how to learn', is also cultivated" (ECLSS, 2005, p. 7). These two quotations imply that central to these principles could not only be learning the English language but learning how to learn this language. In other words, there had to be a shift from teaching English to students to teaching learners how to learn the language (see Harris, 1997). Learning how to learn a language is a skill which helps learners to continue learning without the supervision of a teacher in their future lives. However, this requires an increase of consciousness, and as Cohen (2011) stated "without strategies, conscious learning cannot take place" (p. 29). Therefore, Language Learner Strategies are crucial parts of the learning how to learn agenda. SBI has the power to eventually let learners be independent learners and take control of what they are going to learn, when and how they are going to learn it. According to this notion, Strategy Based Instruction (SBI) needs to be a part of everyday classes at schools. In order to investigate the practice of English language teaching at state secondary schools, and to shape the present study, a pilot study in a state secondary school was

conducted. Depending on the outcomes of the pilot study and the latest research trends in LLS, the research questions were developed. LLS is a huge research field and focusing on all four skill areas was beyond the scope of this thesis. The present study is designed as a SBI programme focusing on reading strategies. The research questions are as follows:

1) Can SBI bring about change in reading strategy deployment and reading comprehension of year 7 EFL secondary school students?
    a. Is there any difference in reading comprehension ability between the groups in the pre- and post-tests?
    b. What is the difference between pre- and post-tests in terms of frequency of strategy use of the intervention and control groups?
    c. What is the difference between the intervention and control groups in terms of frequency and the way strategy-clusters are used?
2) Does the overall programme have any impact on the factors that influence success?
    a. Has the SBI intervention had any impact on students' attitudes to reading in English?
    b. Is metacognitive awareness of intervention group students different than the control group students after the SBI?

The way these research questions relate to the pilot study is mentioned in the report of the pilot study (see Appendix I) and their connection to the current research trends of LLS research is presented in the Literature Review Chapter (see section 3.5.3) and the Methodology Chapter (see section 4.3). For this study ethical approval by the TCD (see Appendix III) and formal permission by the Ministry of Education, TRNC (see Appendix II) were granted.

The next section gives an overview of this study.

1.2 Overview of the Present Study

This section offers a general overview of the present study, the research questions and the contribution of this study.

Language learner strategies (LLS) research began with an interest in strategies of good language learners. Joan Rubin's work in 1975 called 'What the "Good Language Learner" Can Teach Us' announced the birth of language learner strategy research. Issues such as definition, identification and classification have been problematic since the beginning of this research field. Despite the problematic nature of learner strategies, the interest in the strategies of successful learners brought the idea of teaching these strategies to less successful learners. The arrival of LLS research formed part of a crucial shift in thinking about the processes of language learning. Learner strategies can be used by learners to deal with the challenges of foreign language learning. They are used to solve problems which might be found in discourse, social context or inside the head of the learner in the process of learning a second language (Grenfell and Macaro, 2007, p. 10). The most recent research interest in this research area is investigating strategy clusters while learners are engaged in a task or a reading text. Such an investigation could tell us how learners orchestrate strategies, as strategy clusters, and how they may be benefiting from this orchestration. Oxford and Cohen (1992, p.1) talked about the potential of strategies and stated that strategies had the power to "increase attention essential for learning a language, enhance rehearsal that allows linkages to be strongly forged, improve the encoding and integration of language material, and increase retrieval of information when needed for use". As part of this definition, they also stated that strategies can be more effective when they are used in combinations. According to Grenfell and Macaro (2007, p. 23) there are "two dimensions to the way that claims about LLS were being modified. The first is a move away from a general profile of the good language learner to an individual's strategic reaction to a contextualised tasks or series of tasks. The second is a shift away from an interest in the quantity of strategic use to an interest in the quality of strategic use". "[S]trategy clusters are complex and involve adding and shedding strategies often from moment to moment, in line with on-going monitoring and evaluation" (Cohen, 2011, p. 27). For example, a good reader would always use his/her background knowledge, make inferences and monitor the reading process.

In this study two theoretical frameworks are used to understand 1) the nature of strategy acquisition and deployment, and 2) the reading process and how reading strategies could be related to these reading processes. The Act-R theory is used to explain learning and deployment of LLS. Although this theory best explains learner strategies, some characteristics of the Information Processing Model of Cognitive Theory are considered to

be complementary. A theoretical framework was also needed for reading processes. The reading strategies that were involved in the SBI were selected based on Bernhardt's (1998) theoretical distribution of reading factors that explains how text-driven and conceptually-driven factors influence reading. Based on these factors, the reading strategies were divided into two groups as bottom-level strategies to correspond to the text-driven factors and top-level strategies to correspond to the conceptually-driven factors. These two theoretical frameworks shaped the SBI programme and the choice of the data collection instruments.

In this project, a Strategy Based Instruction (SBI) programme was adapted from Cohen (1998), Chamot (2005), Chamot et al. (1999), and Grenfell and Harris (1999). This SBI programme consisted of two phases. The first phase was followed during the first half of the intervention. The aim of this first phase was modelling new strategies, letting students practise them under the teacher's guidance and encouraging students to evaluate them. The second phase was followed during the second half of the intervention. New strategies were not presented during this second phase, rather the students were provided with more opportunities to practise strategies in clusters with gradually withdrawn scaffolding. The study is designed as a mixed methods quasi-experimental intervention study. Quantitative and qualitative data collection methods were used together to collect both statistical information as well as descriptive data. The quantitative instruments were administered as pre- and post-tests and the qualitative instruments were used at the end of the intervention.

The contribution of the study will be twofold. Firstly, it presents a SBI programme in a school setting in the Turkish Cypriot context. By doing so, it addresses the gap between what the English Curriculum suggests and how foreign language instruction is carried out at state secondary schools. Secondly, it provides evidence on the way strategy-clusters are used by students who attend SBI and by those who do not. The outcomes of this analysis provide insights into how strategy-clusters are orchestrated to be maximally effective for reading comprehension and the way strategy-clusters are processed by students.

1.3 Structure of this Thesis

In this section, the structure of the thesis is outlined and each chapter is summarised in a paragraph. There are seven chapters in this thesis that are as follows:

1) Introduction
2) Context
3) Literature Review
4) Methodology
5) Analysis and Findings
6) Discussion
7) Conclusion

Having provided a general introduction to my research in Chapter one, I move onto describe the context where the research took place in Chapter two. A detailed historical account of the educational system under the influence of political and social contexts and the status of English in this climate are presented. Following on from this historical background, the current educational context and a review of the English Curriculum are introduced. Finally, the participants and the setting of the present study are explained.

Chapter three is the literature review and it is divided into four sections. This project is on reading strategies, thus a review of literature on both reading and Language Learner Strategies (LLS) was needed. The first section deals with definitions, processes and models of reading. Understanding second language reading provides insights about the challenges learners face when learning to use reading strategies as they are learning the target language at the same time. The second section introduces the Language Learner Strategies research and compares Strategy Based Instruction (SBI) cycles in the literature. Section three provides an account for two major cognitive theories. The last section is on the empirical studies of LLS that were designed as experimental and quasi-experimental intervention studies. These studies directed the present project; the gaps observed in these studies were reflected in the research questions of the present study.

Chapter four is divided into two sections. The first section presents two theoretical frameworks: 1) theoretical framework of LLS and 2) theoretical framework of reading. In

this section the theoretical discussions, which are presented in the first and the third sections of chapter three, are applied to the present study. Thus, they explain how reading strategies are acquired and how they are deployed; and theoretically justify the selection of reading strategies in the SBI cycle. Having clarified how the previous theoretical research guided the present study, the methodological approach to the present study is discussed.

Chapter five is divided into three sections. It offers a detailed account on the analysis of the data and the findings. In each section, first the analysis of the data is explained and, then, the outcomes are presented. The first section is on the quantitative data and the second is on metacognitive awareness. The last section is on the Think-aloud Protocols. The outcomes of the Think-aloud Protocols are interpreted both quantitatively and qualitatively. So, the procedures of both analyses are explained separately. In order to present the qualitative findings in a comprehensive way, six student profiles were used: three intervention group and three control group students. The student profiles involve information about each student's motivation, metacognitive awareness, and strategy-cluster deployment.

Chapter six presents a discussion on the outcomes of the present study and it involves a comparative discussion on the unresolved significant issues of the LLS field. The chapter is organised in a way to present a discussion of 1) the SBI in conjunction with the indications of the Reading Comprehension; 2) the strategy and strategy-cluster deployment and metacognitive awareness; and 3) the students attitudes towards reading.

Chapter seven is the final chapter of this thesis. It offers a concluding remark and presents implications and limitations of the study together with suggestions for further research.

CHAPTER II – CONTEXT

2.1 Introduction

This chapter presents a detailed overview of the context of this study. It familiarizes the reader with the context of the study and shows why English is the most popular foreign language that is taught on the island.

This overview involves a brief account of the political and social conflicts on the island. These are linked to the changes in the educational context. These general introductions are used to express the status of English on the island; both historically and in the present context. Towards the end some notions from the English Secondary School Curriculum are offered. Finally, the participants and the setting of the present study are explained.

2.2 Historical Developments: The Political and Social Context

In this section, the historical development of key political and social events that influenced Turkish Cypriots is stated briefly. These events impacted on the quality of education received by this nation.

Cyprus was a part of the Ottoman Empire between 1571 and 1878. In 1878 the island was rented to the UK. In 1914 the UK declared Cyprus as its colony and ceased paying the rent. This brought significant change to the social life. From this year onwards Cypriots were granted British passports. English speaking labour was highly in demand at that time. Although a Greek Revolt broke out against the British rule in 1931, it did not shake the English authority on the island. On the contrary, it resulted in more strictly controlled regulation. The status of Cyprus as a colony was ended in 1960. The Republic of Cyprus was announced as an independent country and English language did not lose its significant status even after liberation. There were two nations, Greek and Turkish, who were living on the island and English was the main language of communication. In 1963 a Greek movement called EOKA was started. The aim of this movement was to unite the island to

Greece. The Turkish Cypriots were against this unification. Between 1963 and 1974 Turkish and Greek Cypriots had irregular battles both on civil and military levels. In 1974, Turkish Cypriots, with the help of Turkey who was one of the guarantor countries, started a liberation movement. Eventually, after 11 years, the island was divided into two. Turkish Cypriots first, formed a Turkish Federated State of Cyprus, and then established the Turkish Republic of Northern Cyprus (TRNC) in 1983 in the north part of the island (Yücel, 1997). However, carrying on education in schools during those 11 years was an enormous challenge.

In the next section, the educational situation within all these conflicts of political and social context is accounted for.

2.3 Historical Developments: The Educational Context

This section presents historical developments of the educational context within the political and social situation explained above.

Education in Cyprus during the Ottoman Empire was mostly religious. In 1573 six primary schools, named Sibyan, were opened. The total number of primary schools between 1800 and 1878 was 51. These schools were at various cities like Larnaca, Famagusta, Limassol, Paphos and Kyrenia. The first form of secondary schools that we know today was started in 1838 by dividing the primary education into two phases; and by increasing the two year education to four years. This second phase of primary education was named as "Rüştiye" (Çelebi, 2008, p. 71). When Cyprus was rented to the UK in 1878, there were 65 primary schools first level (Ipdiadi); one primary school second level (Rüştiye); and 7 secondary schools (Medrese). Medrese was higher than Rustiye, and the education provided was more similar to the secondary education that we know today. Graduates of Medrese were also licensed as teachers. So, it also functioned as a higher education establishment. The Rustiye School was a boys' school which followed the curriculum and the syllabus of the schools in Turkey and prepared the students for the universities in Istanbul.

Starting with British rule, two school system committees were formed: one for the Turkish and one for the Greek. British control allowed autonomy in education for the Turkish and Greek ethnic groups. The Greek Orthodox Church retained control over its schools and the Turks followed a Turkish curriculum. However, the British government had authority in Turkish schools. In 1896, this authority influenced the foundation of "Idadi" which is similar to the high schools that we know today. According to Çağlar and Reis (2007, p. 204) this school type was the first which involved lessons on English language. Behcet (1969), in his report on the 'history of Cyprus Turkish Education: 1571-1968', stated that English was first taught in 1902 together with Arabic, Persian and Greek in this school and official documents state that English language teaching was not compulsory. This account was confirmed by Weir (1952).

A second secondary school was opened in 1902 for the education of Turkish girls. Before this school was opened, girls did not have any opportunity to continue their education in a secondary school. Although they were allowed to attend primary school with boys, they were not given access to secondary school. English language teaching was a key element of its curriculum, together with all the subjects taught in the boys' Idadi School. This Girls' secondary school was named Victoria School and it was managed by a committee of the leading members of the Muslim Community. Since it carried the late Queen Victoria's name and because English was the main focus, the Department of Education gave it a certain amount of financial support. The graduates of both the boys' and the girls' secondary schools were entitled to be primary school teachers (Tilki, 1997).

By the beginning of the 1900s, private English medium schools started to emerge on the Island. The first one was The English School, Nicosia. It was first, the school was founded as a boys' school and served for the children of British Servicemen. Then, both Turkish and Greek students from leading families began to attend it. The school still exists as a coeducational school and the only school on the island today that has a student population of Greek, English and Turkish. The second English medium school was the American Academy, for boys and girls. It was founded in Larnaca, in 1908. Both of these schools became popular and prestigious English medium schools. By the early 1920s, many people in Cyprus, even those living in villages, could speak and even read and write the English language (Colonial Reports-Annual / CYPRUS, Reports for 1924).

The British wanted a unified system of education by 1880s. However, this was not possible until the passage of the law of 1933 (Weir, 1952). The Greek Revolt in 1931 resulted in the removal of the educational autonomy from the two communities. Up to 1931, there had not been any significant change in the curriculum, except the inclusion of English language. After 1931, the British carried out regular inspections at schools in order to prevent any anti-British element in the teaching materials. The British passed a rule, in 1932, that primary school teachers were required to know English. The British also passed an Education law in 1933, according to this law English language had to be added as a compulsory subject to the primary school curriculum. After 1933 the education system changed to a combination of the Turkish and English education systems. Likewise, the government took control of secondary and high schools. Secondary schools which agreed to follow the new law that came into force in 1933 received grants from the Government. In 1937, the Nicosia Boys' high school was divided into two: High School Section (Turkish medium) and College Section (English medium); the college section is also referred to as the English immersion school. Those students who attended the high school section were expected to pass the 'distinction' examination and those students who attended the College section were prepared for universities in England. This arrangement is still applied in Turkish Cypriot education in both secondary and high schools.

When the Republic of Cyprus was established, the Turkish Cypriot community had had 217 primary schools, 7 secondary schools, 5 high schools, 3 vocational schools and one teachers' college. The constitution of the Republic of Cyprus states that the Turkish Cypriot Community has the right to make decisions and organise educational and cultural matters (Çelebi, 2008: 73). So, school teaching programmes were organised to be in full conformity with the educational system in Turkey.

At independence, English language became the official language of government administration. It was the language of communication between the two communities, because neither would accept the other's language as the single official language of the Island. Therefore, all the official documents in Government offices continued to be issued in English. Parliamentary meetings were held in English and records were kept in English. All governmental posts required a good command of English, even private enterprise favoured staff with some knowledge of English. People attended weekly English classes to be able to find a good job. The British government appointed some native speaker teachers

to teach English in High Schools in major towns. Despite the increased motivation to learn English, exposure to the language lessened outside of the classroom, because the majority of the British personnel and their families left the Island after liberation.

Starting from 21 December 1963, due to the conflicts between two communities, Turkish Cypriots had to be transported to more secure places. During this time, people became more concerned about their lives and properties than education. This huge wave of immigration within the island for 11 years pushed the educational context into crises. Schools could not be run regularly and some students had to quit education.

The political and social situation was briefly explained to form a background for the educational context. The historical account on the educational context above shows the status of English in Cyprus for the past 134 years. The next section is on the present situation of the educational context.

2.4 The Current Educational Context

In this section, the present educational context in TRNC (Turkish Republic of Northern Cyprus) is presented. As described above, the Turkish Cypriot and Greek Cypriot education systems have always been kept separate. This partition in education continues to this date and has become stronger.

In TRNC, Turkish is the only official language. English is still an important language; it has been taught as a foreign language. In the Turkish Cypriot educational system, learners go through pre-school, primary and secondary schools which are parts of a compulsory basic education. They complete basic compulsory education at 14 or 15. Then, those who wish to continue their education attend high schools. There are mainly three types of schools in TRNC. The first is the State Secondary and High Schools, where the medium of instruction is Turkish. English in these schools is taught as a foreign language for seven 40-minute periods a week as a compulsory course. The second is the Immersion Secondary and High Schools where the medium of instruction is English. There are both public and private immersion schools. These schools are popular among parents due to the language

of instruction. The third is the Vocational and Technical Secondary Schools, which prepare students as 'technicians'. English in these vocational and technical secondary schools is taught to a limited extent. All schools in TRNC are co-educational schools; there are not any all-girls or all-boys school.

As noted above, primary education is compulsory and it is free in state schools. Children attend primary schools at the age of 6/7 and graduate at 10/11. Children start learning English at the 3rd grade until the 5th. Lessons are five hours a week, and are taught at the basic, beginner and elementary levels. Books used for the primary education change after every couple of years. The English language curriculum is written, and the books to be used are selected by the Ministry of Education. Teachers at the primary schools do not play any active role in the decision process. During the 5th grade of the primary school, students have to decide whether they wish to continue their education in a State Secondary School or in a State Immersion School. Both State Secondary Schools and State Immersion Schools are for 3 years; students attend these schools between the ages of 11/12 and 13/14. Once admitted to a type of secondary schools, students continue in the same type of high school (i.e., immersion or regular). High schools are for 4 years and students attend these schools between the ages of 14/15 and 17/18.

The next section presents an overview of the English curriculum.

2.5 The Secondary School Curriculum

This section concerns the secondary school curriculum, which has been revised in 2005. The secondary school curriculum which is reviewed here is named as 'English Curriculum for Lower Secondary Schools'; it will be referred to as ECLSS. The curriculum is revised in line with the 'Common European Framework of Reference for Languages' (CEFR, 2001). It is stated in the ECLSS that: "[t]his curriculum is in full conformity with the Common European Framework" (ECLSS, 2005, p. 8). Therefore, there are terms such as 'learning to learn', and 'metacognitive skills' adopted from the Framework. The way strategies are presented in the ECLSS resembles the way strategies are introduced in the MFL curriculum of KS2 and KS3 in the UK; in both curricula "the 'strategy' rubric has

been interpreted as supplying a range of 'study skills' to help the learner to learn" (Grenfell & Erler, 2007, p. 6; also see Grenfell, 2005). Therefore, it seems that the ideas in terms of learner strategies in the ECLSS (2005) may have been borrowed from other contexts. Reflecting the requirements of the 'learning to learn' agenda as 'study skills' may suggest that it is superficially implemented in schools.

Having adopted these terms from CEFR (2001) does not necessarily mean that they are implemented at the Secondary Schools. This issue was investigated during the pilot study that was conducted in a Turkish Cypriot Secondary School in April 2009. ECLSS "invites all interested parties to adopt a new perspective which moves away from being 'teacher-centred' to being 'learner-centred'" (ECLSS, 2005, p. 3). The learners are encouraged to move towards 'self-knowledge', 'self-direction' and to take responsibility for their learning. The objective of education being learner-centred is making students autonomous. Autonomous language learners have control of their own learning. Making students autonomous learners requires more than teaching language. In fact, it is stated in the English Curriculum (ECLSS, 2005, p. 8) that: "English language teaching at the secondary level aspires to promote aims that do not focus on language learning only. It assigns itself that more ambitious role of encompassing aims that are global and transversal in nature.". The issue is addressed in the English Curriculum in a similar way to the CEFR. The question to rise from this review is: how much and how well is it done in practice, in the classrooms?

In the curriculum, it is also stated that:

> The curriculum is learner-centred…by accustoming pupils to assuming responsibility for their own learning and development that they will be helped to grow as independent 'thinkers' and 'doers'. In such a curriculum, the role of appropriate tasks and learning activities is crucial because it is in this way that flexibility, creativity, and autonomy can be promoted. Lifelong learning, based on the valuable skill of 'learning how to learn', is also added among the objectives of the curriculum. (ECLSS, 2005, p. 6-7)

The importance of teaching materials and their role in developing learners are clearly presented. In relation to the importance of the materials, it is stated that: "[t]he teacher becomes a materials developer, a resource manager and promotes learning to learn" (ECLSS, 2005, p. 8). The questions to ask are: do teachers develop their own teaching materials? How dependent are they on the textbooks? And, how far do the textbooks encourage students to be independent?

One of the transversal aims of the English curriculum is, "to promote development of metacognitive skills among learners" (ECLSS, 2005, p. 10). Skills and strategies are used interchangeably in the LLS literature. Thus, metacognitive skills are the same as metacognitive strategies, such as monitoring. Metacognitive strategies are important, but they are difficult to learn. So, it is equally difficult to teach them. The question is then: what do teachers think about teaching metacognitive strategies in their classrooms?

Two of the language aims are, "to make learners aware of language learning strategies" and "to encourage learners to develop a positive attitude towards language learning in general and the learning of English in particular" (ECLSS, 2005). Language learning strategies and language learner strategies are used interchangeably in the literature. Thus, language learning strategies referred in the ECLSS is the same as language learner strategies referred in this thesis. Increasing awareness of language learner strategies requires planning tailored to the purpose in the teaching approach. The question is, then, how much do teachers know, and how much do they do for this purpose?

The following questions were developed from the review of the English Curriculum (ECLSS) and they were used as guidelines for the pilot study:

1. What do teachers think about the concept of 'learning to learn', language learner strategies and their role in promoting learner autonomy?
2. Do teachers facilitate learning to learn? If so, how?
3. To what extent are learners aware of language learner strategies in general?
4. Do learners use language learner strategies in English language lessons?
5. Do teachers develop their own teaching materials? How dependent are they on textbooks? And how do they encourage students to be independent?

The above research questions were used as guidelines for the pilot study. The outcomes of the pilot study were written as a report (see Appendix I) and used to finalise the research questions in this study. After the pilot study, it became clear that teachers were familiar with learner strategies but they were not taught effectively and systematically at the school. Being in agreement with LLS researchers that "strategy work has a much greater potential to shape our pedagogy than has hitherto been grasped and that an overly utilitarian, 'feed-in' approach to strategies takes a far too limited view of that potential" (Grenfell and Erler, 2007, p. 6; also see Grenfell, 2007), conducting an LLS research project in the Turkish Cypriot context became a necessity.

The next section sets out the context where the data was collected for the present study.

2.6 The Present Study: Participants and the Setting

As noted above, state secondary and high schools and state English immersion secondary and high schools are two of the three types of schools in the Northern Cyprus. Students attending the immersion schools study most of the subjects in English. Students whose parents are economically able to go to private immersion schools attend school for a full day five days a week. The rest of the students attend state schools and state immersion schools which are half day long. Thus, students who can attend private immersion schools receive longer hours of instruction in English. In state immersion schools, most of the subjects are taught through English apart from Turkish literature and history. Those students, who go to state immersion schools, have to pass a national exam at the age of 11. This exam is on all subjects that students learn in primary schools. Students who fail the national exam have to go to state schools, where the medium of instruction is Turkish; or alternatively attend a private immersion school. English is taught as a foreign language for 7, 40-minute blocks a week in these state schools. In this thesis, teachers' teaching approach will be referred to as 'traditional way of teaching'. This term is used for a way of teaching which is completely dependent on the textbook. Teachers used the textbook as a syllabus and a lesson plan. Teachers feel the pressure to do so because of the tension they have to cover the curriculum. Most learners almost never become fluent in English in their later lives due to limited exposure to English.

This study is especially done in a State Secondary School rather than a private or a State Immersion School, because students attending State Secondary Schools are disadvantaged compared to students attending other types of schools in terms of exposure to English. Apart from these reasons there was not any criterion about the selection of the school for the study. The State Secondary School which will be referred to as 'Russell's State School' for confidentiality reasons. The school is an 11-14 mixed ability school. There are three year groups: 6th, 7th and 8th at the school. In the Spring semester of 2009-2010 academic year, there were five classes of year 7. Four English teachers taught year 7 classes; there were twelve English teachers in the school. The study was conducted with year 7 students, because they are generally more mature than the year 6 students and year 8 students did not have time to take part the research, because they were in the final year of the lower secondary school.

The participants in the present study were 12/13-year-old learners who had had three years of exposure to classroom instruction in English in primary school and in the year 6. One of the five year 7 classes participated in the second pilot study and four of the other classes participated in the intervention study. A total of 119 students participated in this study. There were two intervention and two control groups. Each intervention group attended the SBI for two 40-minute sessions every week as part of their everyday classes during the spring semester.

2.7 Conclusion

This chapter presented an overview of educational system in the TRNC. In doing so, an account on the political and social context followed by the educational context was presented.

Social and political clashes among British, Turkish and Greek citizens had an impact on the Turkish Education. However, the Turkish community was fully and sometimes partially in charge of their Education system. Due to the impact of British rule on the island, English became one of the most significant languages. Throughout the years the educational system evolved starting from two-year primary school education, to secondary

and high schools, and finally to a Teachers' College. Politically significant events marked the evolution of the educational system. The present educational context is the result of the historical events. In a similar way that the Turkish Cypriot educational system was influenced by the English educational system in the past, it is now influenced by the publications of the Council of Europe. For example, when the English Curriculum was updated in 2005, it was rewritten in a way to incorporate the notions of the Common European Framework of Reference (2001). Although the curriculum was updated, the Ministry of Education was not successful in making a change in the way teaching was carried out in schools (see Appendix I). This may be because the CEFR lists general principles but it does not specify how to translate these principles into classrooms. Learning to learn, for example, is one of the key terms that is used in the CEFR and that is reflected into the English Curriculum. However, teachers are not provided with guidance about how to apply this notion in teaching. This is what the present study sets out to do; SBI is offered as a key point in applying the notion of learning to learn. In order to investigate the impact of SBI, this study is conducted in the year 7 of a State Secondary School in the Northern Cyprus.

CHAPTER III - LITERATURE REVIEW

3.1 Introduction

This chapter sets out the background of this study with the review of the relevant literature. It is divided into four sections: 1) reading; 2) Language Learner Strategies (LLS); 3) theoretical background on LLS; and 4) empirical studies on reading strategies. Section one briefly defines reading. It presents processes and models of reading in order to offer a background for the theoretical framework of reading which is presented in the next chapter (see section 4.2.2). Section two introduces the LLS research focusing on the major issues such as definition, identification, classification and strategy-cluster deployment. It also compares Strategy Based Instruction (SBI) cycles in the literature that are used to adapt the cycle for the present study. The adapted version of the SBI cycle is presented in the next chapter (see section 4.3.5). Section three offers an account on two major cognitive theories. Act-R Theory was used to provide theoretical grounding for learner strategies. This theory was strengthened for the needs of LLS by adding notions of the Information Processing Model of Cognitive Theory. This section offers the background for the theoretical framework of LLS which is illustrated in the next chapter (see section 4.2.1). The last section offers a comprehensive account of the previous empirical studies on reading strategies. All studies which are presented in this section are either experimental or quasi-experimental and were conducted with adults and adolescents. In the conclusion of this section, the outcomes of the studies are listed to show the areas for further research is needed for clarification. The section is concluded with the research questions that guided this study (see section 3.5.3).

The order of the sections in this thesis was thought carefully and they were ordered in the way they are because, first, reading is the skill area that the learner strategies are organised around. It was important to show that LLS research must have a profound place in L2 reading research. Second, LLS research comes before a theoretical account of strategies, because LLS research started before any attempts of theorising it. Lastly, empirical studies come last in the chapter because of their importance for and relevance to the present study.

This chapter places the present study within the existing research literature. All the notions that are presented in this section shaped the present study. The way they are applied to the present study is shown in the methodology chapter. The first section defines reading, lists reading processes and presents models of reading.

3.2 Section I – Reading

In this section, first, complexities of second language reading are expressed with an account of the processes involved in reading. Understanding these processes was a significant milestone for this study. These processes were used as reference points to divide strategies into bottom-level and top-level (see section 4.2.2). Definitions and processes of reading had to be presented before the models of reading. Although there are various models of reading they all intend to define reading and explain processes of it. Second, the cognitive and social views of reading are compared. Lastly, some reading models are reviewed and the effectiveness of the interactive approaches in explaining reading comprehension is emphasized.

Next, in this section, is an account of definitions and processes of reading.

3.2.1 Definitions and Processes of Reading

In this section second language reading is defined and processes of reading are explained. Understanding the process of reading is vital for the present study. Reading processes show the complex mechanisms of reading.

Reading comprehension is closely related to how well a learner is able to deal with the requirements of the processes of reading. Klauda and Guthrie (2008, p. 310) reported that "fluency and reading comprehension have a bidirectional relationship". This statement has major implications for the present study. If SBI increases students reading comprehension, it will mean that students' fluency of reading in English may eventually increase. In the long run, both reading comprehension and fluency in English will increase in the long run.

However, this outcome is not easy to achieve. Grabe (2009, p. 14) defines reading as "a complex combination of processes". These processes are mastered in a first language over a long period of time. However, the case is not the same for foreign language learners. Foreign language learners begin to learn the target language from different starting points, there are difficulties involved such as building vocabulary, developing inferring ability, using background knowledge, understanding orthographic cues and so on (Grabe, 2002; McDonough, 1995). The differences between L1 and L2 readers are more obvious when L2 readers are at a beginning stage because they struggle with word recognition, have limited lexical, grammatical and discourse knowledge. Alderson (1984) asked whether foreign language reading is a reading problem or a language problem; that is, reading in a foreign language either relates to a person's reading ability or it is about language proficiency. One of the issues related to this dilemma is transfer. According to Clarke (1980) there is an L2 language proficiency threshold below which learners are not able to transfer L1 reading strategies to L2 reading. To Hudson, threshold of L2 proficiency does not explain whether learners are able to use L1 strategies while reading in L2.

Beginner readers usually struggle with language related problems. For example, if a person is only a beginner in the French language, reading a newspaper in French could be almost impossible. Although there are claims that L1 reading abilities transfer to L2 (Bernhardt & Kamil, 1995), it is not certain whether they actually do, and if so, it is not clear when and how it happens (Alderson, 2000; Razı, 2012). Bernhardt (2003) suggests that L1 and L2 processes are different simply because of the differences in the way information is stored in the memory. On the contrary, Koda (2007) stated that L1 and L2 interact with each other, suggesting that some knowledge of reading may be translated from L1 to L2. Gibson and Levin (1975) defined reading as "extracting information from text"; they stated that "[r]eading is not simply the decoding of written symbols to sound… [r]eading is an active process, self-directed by the reader in many ways and for many purposes" (p. 5). This definition of reading shows that reading has a complicated nature and it can be very hard to deal with for a beginner learner of a foreign language. The definition coined by Gibson and Levin (1975) could explain skilled reading, but it may not apply to beginner readers in L2. L2 readers also struggle with non-linguistic factors involved in L2 reading. Some researchers focus on the relationship between culture and reading. For example, Singhal (1998) there are three factors that are related to culture: content/background knowledge schema, formal/textual schema, and linguistic/language schema; all of which are required

for L1 and L2 reading. He concluded that L2 readers who did not possess appropriate content/background knowledge were not able to comprehend the L2 text in a culturally authentic way. However, as Grabe, 2002) stated L2 readers bring in discourse knowledge to the L2 reading situation. There are a limited number of studies which focus on motivation and interest in relation to reading strategies. An example of such studies is Bacon and Finnemann's (1990) research which showed a possible interaction effect between students' perceptions of strategy use and their perceptions of interest and motivation.

Reading involves various layers of processes and these processes occur simultaneously in a proficient reader's mind. Dividing simultaneously occurring processes into its parts is useful in understanding and teaching reading (Grabe, 2004). There are ten processes of reading which a skilled reader would have mastered. Grabe (2009, p. 14) lists them as follows: 1) a rapid process, 2) an efficient process, 3) a comprehending process, 4) an interactive process, 5) a strategic process, 6) a flexible process, 7) a purposeful process, 8) an evaluative process, 9) a learning process, 10) a linguistic process (also see Grabe & Stoller, 2011, p. 11).

Practice over long periods of time is needed to master these processes. Foreign language learners may be slow in using these processes, depending on proficiency level and task difficulty. Proficiency level determines the speed of the cognitive processes. These processes may be fast when the task is easy and slower when it is difficult. Reading at any proficiency level could be defined as a strategic process, but this aspect of reading is usually overlooked. Reading requires the reader to "anticipate text information, select key information, organize and mentally summarize information, monitor comprehension, repair comprehension breakdowns, and match comprehension outputs to reader goals" (Grabe, 2009, p. 15). The strategic processes develop naturally in L1 readers and in successful learners through experience. However, they do not always develop in L2 readers and less successful learners naturally. For this reason those learners need to be instructed in strategic processes of reading to be successful L2 readers.

Grabe and Stoller (2011) suggested that reading can be viewed as consisting of two main processes: low-level and high-level. In this study, these low-level and high-level processes are matched to relevant strategies to help learners master the process. For example, word

recognition can be enhanced through the use of sub-vocalisation and semantic guessing. Using these two strategies word recognition can be achieved by saying the difficult word out loud to recognise it from its sound, or by analysing parts of the word. For example, paying attention to the prefix of 'un' to realise that it changes the meaning of 'happy'.

Low level processes involve 1) rapid and automatic word recognition, 2) syntactic parsing, and 3) semantic position formation. Fluent readers are rapid in low level processes. They automatically recognise almost all words. Word recognition abilities are developed through exposure to print. L2 readers in English are at a disadvantage compared to L1 readers in terms of the amount of exposure they have had to print. The amount of exposure makes a big difference in how fast the reader recognises printed words. Depending on when a learner starts learning a foreign language and how often s/he studies it, the speed with which words are recognised varies. Syntactic parsing involves 1) clause-level meaning, 2) extracting grammatical information in a clause, and 3) disambiguating "the meaning of words that have multiple meanings out of context" (Grabe & Stoller, 2011, p. 16). Syntactic parsing is a step further from word recognition, through syntactic parsing the reader extracts meaning from groups of words. This helps them to understand the meaning conveyed through grammar and establish the intended meaning of words that normally have multiple meanings. Semantic position formation is the next step to syntactic parsing. According to Grabe and Stoller, it refers to "words that are recognised and kept active for one to two seconds, along with grammatical cuing, give the fluent reader time to integrate information in a way that makes sense in relation to what has been read before" (2011, p. 18). It is information construction about the reading and it involves key elements of the reading.

High level processes involve coordination of ideas. The ideas that are formed through the low level processes are organised in a network and inferences are made to add a new meaning to the network. At the same time that this network of ideas is built, the reader begins to project a direction to the reading. This direction is influenced by the reader's background knowledge, inferences, reader goals, reader motivation, task, text difficulty, and reader attitudes towards the text, task and author. Skilled readers engage in high level processes successfully (Mackworth, 1972). The notions of high and low level processes which are explained here are applied to reading strategies and this application is presented as the theoretical framework of reading (see section 4.2.2).

The next section compares cognitive and social views of reading.

3.2.2 Cognitive versus Social View of Reading

In this section two distinct views of reading are compared; one view of reading is that it is a meaning-extracting process and the other is that it is a meaning constructing process. The former constitutes a cognitive view and the latter the social view of reading.

The cognitive view of reading implies that there is a beginning state, a transformation state and an end state (Bernhardt, 1993). At the beginning state the reader does not know anything about the reading, s/he can only be informed by pictures, the title and the structure of the text at the first glance. The transformation state refers to the reading process, it is when the reader forms notions about the text. At this stage the reader uses reading strategies at his or her disposal. The end state is when the process of reading is completed and the reader has understood the text. Thus, reading is an intrapersonal problem-solving task and it takes place in the brain's knowledge structures of the reader (Just & Carpenter, 1987, p. 4). Hayes (1989, p. xii) states that the problem is "a gap between where you are now and where you want to be". In order to find a solution to the problem, first one must understand the problem. This said it becomes clear that this cognitive view of reading explains the importance of the reader, reading strategies and the fact that the reading text is a knowledge gap and the reader could attempt to understand the text by utilizing reading strategies during the transformation state.

Bernhardt (1993: 8) explains the cognitive view of reading clearly.

> The critical element in any cognitive view of reading is that it is an individual act. This individual act consists of processing steps that are separate and measurable, although interdependent. Such a view generally implies that the sum of these individual processing steps constitutes the act of reading.

She further explains that reading as a cognitive process consists of the input, the reading text, which can be perceived as a problem to be solved; transformation, the act of reading,

which is a cognitive process for understanding the text; and an output, which is the internal representation of the text. The output is not a duplicate of the text. It is reshaped in the reader's mind based on his/her individual conceptualization. Readers follow similar processing stages but in the final outcome they reach an individual output.

Reading as a social process implies that texts represent cultures such as value systems. For this reason they are open to interpretation. Reading is an interaction between the writer and the reader. A writer would write the text with a certain perspective, but express multiple viewpoints. A reader, depending on his/her cultural background, brings various interpretations to the text. Even a single reader may interpret the text differently at different times of reading. This view of reading is not rejected in the present study. In fact, its notions of inference and background knowledge are incorporated into this study. Although inference is sometimes categorised as a skill, in this study it is categorised and defined as a strategy.

According to the social view of reading, reading is not only characterised by linguistic features such as semantics and syntax but also by its content. What is more, learners do not just understand a reading text merely depending on sentences it contains, but they actively engage in reading and react to it depending on their social and cultural background. In other words, cognitive processes of readers are similar to each other. However, the ultimate representation of the text in readers' minds can be completely different to each other, because it is shaped by the reader's individual interpretations and personal background knowledge of the topic. It is important to say that reading, for beginner readers of L2, is mostly a meaning extracting process, which reflects the cognitive view of reading. Although the low and high level processes are not fully acquired, learners have to operate within them for meaning extraction.

In an attempt to explain reading various models have been developed. These models show what needs to be taught to students to improve their reading comprehension. Some of these models address low level processes and some others address high level processes. The next section describes these reading models.

3.2.3 Models of Reading

In this section models of reading are presented. Various models of reading have been developed over several decades in an attempt to explain reading. Reading research started in 1879 with Emile Javal's publication on eye movements (see Carrell et al., 1988). However, it was after the mid-1950s and 1960s that researchers started to conceptualise knowledge by developing explicit reading models and it was much later that these L1 reading models were used to explain L2 reading. Models of reading are categorised depending on the approaches that they follow. Those which focused on the mechanical aspects of reading are referred to as bottom-up oriented models and those which follow more holistic approaches are named as top-down oriented models. The third category involves those models which attempt to eliminate weaknesses of the bottom-up and top-down models by combining them. This third category is called the interactive model of reading. When reading models are discussed in this chapter the following terminology is used: 'top-down models' and bottom-up models' in the following chapters reading strategies are groups under the following categories: 'top-level strategies' and 'bottom-level strategies'.

Word recognition models and 'one second of reading' are bottom-up-oriented models and they were first developed to explain L1 reading. Word recognition models are not perceived as reading comprehension models, because they do not account for higher level processing. Rubenstein's word recognition model takes into account factors such as orthography and phonology. The central assumption of this model is that there is an internal lexicon and this lexicon has to be consulted to find the meaning of a word (Rubenstein, 1970, 1971a & b). A widely recognised model of word recognition is published by Seidenberg and McClelland (1989). Their model is based on connectionist theory. It explains how our brains create large neural networks that represent lexical items. Gough (1972), on the other hand, with his model called one second of reading, investigated reader's processing of information from eye fixation to the emergence of a spoken word in split-second intervals. He explained the reading process in the following way:

> The reader has rotated his eyes a few millimetres and he has begun to move his mouth. But on the inside, there has been a rapid succession of intricate events.

> Clearly, this succession could only be the product of a complex information processing system (Gough, 1972: 341).

This model makes it possible to investigate how fast and automatic the letters are recognised. LaBerge and Samuels (1974) published a paper on automatic information processing. They explained how visual and phonological input triggered a semantic system in the brain. They were interested in the factors that influence automaticity. Neither of these models provided a complete explanation of reading comprehension.

Bernhardt suggested that "readers who gain in proficiency gain in automaticity. Readers who do not have automatic processing are doomed to fretful decoding with little effort left over for trying to understand a message" (1993, p. 76). Sub-vocalisation may help the reader to understand the text through access to verbal representation of the word. However, it is not sufficient on its own to reach a complete comprehension, because the reader would treat each word or sentence individually. Grellet (1981/1986) claimed that treating each sentence as an independent unit of a text would lead the students:

> (a) to become dependent on understanding every single sentence in a text
> (b) to be reluctant to infer the meaning of sentences or paragraphs from what comes before or after (p. 6).

Bottom-up reading models focused on decoding individual words. Reading materials were constructed of sentences or phrases. At the time when bottom-up theories were popular, the assumption was that a reading text consisted of separate sentences and they were connected to one another thematically. Therefore, it was necessary to focus on the structure and the meaning of each sentence in a text. As Grabe and Stoller (2011) clearly explained, "the reader processes each word letter-by-letter, each sentence word-by-word and each text sentence-by-sentence in a strictly linear fashion" (p. 25). However, this view of reading is not a complete one, there is more to reading comprehension which can be explained by top-down models of reading.

Goodman's (1967, 1994, 1996) work brought a psycholinguistic perspective to the field. These perspectives were considered as underlying assumptions about basic processes in reading. Goodman's model of reading is named 'psycholinguistic guessing game' or the

whole language approach (also see Goodman, 1986) and it was developed to explain L1 reading. His work presented a new perspective of reading. The most distinctive characteristic of his work is that its "procedural preference for allowing the reader to rely on existing syntactic and semantic knowledge structures, so that reliance on the graphic display and existing knowledge about the sounds associated with graphemes can be minimized" (Carrell et al., 1988, p. 23). Thus, it showed that there are processes involved in reading other than sounds and graphemes. To this model, reading is (a) hypothesising, (b) sampling and (c) confirming information "based on background knowledge, expectations about the text, a sampling of surface features of the text and the deriving of context information from the text" (Grabe and Stoller, 2011, p. 30). It is suggested by this model that reading processes are universal across all languages and at all proficiency levels. They focused on anticipating meaning using inference and background knowledge. Contrary to Goodman's model, research suggests that good readers read differently to poor readers. Good readers do not make hypotheses about the text and poor readers depend on the context much more than good readers (see Pressley, 1998). This model explains an early stage of reading development, although it was not developed with this intention.

We could understand these models better if we look at them within the historical context that they are presented. The bottom-up models of reading were used widely to understand reading between the mid-1950s and mid-1960s. This was the time when the Behaviouristic view of learning was popular. "[T]he emphasis was on directly observable events external to the individual, little attempt was made to explain what went on within the recesses of the mind that allowed the human to make sense of the printed page" (Carrell et al., 1988, p. 25). Thus, with the emphasis of Behaviourism the bottom-up models attempted to describe the reading activity by focusing on stimuli such as printed words and word recognition. Attention was turned to top-down models after the mid-1960s, when cognitive psychology emerged. When the processes such as memory and attention which occur within the human mind were explained, the role they played in reading was understood. Top-down models assume that reading is mainly directed by the reader's background knowledge, inferences, expectations, goals, and assumptions. The reader either confirms or rejects these pre-set expectations while reading.

None of the bottom-up or top-down models claimed that the previous model was not useful because "each model describes a somewhat different aspect of reading [however, they did

not consider] sophisticated ideas about how comprehension takes place and how metacognitive strategies are used to facilitate reading" (Samuels & Kamil, 1988: 34). With an attempt to overcome the weakness of both bottom-up and top-down models of reading, researchers turned their attention to interactive approaches to reading. These interactive approaches to reading combine bottom-up and top-down models. The simple view of reading and dual-coding model can be considered as examples of interactive models. The Simple View of reading model (Hoover & Gough, 1990; Kirby & Savage, 2008) is one of the major accounts of reading comprehension abilities and reading development. This model argues that reading comprehension is a combination of word recognition and general reading comprehension abilities. It is compatible with word recognition models and the interactive compensatory model. The Dual-coding model (Sadoski & Paivio, 2007) highlights the idea that verbal and visual information are represented as linked cognitive processing in the brain. Reading comprehension abilities are improved with support of both verbal and visual processes. This model suggests that comprehension relates directly to linguistic and visual input, without any form of abstractness (see Paivio 1986 and 2007).

The interactive approaches to reading for second language contexts are explained by researchers such as Rumelhart (1977), Samuels and Kamil (1988/1992) and Carrell et al. (1988); but these processes are explained in the most comprehensive manner by Bernhardt (1993/1998). She researched and theorised models of 'interactive' combinations of reading processes in foreign language reading. She stated that text driven operations such as words, sentences, paragraph structure, print, punctuation and the interrelationship between them are vital to understanding second language reading process however, these do not provide insightful ideas on the second language reading process (Bernhardt, 1993/1998). On the other hand, capturing knowledge does not seem possible because it is elusive. She links the conclusion she made on text-driven operations to knowledge driven operations, underlining that they both are unsatisfactory in their interpretations of the second language reading process. She conducted a study with German and Spanish readers and explained their reading process stating that "comprehension is characterized by a complex set of interacting processes performed by the reader to construct an understanding of the text" (Bernhardt, 1993, p.123). In other words, she stated that the previously mentioned models of reading do not occur in a linear order; rather there is an interaction between text-driven and knowledge-driven factors. She used a diagram (Bernhardt, 1993, p.169) to show how various reading factors work simultaneously and influence a learner's level of reading

proficiency. In this diagram she shows that when proficiency in word recognition and phono-graphemic features change drastically, background knowledge and perceptions do not change much. Although a reader's word recognition skills and knowledge of grapheme phoneme correspondence develop faster, the overall reading proficiency may not develop much because background knowledge and perceptions change slowly. This diagram is used to match reading strategies to these reading factors in order to justify the reading strategies that are included in this study (see section 4.2.2). This justification suggests that reading strategies may increase students' reading comprehension because they are selected based on the reading factors that are explained by Bernhardt.

3.2.4 Conclusion

In this section, definitions of reading are offered together with reading processes. Definitions of reading differ depending on the way reading is interpreted. There are two views of reading, one of which is cognitive and the other is social. The cognitive view of reading suggests that readers are receivers of the information that is presented in the text; the social view of reading, however, suggests that readers have an interaction with the text and that what they understand from what they read is determined by what they know about the topic. Reading is explained in various ways through different models of reading. The major categories are bottom-up and top-down and interactive models of reading. In this study, Bernhardt's interactive model of reading is perceived as the most appropriate to explain reading comprehension in a foreign language. A theoretical framework of reading was developed based on her interactive model of reading. However, before going into the details of this framework and how it applies to the present study, LLS research is presented in the next section.

3.3 Section II - Language Learner Strategies Research

In this section, an overview of the language learner strategies (LLS) research is presented. A considerable amount of research has been done on identification of strategies which led to various taxonomies, classifications, of learner strategies. There are various methods of classification offered in the literature. Definitions, identification and classification remain as unresolved issues in LLS research today (see Chamot, 2004). Following on from these issues of LLS, some Strategy Based Instruction (SBI) cycles are compared and strategy clusters are defined.

First in this section, the definitions of LLS are quoted from different researchers. Then, the similarities and differences in their definitions are discussed.

3.3.1 Definitions of Language Learner Strategies

In this section various definitions of LLS from different researchers in the field are discussed. Defining learner strategies is one of the problematic areas in LLS research. A definition reflects researchers' understanding of LLS, and each definition reflects a theoretical and methodological assumption. This problem is caused partly due to a lack of theoretical background attached to LLS especially until the 1990s. Differences in definitions lead to an ambiguity of what exactly the strategies are, and this controversial issue has not been solved to this date.

Rubin defined strategies as "the techniques or devices which a learner may use to acquire knowledge" (1975, p. 43). Rubin's definition shows that a strategy is perceived as an external technique or a device that learners use in their learning processes.

Wenden and Rubin (1987) stated that strategies "contribute to the development of the language system which the learner constructs and affect learning directly" (p. 23). When this definition is compared to the definition presented in Rubin (1975), it seems to be an extension of it with an additional statement that it is the learner who constructs and affects

learning. This notion suggests that good language learners who use strategies are autonomous language learners.

Strategies were defined as "optional means for exploiting available information to improve competence in a second language" by Bialystok (1978, p. 71) which clearly suggests that strategies are chosen by learners. Such an indication of active involvement in the learning process is expressed in Oxford's (1990) definition too. She stated that "strategies are specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (Oxford, 1990, p. 8). Her definition of strategies resembles Rubin's definition, although Oxford's definition is more specific. She also mentioned self-direction, which suggests that strategies help learners to be autonomous language learners. As a counter argument Macaro (2006) stated that the term 'actions' does not reflect the reality and that many strategies are mental operations.

Naiman et al. (1978) defined strategies as "... general, more or less desirable approaches, and more specific techniques, i.e. observable forms of language learning behaviour..." (p. 4). Defining strategies as behaviours clearly suggests that they are perceived as visible, observable entities. Naiman has also stated that strategies are desirable approaches which suggest that learners use them consciously. This notion of conscious manner also indicates self-regulation and a certain level of metacognitive awareness.

O'Malley et al. (1985) defined language learning strategies as "any set of operations or steps used by a learner that will facilitate the acquisition, storage, retrieval or use of information" (p. 23). This definition indicates that strategies are cognitive processes and they facilitate information processing. O'Malley et al. (1985) state that LLS had the potential to be "an extremely powerful learning tool" (p. 43). However, they also stated that there was "no consensus" and "considerable confusion" in relation to definition of strategies (O'Malley et al., 1985, p. 22) indicating this confusion was an obstacle for the research field that held it back from progression. The definition of O'Malley et al. contrasts slightly with a later definition by O'Malley and Chamot (1990).

O'Malley and Chamot (1990), despite keeping the cognitive perspective to the strategy research, brought a new dimension to the earlier definition. They described strategies as "...the special thoughts or behaviours that individuals use to help them comprehend, learn, or retain new information" (p. 1). Despite the cognitive perspective that they argued for, they defined strategies as behaviours as well as special thoughts. According to this definition they perceived strategies as cognitive processes which are not observable to the naked eye as well as behaviours that can be observed and reported by someone other than the student who is using the strategies. This delivers a contradictory view on strategies.

Cohen (1984), stated that strategies are "mental operations that learners utilize in accomplishing learning tasks" (p. 110). Such a definition indicates that strategies are unseen, covert mental operations. Cohen (1998, p. 4) argues that learners who use learning strategies must be at least partially conscious of them even if they are not attending to them fully. Whether strategies are deployed consciously has been a source of much debate by LLS researchers (e.g. Bialystok, 1978; Oxford, 1990, 2001; Cohen, 1998, & Macaro, 2006). Wenden (1991) argued that strategies may be deployed automatically. However, stating that strategies are deployed automatically does not necessarily mean that they are not deployed consciously. As explained in the third section in detail, strategies become automatic through practice, but they are still deployed with a certain degree of consciousness.

Oxford (1993) redefined strategies as "specific actions, behaviours, steps, or techniques that students employ – often consciously – to improve their progress in internalized, storing, retrieving, and using the L2" (p. 175). In this definition she involved most of the terms that were previously used by her and various other researchers: actions, behaviours, steps and techniques. This definition also suggests that strategy use involves gaining L2 information. Use of internalization in this definition indicates that strategies are in learners' minds. The reference to storage and retrieval suggests that memory is involved in this process. This indicates an effort of combining different definitions in one statement to show that they generally refer to the same phenomenon.

Bialystok (1983) argued that there was "little consensus in the literature concerning either the definition or the identification of language learning strategies" (p. 100). The difficulty in the definition of strategies lies in the dual nature (see Ellis, 1986; Stevick, 1990) of

learner strategies. Ellis (1986:188) talked about two obstacles for the LLS researchers. The first was that researchers were not able to enter the workings of the mind and the second was the inconsistent meta-language available to researchers. Stevick (1990) stated that there was "size-abstractness dilemma" which means, as explained by Macaro (2001), "that some strategies refer to phenomena that are more abstract than others and that some strategies refer to phenomena that are more abstract than others". For example, a strategy such as looking for 'familiar words' is narrow others such as 'inference' is abstract. The second problem was that there was "Outside-Inside Problem" which means that no clear relationship exists between external acts and the mental constructs to which they are attributed" (Stevick, 1990, p. 144). Some strategies such as note taking are observable and some strategies such as guessing are not. Whether observable or non-observable, strategies facilitate learning and comprehension through cognitive processing. These cognitive processes are not visible to the naked eye. Results of some strategy deployment are observable in the same way as our thoughts can be observed from our behaviours. In the early stages of LLS research techniques, tricks, tactics, attitudes, exercises and learning activities (Grenfell & Macaro, 2007, p. 13) were all used to define strategies. Oxford and Cohen (1992, p.1) talked about the potential of strategies, either observable or not, and added that for strategies to be effective, they have to be used in combinations. This was one of the first publications that using strategies in combinations was mentioned and it indicated that quality of strategy deployment is more important than quantity.

One other controversial factor in the terminology used in LLS research comes from some researchers' use of the term 'learner strategies' (Wenden & Rubin, 1987), others using 'learning strategies' (O'Malley & Chamot, 1990; Chamot & O'Malley, 1994) and still others using "language learning strategies" (Oxford, 1990, 1996).

There are various characteristics of LLS which are indicated by these definitions as uniformly accepted. The common attribute of the above definitions is that learners use strategies for a purpose and this is to effectively and successfully complete learning tasks. First of all, LLS are used by learners in the process of language learning. Second, LLS are used to enhance language learning and comprehension of four skills: listening, speaking, reading and writing. Third, LLS may be both observable and covert. Some of the most recent criticisms of LLS research are same as those made in the previous years. For example the criticism that a strategy cannot be defined at them same time as cognitive,

emotional and behavioural persists (Dornyei & Skehan, 2003). They also criticise the dual function of strategies, contributing to linguistic knowledge and to language skills. Dornyei (2005) in a later publication stated that LLS researchers were not able to differentiate between "engaging in an ordinary learning activity and a strategic learning activity" (p. 164).

Lack of unity in the definition of LLS complicates research by imposing a controversy in theoretical assumptions and determining methodological directions. When strategies are perceived as mental operations, the cognitive process of learning and deployment could be through Cognitivist or Act-R theories. I would claim that whether behaviours or mental operations, learning and deployment of LLS takes place in the learners' minds. Thus, LLS learning and deployment can only be explained by the theories of cognition. Following a cognitive approach of explaining strategies opens windows for teachers to understand how the process of learning takes place and how much time the process takes to reach a level of successful strategy deployment. A detailed account of the cognitivist theory is presented in the third section of this chapter.

The distinction between strategies being observable or covert is a significant issue. There are two distinct ways of explaining strategies, understanding them by one or the other determines the data collection methodology. However, the issue behind definition of strategies is not a simple one. It is undeniable that there are strategies that are observable such as note taking and there are strategies that are covert such as scanning. Thus, strategies can be both observable and covert. O'Malley and Chamot (1990, p. 1) who defined strategies as "special thoughts or behaviours" may have aimed to refer to this dual nature of strategies. Accepting the dual nature of strategies does not make the methodological issue clearer. However, it suggests that covert strategies cannot be observed in the same way as observable strategies. There are other different sets of methodologies for the two types of strategies. The methodological issues are discussed further in the methodology chapter.

The next section presents the issue of identification.

3.3.2 Identification of Language Learner Strategies

In this section, the work of most cited researchers who have marked the LLS research field is presented.

Research on LLS began with the work of Rubin (1975) on the 'Good Language Learner'. By observing classrooms, talking to good language learners and eliciting observation from second language teachers, she found that the good language learners differed from poor language learners in what they did to learn a foreign/second language. Rubin observed that while a poor language learner "passively does what is assigned him" (1975, p. 44), a good language learner:

1. is a willing and accurate guesser
2. is comfortable with uncertainty
3. is willing to try out his guesses
4. has a strong drive to communicate
5. is often not inhibited
6. is prepared to attend to form
7. practises
8. attends to meaning (1975, p. 45-48).

All eight strategies that are listed above refer to a learner who is active, confident, aware, opportunist and communicative. Rubin collected this information from her work on good language learners. She is one of the first researchers to have started a discussion on what good language learners do to learn a foreign/ second language effectively. Research on identification of strategies is not restricted to her work.

Later, Stern (1975) published a similar paper to Rubin's (1975) on good language learners. Stern (1975) suggested that "[b]y discovering how good language learners proceed it should be possible to help problem learners to improve their approach and in this way to become more effective" (p. 304). Stern proposed ten language learning strategies depending on past experiences as a language teacher and learner, the reading of literature and comparisons to the list of strategies that Rubin suggested. Stern (1975) suggested the following strategies:

1. A personal learning style or positive learning strategies
2. An active approach to the learning task
3. A tolerant and outgoing approach to the target language and empathy with its speakers
4. Technical know-how about how to tackle a language
5. Strategies of experimentation and planning with the object of developing the new language into an ordered system, and revising this system progressively.
6. Constantly searching for meaning
7. Willingness to practise
8. Willingness to use the language in real communication
9. Self-monitoring and critical sensitivity to language use
10. Developing the second language more and more as a separate reference system and learning to think in it (Stern, 1975, pp. 311-316).

Similar to what Rubin's list of strategies suggested, Stern's list of strategies refers to a learner who, as Grenfell and Harris (1999, p. 38) explained, is active, tolerant, outgoing, practises willingly, is concerned about how to use the language, thinks ideas in the foreign language, searches for meaning, revises, and is self-aware and critical of himself/herself. The above lists present a collection of characteristics that a good language learner would have, however, it is rarely possible for a person to have all these traits. As stated by Grenfell and Harris (1999, p. 38):

> describing the end product is not the same as prescribing the means to get there. We certainly know that simply describing these strategies to a learner with examples is likely to be no more successful than describing grammar and expecting them to generate fluent language on the basis of that knowledge.

It is not enough to tell a learner what they need to be doing to get them do it. This relates to the theoretical discussion in the third section on the difference between knowing-what and knowing-how. Although their lists provide a clear reference point, both Rubin's and Stern's lists of strategies are too general and vague. They do not describe what learners specifically did to cope with the challenges of language learning. Their lists are premature versions of later developed LLS taxonomies. However, they offered a foundation upon which this research field has developed.

The next section is on the classification of LLS.

3.3.3 Classification of Language Learner Strategies

There have been various suggestions of classification schemes since the late 70s. This section presents major classification schemes of LLS research.

Naiman et al. (1978) proposed a classification scheme that contained five broad categories of learning strategies with some secondary categories. Their classification was based on student interviews and Stern's (1975) strategy scheme. They found that primary strategies were common to all good language learners, whereas secondary strategies were common among some good language learners. Primary strategies include 1) active task approach, 2) realization of language as a system, 3) realization of language as a means of communication and interaction, 4) management of affective demands and 5) monitoring of second language performance.

Rubin's (1981) classification scheme was based on the process of learning. In order to categorise them, she started by looking at existing psychological processes in general learning: clarification/verification, monitoring, memorization, guessing/inductive inferencing, deductive reasoning, and practising. Then, she found specific examples of these when they were used by language learners. She put them into two categories as 'direct' and 'indirect' in terms of the processes of learning. For example, some strategies directly, some other strategies indirectly facilitate storage and retrieval of information. She classified clarification/verification, monitoring, memorization, guessing/inductive inferencing, deductive reasoning, and practising as processes that may contribute directly to learning; and creating opportunities for practice and production tricks as processes that may contribute indirectly to learning. Rubin based her strategies on extensive data which included fifty hours of classroom observation, observation of a small group of students working on a strip story, analysis of self-reports, and daily journal entries. During this time, observations proved to be least useful to be used to collect data on learner strategies. Naiman et al.'s and Rubin's classification schemes are the first major attempts to

categorize strategies. Although their schemes were based on data, they did not have any theoretical grounding.

One of the first attempts to place strategies in a theoretical framework was done by O'Malley and Chamot (1990). They classified learner strategies into three categories: metacognitive, cognitive and social/affective strategies. Metacognitive strategies are "thinking about the learning process, planning for learning, monitoring for comprehension or production while it is taking place, and self-evaluation after the activity has been completed" (O'Malley & Chamot, 1990, p. 8). Cognitive strategies require "direct manipulation or organization of new information" (O'Malley, 1987, p. 133). The third type has two dimensions: social and affective. Social strategies involve cooperative learning and asking clarification questions. Affective strategies are "self-task" exercises. Metacognitive strategies consist of selective attention, planning, monitoring and evaluation; cognitive strategies consist of rehearsal, organisation, inferencing, summarizing, deducing, imagery transfer and elaboration; Social/affective strategies consist of cooperation, questioning for clarification and self-talk. The relationship of O'Malley and Chamot (1990) to the learning theory is explained further later in this chapter (see section 3.4.1).

Another widely known classification scheme is Oxford's (1990) comprehensive classification scheme. Her classification scheme is mainly divided into two: direct and indirect strategies for general management of learning, which is similar to Rubin's (1981) scheme. Direct strategies involve memory, cognitive and compensation strategies, whereas indirect strategies involve metacognitive, affective and social strategies.

- Memory strategies involve: creating mental links, applying images and sounds, reviewing well and employing action.
- Cognitive strategies involve: predicting, receiving and sending messages, analysing and reasoning, creating structure for input and output; compensation strategies are guessing intelligently, and overcoming limitations in speaking and writing.
- Metacognitive strategies involve: centring your learning, arranging and planning your learning, and evaluating your learning.
- Affective strategies involve: lowering your anxiety, encouraging yourself and taking your emotional temperature.

- Social strategies involve: asking questions, cooperating with others and empathizing with others (Oxford, 1990, p. 17).

These six groups of strategies were gathered together under two groups: direct and indirect strategies. They were used in the self-report questionnaire known as the Strategy Inventory for Language Learning (SILL) developed by Oxford and used by other researchers (e.g. Ehrman & Oxford, 1989, 1990, 1995; Green & Oxford, 1995; Griffiths 2003a; 2003b; Griffiths & Parr 2000, 2001; Nyikos & Oxford, 1993) in the LLS field.

Dornyei and Skehan (2003) stated that a strategy cannot be cognitive, emotional or behavioural, such a definition is confusing and misleads theoretical assumptions; neurological process, a cognitive operation or a behavioural act. They were also doubtful that a strategy could contribute to both knowledge and language skills. Despite the concerns about the location of strategies some researchers argue that both what went on inside the brain and certain external behaviours could be classified as strategies (i.e., Chamot and El-Dinary, 1999). Dornyei (2005) also criticised that classification systems (i.e., O'Malley and Chamot, 1990; Oxford 1990) are not clear, some strategies such as cognitive and memory overlap. However, the term 'overlap' in this study is not used in the same way. It is used to explain a characteristic of strategy-clusters (see section 5.5.2.3). There are also strategies that are more general than others. 'Finding opportunities to practise' and 'not being afraid of making mistakes' are examples of generic strategies; on the other hand a strategy such as 'looking for cognates' is a more specific strategy. Similar issue occurred in the present study too. 'Semantic guessing', one of the strategies that was taught during SBI, involved three sub-strategies: 'known words', 'finding the root', and 'compound words' (see section 4.2.2).

The above classification schemes have been useful in understanding strategies that have common attributes. This information of common attributes is used to show how a set of strategies could be used by learners. For instance, memory strategies suggested by Oxford are useful in performing memory activities that learners need to perform for language learning; whereas O'Malley and Chamot's (1990) metacognitive strategies are used to regulate learning activities.

The previous sections on identification, definition and classification of LLS provided an introductory background on learner strategy research. Identification of LLS showed strategies of good language learners and established what less successful students lacked. Definition and classification have been two major issues which are still to be resolved. The dual nature of strategies has made it difficult to arrive at a single definition (see Hsiao & Oxford, 2002), and it presents reliability problems. Whereas, classification schemes have been developed following different criteria for various justifiable reasons.

One of the most recent focuses of the LLS research is on strategy-clusters. The next section presents this new interest area of research.

3.3.4 Strategy-Cluster Deployment

In this section an account on the strategy-cluster deployment is presented. This aspect of LLS research is relatively new, and the research that attempts to analyse and describe strategy-clusters is limited. As was pointed out in Cohen (2011, p. 27)

> [although strategy combinations are sensible] the field had tended to describe strategies as isolated phenomena rather than as existing in clusters … most language learner strategy research continues to perpetuate the false impression that strategies are, in fact, used in isolation, when almost invariably they are combined with others in some form or fashion.

The above quotation shows clearly that, at the moment, there is little research which focuses on strategy-cluster deployment. Grenfell and Harris (2006) stated that "[m]ore needs to be known about the patterns of language learning strategy deployment" (p. 14). Despite lack of research in this area, there is a common consensus among the LLS researchers that learner strategies could lead to learning when they are used in clusters. However, it should be noted that when students are introduced with too many strategies they get confused (Chamot & Küpper, 1989).

Griffiths (2008), too, suggested that more research is needed to investigate how strategies can be "clustered and sequenced (orchestrated) to be maximally effective for particular individuals, situations, and targets" (p. 94).

Based on interviews that Cohen (2011; also see Cohen, 2007, p. 35) conducted with leading researchers in LLS, it is clear that most of them believed in the benefit of using strategies in clusters. He said that there was a strong agreement with the following statement: "for a strategy to effectively enhance learning or performance, it needs to be combined with other strategies either simultaneously in strategy clusters or sequentially in strategy chains" (Cohen, 2011, p. 27; also see Chamot, 2001).

Although there is considerable agreement on the effectiveness of strategy-cluster deployment, empirical investigations could provide new insights on strategy-cluster deployment. Research on strategy clusters may even offer a whole new perspective on learner strategies.

There are some studies which looked into strategy-cluster analysis. An example of a strategy cluster is: asking questions, doubting an interpretation, holding a doubted element in memory and searching for other clues, and looking for grammatical clues (Macaro, 2001, p. 95). Macaro and Erler's (2008) study focused on implicitly developing metacognition (see Macaro & Erler, 2008, p. 105 for detail) for making clusters of strategies, suggesting that metacognition played a significant role in clustering strategies. The other details of their study such as age and level are presented in section 3.5.2, they are not relevant for the purposes of this section. They concluded that their SI programme brought about change in the strategy cluster use in the intervention group. Students reported that they used strategy clusters. However, the data elicitation method that they used was a questionnaire. It may not be effective enough to elicit learner input on strategy clusters.

One of the most promising projects in strategy-cluster deployment is Graham et al.'s (2010) study in listening. They investigated strategy clusters and the type of linguistic knowledge that learners used. They, for example, talked about the complexity of relationship between two variables such as lexical knowledge and comprehension. One of

their findings was that students with top linguistic knowledge and top language proficiency (see Graham et al., 2010) used combinations of prediction and metacognitive strategies. This suggests that such a strategy combination may be related to linguistic knowledge and high language proficiency.

One of the reasons for limited research on strategy clusters is that there are difficulties involved in working with such data. It is difficult to identify learner strategies, if they are not stated by the learner, especially during Think-aloud Protocols. It is also difficult to distinguish one strategy-cluster from another when they are close together. The difficulty involved in analysing strategy-clusters and the significance of them are stated in one sentence by Cohen (2011, p. 28):

> however difficult it may be to describe with precision the number and type of strategic actions being taken at a given moment to handle a given language task, there is consensus in the research literature that more effective language learners are likely to be more strategic than less effective learners

Despite the complications involved in identifying strategies and strategy clusters, the present study sets out to analyse strategy clusters with a new criterion of analysis with an attempt to make an original contribution to LLS research. This analysis is presented in chapter five.

The next section compares the most popular SBI cycles in the LLS research.

3.3.5 Strategy Based Instruction

In this section, Strategy Based Instruction (SBI) cycles are analysed. The reviews include various different SBI cycles, some of which were among the first proposed. Then it moves onto those which are commonly cited, which are adapted to the cycle used in this study. SBI is a key aspect of this study.

O'Malley and Chamot, 1990 (p. 201), and Oxford, 1990 (p. 204) were the first publications which suggested an SBI cycle to follow when teaching learner strategies in a foreign language. O'Malley and Chamot (1990) presented an SBI programme that followed five stages: 1) preparation, 2) presentation, 3) practice, 4) evaluation and 5) expansion. The preparation stage involves developing students' awareness of various strategies. The presentation stage concerns developing students' knowledge of strategies. The practice stage is when students develop skills in using strategies. During the evaluation stage students evaluate their ability on using strategies. Finally the expansion stage is when newly learned strategies are used in new language tasks to ensure transfer. O'Malley and Chamot's SBI cycle is clear, straight forward and easy to apply in classroom settings. Stages similar to these can be observed in other SBI cycles.

Oxford's (1990) SBI cycle is longer than O'Malley and Chamot's (1990). Her's involves eight stages: 1) determine the learners' needs and the time available, 2) select strategies well, 3) consider integration of strategy training, 4) consider motivational issues, 5) prepare materials and activities, 6) conduct completely informed training, 7) evaluate the strategy training, and 8) revise the strategy training. The SBI cycle starts with identifying the needs of learners and deciding on the amount of time needed for the training. At the second stage the teacher selects strategies that match students' needs and characteristics. The third stage is on integrating strategy training into students' regular language training programme. The fourth stage focuses on increasing students' interest in strategies. The fifth stage involves the preparation of materials and activities which are suitable for teaching strategies. The sixth stage is about making sure that students have complete awareness of why strategies are important and how they can use the newly learned strategies in new situations. Stage seven is when the teacher asks students to evaluate their own performance in using strategies. Lastly, in stage eight, the teacher revises his/her materials and the SBI that has just occurred. Oxford's (1990) SBI cycle can be considered as principles of SBI rather than stages to follow in the classroom. Most of the stages that she suggested need not be there, rather they should be the core of the SBI and they do not necessarily involve students. The stages except the first and the seventh are not directly relevant to be included into SBI. For example, the fifth stage, preparing materials and activities that are suitable for teaching strategies is significant to SBI, but this need not be stated as part of the SBI. Thus, the stages in Oxford's (1990) cycle are different than O'Malley and Chamot's (1990). However they are not as concise.

Pressley et al. (1992) wrote about the effectiveness of transactional strategies instruction in increasing self-regulation. The central aspect of this kind of instruction is that the teacher and students interact to construct understanding of the text and the teacher encourages use of strategies; "the teachers act together, deciding when to apply particular strategies and when to advance, modify or reject certain interpretations" (p. 615). The teacher's role is to provide scaffolding in the process, eventually this scaffolded process becomes the students' own behaviour. This SBI is similar to an action research project. The teacher and students constantly adjust and modify the process of learning through interaction. It has the potential to develop self-regulation. The idea that scaffolding is significant for developing learner strategies is consistent with the claim made by Grenfell and Harris (1993). As a result of the study that they conducted with student teachers, they pointed out the importance of creating a "supportive scaffolding structure" in the classroom; because "[p]upils need specific help to adopt the key learner strategies required to manage their own learning" (p. 25). In other words, they suggest scaffolding which requires gradually withdrawing scaffolding. The same kind of peer modelling, scaffolding and gradual withdrawal of the scaffolding is suggested in Macaro (2001) as well.

Macaro (2001) proposed an SBI cycle that involved nine stages. This SBI cycle is planned as an action research project. Students are involved in the process even during the modelling stage. Most SBI cycles would suggest that the modelling stage is carried out by the teacher, because the teacher introduces the new strategy to the students. However, in Macaro's (2001) SBI cycle a student could model a strategy for his/her classmates. This procedure suggests that the strategy may not be new to all students. The first two stages concern increasing students' awareness of strategies. Macaro (2001) assumes that students use strategies in their first language and they could be asked to recall how they do it. Therefore, they will be better able to start using these strategies in their second language. Stages four and five involve combining and applying strategies. Combining strategies is increasingly becoming the centre of focus in language learner strategies research. Such a stage is incorporated into Macaro's (2001) SBI cycle. However, there have been very few attempts to analyse strategy clusters which students actually used. Macaro's SBI cycle involves scaffolding which is not mentioned in some other SBI cycles such as O'Malley and Chamot's (1990) and Oxford's (1990). Students need support when they first start to use a new strategy and they need less support later on. For this reason, scaffolding is significant enough to be mentioned in an SBI cycle. Macaro's SBI cycle is finalised with

the evaluation stage. This stage is commonly observed in other SBI cycles and it has a significant value in helping students to understand the usefulness of strategies and construct them automatically.

There are three popular and commonly cited SBI cycles in literature. These cycles are presented in the table below. They are used as references for the adaptation of the SBI in present study (see section 4.3.5). Other SBI cycles (O'Malley and Chamot, 1990; Oxford, 1990; Pressley et al., 1992; Macaro, 2001) are not presented in the table below, because they were not consulted for the adaptation of the SBI cycle in the present study. However, their significance for the LLS research field is undeniable. For this reason, they are presented above.

The SBI cycles in table 1 share some common features. All three cycles start with identifying students' current strategies. They all aim to improve students' metacognitive understanding of the value of learner strategies. Strategy instruction is done through demonstration and modelling, thus making it explicit to the students. They emphasize the importance of multiple practice opportunities. These practice opportunities lead to autonomous strategy use. All suggest that students need to evaluate strategy use, be able to select strategies for the task and actively use strategies for new tasks.

SSBI* Model (Cohen, 1998)	CALLA** Model (Chamot, 2005; Chamot et al., 1999)	Grenfell & Harris (1999)
Teacher as diagnostician: Helps students identify current strategies and learning styles.	**Preparation**: Teacher identifies students' current learning strategies for familiar tasks.	**Awareness rising**: Students complete a task, and then identify the strategies they used.
Teacher as language learner: Shares own learning experiences and thinking processes.	**Presentation**: Teacher models, names, explains new strategy; asks students if and how they have used it.	**Modeling**: Teacher models, discusses value of new strategy, makes checklist of strategies for later use.
Teacher as learner trainer: Trains students how to use learning strategies.	**Practice**: Students practice new strategy; in subsequent strategy practise, teacher fades reminders to encourage independent strategy use.	**General practice**: Students practice new strategies with different tasks.
Teacher as coordinator: Supervises students' study plans and monitors difficulties.	**Self-evaluation**: Students evaluate their own strategy use immediately after practice.	**Action planning**: Students set goals and choose strategies to attain those goals.
Teacher as coach: Provides ongoing guidance on students' progress.	**Expansion**: Students transfer strategies to new tasks, combine strategies into clusters, develop repertoire of preferred strategies.	**Focused practice**: Students carry out action plan using selected strategies; teacher fades prompts so that students use strategies automatically.
	Assessment: Teacher assesses students' use of strategies and impact on performance.	**Evaluation**: Teacher and students evaluate success of action plan; set new goals; cycle begins again.

Table 1: Models for Language Learning Strategy Instruction (from Chamot, 2004)

* Styles and Strategies-Based Instruction

** Cognitive Academic Language Learning Approach

Cohen's (1998) cycle (CALLA) has the teacher taking on various roles to help students practise strategies according to their learning styles. The CALLA model is recursive, students have the option to revisit prior instructional phases; it also allows students to evaluate strategy use themselves. The SBI cycle of Chamot and her colleagues involves scaffolding which is gradually withdrawn. Their SBI cycle consists of six stages which can be summarised in group points: awareness raising, modelling, practice opportunities and self-evaluation. Grenfell and Harris's (1999) SBI works through a cycle of six steps. Students start a new cycle when one cycle is completed. It starts with awareness raising activities and students are encouraged to make personal action plans to improve their own learning.

One of the important characteristics of SBI, which most researchers agree on, is explicit instruction of strategies (Chamot et al., 1999; Chamot, 2005; Cohen, 1998; Nunan, 1997;

O'Malley & Chamot, 1990; Oxford & Leaver, 1996). Explicit strategy instruction on reading and writing is strongly suggested by researchers (Graham & Harris, 2000; Pressley, 2000; Taylor et al., 2006). Students learn how to utilize strategies in their language learning process through SBI. It may also help to increase learners' motivation, because they feel that they have the control over their learning (Grenfell & Harris, 1999). One of the other significant advantages of an SBI is that it encourages L2 readers to see reading as a text comprehension process rather than a vocabulary learning activity (Kusiak, 2001). Some SBI cycles involve cross-skill, generic strategies (Chamot et al., 1999; Chamot, 2005) for example CALLA and others are organised under skill areas (Macaro, 2001). In this thesis an adapted version of an SBI is defined in section 4.3.5 which is organised for the reading skill. SBI cycles that are specifically planned for a skill area would have the potential to promote more skill specific strategies.

Alongside advantages there are issues that have to be considered with care. These are: 1) use of the L2 for SBI; 2) the effect of multiple strategies combined with difficult texts; and 3) insufficiently developed metacognition. Students in SBI classes are challenged to reflect on and verbalise their thought processes which adds on a heavy burden on the students' cognitive processes if they are asked to do all this in L2 (see Harris and Snow, 2004; Macaro, 2001). For this reason they could be allowed to use L1or use both L1 and L2 while reflecting on their thought processes. Similarly, when students are presented with authentic texts and a wide number of new strategies, their mental processing capacities are challenged (Harris and Prescott, 2005). So, selection of texts and strategies has to be done with caution. Nevertheless, Harris and Prescott (2005) suggested that use of authentic materials can help learners to realise relevance of reading strategies and create opportunities to practice strategies. Practicing relevant strategies and proceeding with the usual lessons are suggested (Rubin and Chamot et al., 2007). Lastly, all SBI models suggest that students should develop metacognitive awareness to plan, monitor and evaluate strategy deployment. Developing metacognitive awareness is especially important for the use of strategy clusters. However, metacognition improves slowly and especially younger children are not fully aware of their own thinking and learning processes (Hacker, 1998). Sometimes sufficiently developed metacognition awareness may not be enough to encourage strategy deployment. Harris (2001) suggested that high attained students could be complacent about SBI, because they may simply think that they already use strategies and they would be unwilling to attend SBI actively.

All the documented SBI cycles are valuable in developing understanding of what needs to be a part of classroom teaching in order to improve learners' strategic actions. Also, the issues involved in SBI were considered carefully at the beginning of the study and they are addressed in section 4.3.5.

3.3.6 Conclusion

This section presented a discussion on the definitions of LLS, issues of identification and classification, strategy-cluster deployment as a new area of research in LLS, and the SBI cycles which are central to all strategy intervention studies.

Differences in understanding LLS have led to various definitions. Disagreements on the definition of LLS among researchers are reflected in the classification of them as well. The difficulty in identification of strategies is due to the dual nature of strategies. That is, some strategies are observable whereas others are not. Most researchers agree on the benefit of using learner strategies in clusters. Despite that strategy-cluster deployment is under-researched. Strategy instruction is popular due to its potential in improving less successful learners. Various cycles of SBI have been suggested, although only three commonly cited cycles are used in the adaptation of SBI in this study.

The next section is on the learning theories that influenced LLS research. Before an account of the theoretical background of LLS, a brief overview of the most influential learning theories is presented.

3.4 Section III - Theoretical Background

In this section the Act-R and Cognitive Theories are explained in detail due to their significance to this study. Notions of these two theories are used to explain how strategy acquisition and strategy deployment occurs in learners' minds. These theories are not used as two separate means of account; rather they are presented as complementary theories which are modelled to the specifics of LLS. However, for the purposes of clarity, the

notions of these two theories are explained separately. First the ACT-R theory will be defined in detail, as it is significant for the present study, then, the Theory of Cognition is explained briefly. Finally, these notions are combined in a discussion in an attempt to best explain LLS learning and deployment (see section 4.2.1). This combination reflects the researcher conceptualisation on the theories.

O'Malley and Chamot's (1990) is one of the most influential books written on Theory of Cognition explains language learner strategies. The book was written at the time Chomsky's theory of Innativism (UG) became influential. Theory of Cognitive became a popular theory among second language researchers, because it proposed explanations on learning in general and skill acquisition which explained second language learning. O'Malley and Chamot (1990) suggested that "second language acquisition cannot be understood without addressing the interaction between language and cognition" (p. 16). It was one of the first publications which attempted to propose a developed theoretical ground for the Language Learner Strategies (LLS).

From the early 1990s, language learner strategy research became increasingly embedded within a cognitive theoretical approach with the book of O'Malley and Chamot (1990). Wenden (1987) too, viewed strategy research as "part of the general area of research on mental processes and structures that constitute the field of cognitive science" (p. 6). Although this view of Wenden (1987) gives the impression that strategies are located in the brain, she actually defined strategies as language learning behaviours.

Theoretical developments of second language learning since the 1970s or so serve as a reference point to understanding second language learning, however they have not been able to explain the cognitive aspect of learning. "There have been repeated attempts to define strategies by situating them in psychology, within theories of cognition" (Macaro, 2006, p. 323). Much of the research that has been done in the 70s and 80s has led to a greater conceptualization of LLS and this work has made it "...evident that a clear and precise theoretical framework was needed which would take strategy research beyond the utilitarian and pragmatic. This theory was to come from the cognitive psychology of John Anderson" (Grenfell & Macaro, 2007, p. 16). O'Malley and Chamot (1990) used Anderson's (1980/2000) Adaptive Control of Thought (ACT) Theory and Stages of Skill Acquisition model (cognitive, associative and autonomous) to situate strategies into

Theory of Cognitive. Such an understanding can clarify how strategies are stored and retrieved in the learners' minds. However, Anderson's theory describes processes of skill acquisition; it does not have any claim on enhancing learning (O'Malley & Chamot 1990).

Anderson (1996a, 1998, 1996b) explains the representation of information in memory and how information is stored and retrieved. Act-R is a theory of cognition that was developed by Anderson and his associates to explain complex cognitive skill acquisition. Skill acquisition takes place in the complex mechanism of the human mind. Knowledge is stored in memory and retrieval is done through the central executive in the human mind. We use the central executive to combine knowledge we have in memory and our goals to produce new, adaptive behaviour. This process is sometimes deliberate and conscious but at other times it is more automatic and unconscious (Anderson, 2000, p. 305). He makes a distinction between 'static' information, and 'dynamic' information in memory. The former is 'knowledge *of*', declarative knowledge and the latter is 'knowledge *how*', procedural knowledge. Declarative knowledge represents words, facts, and rules that we are aware, we know and can usually describe to people. For example, 3+4=7 or 'Obama is the president of the USA' are declarative knowledge. Declarative knowledge is also referred to as factual information and it may be acquired quickly. It is maintained in long-term memory in terms of meaning. Procedural knowledge specifies how declarative knowledge is used to solve problems. Declarative knowledge is called on through conscious processes and procedural knowledge is automatic (Faerch and Kasper,1987).

"Anderson believes that declarative and procedural knowledge are different kinds of knowledge that are stored differently" (Mitchell et al., 2004, p. 102). He points to three kinds of memory, a working memory and two kinds of long-term memory: a declarative long-term memory and a procedural long-term memory. "In Anderson's theory, information stored in memory has a meaning-based representation independent of a specific language and would be stored as declarative knowledge through either propositional networks or schemata" (O'Malley & Chamot, 1990, p. 69). Propositional representation in memory helps to eliminate unimportant information as information is sorted out. Declarative long-term memory is utilised in the process of acquisition of procedural knowledge. Procedural knowledge refers to the ability to apply knowledge to solve a problem. Driving is a good example which shows the distinction between declarative and procedural knowledge types. When people learn how to drive they learn

everything about driving step by step, i.e., when to use the gas pedal and the clutch. Such knowledge is declarative and people would take time to recall and drive slowly. After practising these over a period of time, the declarative knowledge becomes procedural knowledge. Driving becomes more and more automatic, and it does not take a lot of processing space in memory.

Anderson refers to the representation of procedural knowledge in memory as production systems. O'Malley and Chamot (1990, p. 25) claimed that learning strategies are represented in the memory as procedural knowledge. It is possible to explain strategy deployment through rules of production systems. A production has a "condition", IF, and "action", THEN. For example, IF the goal is to get the general meaning of a text, THEN skim read it. According to Anderson, "all complex cognitive skills can be represented as production systems" (O'Malley & Chamot, 1990, p. 24). This contribution by Anderson is significant for language learner strategies research. Production systems can be applied to deployment of learner strategies.

Forming procedural knowledge in language acquisition and similarly in LLS takes extensive time and practice. According to Anderson, our knowledge about language may not be declared easily as we gain procedural knowledge, because through practice we lose our ability to declare rules. Learning to use reading strategies is a slow process. It takes willingness to try and to practise. A learner strategy is taught by its name first, such as skimming. Learners would know when and how to use it and they would be able to talk about it. Over a long period of time, the knowledge is transformed from declarative to procedural memory. This process is referred to as proceduralization (see Anderson, 2010, p. 249). Becoming proficient at using a skill requires long hours of practice, as a result "...the skill itself undergoes rather dramatic shifts in the nature of its performance, which might be expected to be mirrored by shifts in the learning function" (Anderson, 2000, p. 308). When knowledge of the strategy is proceduralized, the learner does not think about the strategy consciously. Thus, the use of it does not take processing space in working memory which enables the learner to focus on another strategy that is still in the declarative memory.

Anderson claims that one can proceed from rule-bound declarative knowledge to more automatic procedural knowledge through stages of skill acquisition which are important for

learning in general and for learner strategy training in particular. Through the stages of skill acquisition, declarative knowledge changes to procedural knowledge. In the cognitive stage declarative encoding of the skill is developed. In other words, a set of facts about the skill are committed in the memory. Operations of the task are defined by these facts. When knowledge is still in the declarative memory, the use of knowledge is very slow. When knowledge is in the associative stage two main things happen. First, initial misunderstandings are detected and eliminated. Second, connections among various elements related to the skill acquisition are strengthened. So, rules learned in the associative stage facilitate successful procedure for skill performance. However, declarative knowledge is not simply replaced by procedural knowledge; the two forms of knowledge coexist. Learners practise rules or facts which define operations of tasks (see Skehan and Foster, 2001). For example, a proficient speaker of a foreign language can sometimes think about grammatical rules. However, it is the procedural knowledge not the declarative knowledge which governs skilled performance. In the autonomous stage the procedure becomes much more rapid and automated. As complex skills are more automated they require fewer processing resources (Anderson, 2010, pp. 244-45). As a result, people can perform two skills together. For example, when driving becomes an automatic skill, people can engage in conversations without paying attention to the traffic that they are driving through.

The Act-R Theory was developed to explain skill acquisition in general. It can be used as a theoretical model to explain any skill acquisition such as driving or cycling. Considering language learning as a complex cognitive skill, Act-R Theory is used to explain second language learning too. There are four advantages of understanding second language learning within the framework of cognitive skill proposed by Anderson. First, there has been considerable research in cognitive skill acquisition. Second, viewing second language learning as a skill acquisition enables us to understand the process of it. Third, understanding second language learning as a cognitive skill acquisition helps us to describe how second language learning can be improved. Lastly, it helps us to develop and use language learner strategies in second language learning (O'Malley and Chamot, 1990, p. 19).

Although Anderson's description of three stages provides an explanation for the acquisition of complex cognitive skills, it may lead to ineffective instructional approaches

(O'Malley & Chamot, 1990, p. 30). Teaching learners rules before expecting them to use these rules meaningfully would cause a disaster in terms of language learning. As all teachers and students have experienced, knowing grammatical rules of a language does not ensure communicative competence (O'Malley & Chamot, 1990, p. 79). The same logic applies to LLS acquisition too. It is not feasible to teach learners definitions of all reading strategies, demonstrate them once and expect learners to be able to use reading strategies successfully. There is only so much that the working memory can handle at a time when learning a strategy. Anderson does not claim the opposite for skill acquisition. He stated that following a linear form of the stages of skill acquisition is not effective in terms of learning, since such processes "coexist side by side" in learning (Anderson, 2010, p. 244). Learning any skill that involves declarative and procedural memories is complicated and messy.

Although the Act-R Theory is one of the strongest theories which explain cognitive skill acquisition, it is not the only one. The Information Processing Model of Cognitive Theory explains how information is retrieved and stored in memory through stages of skill acquisition too. There are notions of the Information Processing Model of Cognitive Theory which overlap with Act-R Theory; and others complement it in explaining learner strategy acquisition and deployment.

In the following paragraphs Cognitive Theory as contrary to the Act-R Theory is explained. Cognitive Theory, similar to the Act-R Theory, explains learning in general, for example learning arithmetic or learning to drive. It is neither developed to explain second language learning nor LLS deployment specifically. The purpose of learning a new language is to use it as a tool to communicate and comprehend, when reading or listening. In the same way that language is used as a tool to convey meaning, LLS are used as tools to facilitate learning of the target language or to facilitate getting the meaning across. The Cognitive Theory explains how knowledge is stored in the memory. According to Cognitive Theory, information is stored either in short-term memory, working memory, which holds information only for a short period of time, or in long-term memory where information is stored in an interconnected network. The working memory is responsible for receiving input and producing output. In the process of input processing, noticing plays a significant mediating role. Learners notice language forms when they are ready, in terms of language development, to notice them, or when the task requirement presents itself (see

Skehan, 1998). Similarly, when they are not explicitly taught, learners notice learner strategies when they are forced to notice them by task requirement or they notice them as part of their language development, especially during first language development. Individual differences (see Ehrman et al., 2003; Dörnyei & Skehan, 2003; Dörnyei, 2006) are another set of factors that influence what and how much learners notice (see Schmidt, 1990). Instruction is also a factor that influences how much a learner notices. Explicit instruction (Reber, 1989) over implicit instruction (Matthew et al., 1989) is more effective in helping learners realise language forms. The more a noticed form occurs in language the higher the possibility of learning is. Explicit instruction, for complex forms, is especially important (Ellis, 1994). Explicit instruction is required to make input salient (VanPatten, 1996) and noticed (Schmidt, 1990) in order to facilitate intake to working memory. In the same way, explicit instruction is important for SBI in order to bring strategies to learners' attention. Considering that LLS started with a pedagogic concern of teaching strategies of successful learners to less successful learners, noticing is a significant aspect of SBI. As stated by Schmidt (1990), due to differences in processing abilities to deal with a range of input, they may not be able to notice useful strategies. Through SBI these strategies are brought to the attention of learners for them to choose those that are most useful for them. Consciousness as awareness is also considered as significant within the Cognitive Theory. Once a form or a learner strategy, for example, is brought to the attention of a learner, consciousness is what will drive motivation for rehearsal of the new item, modification of it in the process of practice and incorporation into existing knowledge.

According to the Information Processing Model of Cognitive Theory, second language learning is building up knowledge that can eventually be called on automatically. Learners first need to pay attention (Segalowitz, 2003) to any aspect of language that they are trying to learn. In the Information Processing Model, paying attention is using cognitive resources to process information. Learners may not notice morphemes, for example, that do not contribute to meaning. Experience and practice play a big role in the Information Processing Model. As new information is practised, it becomes easier to process and access it quickly and, gradually, automatically (Lightbown et al., 2006, pp. 38-39). When a piece of information become automatic, the learner does not need to pay attention to processing information, so space is freed to pay attention to other aspects of language which through experience becomes automatic. However, practice needed for automaticity is not mechanical, and it does not only involve production of language. Exposure to and

comprehension of language are considered practice. In the Information Processing Model, practice requires the learner's cognitive effort, but this effort may not always be conscious, it can occur even when learners are not aware of it (Lightbown et al., 2006, pp. 38, 39). This explains the fact that learners use learning strategies even when they are not aware of using them, they use them automatically. Also, when they use strategies without awareness they still practise them to make the use of them even more automatic. This indicates that, students become able to use combinations of strategies when they get better at using individual strategies, so that less processing time is required.

According to Cognitive Theory, Language learning could also be explained through restructuring. Restructuring takes place when learners suddenly 'pull it all together' even when there is not any exposure to or practice of language. At other times backsliding occurs when a learner's language causes misunderstanding; thus, learning occurs in a "U-Shaped curve" (McLaughlin, 1990, p. 113). That is, despite backsliding automaticity develops in time.

Both automaticity and restructuring occur throughout the learning of any complex cognitive skill. Automaticity is more of a characteristic of the early stages of learning and restructuring is of the later stages (McLaughlin, 1987, p. 143). To Lightbown (1985), second language acquisition is not linear and cumulative. Backslidings occur which means loss of learned items which were mastered previously. These backslidings cause a decline in performance; when learners learn new forms of language or new items of a skill, the previously mastered form or item seems to be lost. However it is in the process of being connected to the new form or item which is referred to as restructuring. Introduction of a new item into the system of knowledge requires restructuring the whole system.

> [Language is formed of] a complex hierarchical system whose components interact in non-linear ways. Seen in these terms, an increase in error rate in one area may reflect an increase in complexity or accuracy in another, followed by overgeneralization of a newly acquired structure, or simply by a sort of overload of complexity which forces a restructuring, or at least a simplification, in another part of the system. (Lightbown, 1985, p. 177)

Cognitive Theory emphasises that the processing capacity of humans is limited. Learner strategies may play a significant role in overcoming these limitations. The role of practice is important for freeing space in memory for controlled processing through conscious attention. "As automaticity develops controlled search is bypassed and attention limitations are overcome" (McLaughlin, 1987, p. 148). When space is freed, processing other functions becomes possible.

Contrary to the Act-R Theory, according to the Cognitive Theory information is acquired through four stage mental processes: selection, acquisition, construction and integration. Through selection, learners focus on specific information and transfer it into working memory. This first stage is significant for language learning to take place. This stage is not present in the Act-R Theory, because it only deals with what happens in the brain while learning takes place. On the contrary, Cognitive Theory attempts to explain how information could be applied through the selection stage. Attention is important in this stage. Conscious attention is also important to recognise Language Learner Strategies. Thus, this stage is critically important for the present study. Acquisition takes place when learners transfer information from working memory into the long-term memory. These first two stages determine how much a learner learns. In the construction stage, learners form connections between ideas contained in the working memory. In the integration process, learners search for background information in the long-term memory and transfer this knowledge into the working memory. These last two stages determine what a learner learns and the information in memory is organised. Strategies make "explicit what otherwise may occur without the learner's awareness or may occur ineffectively during early stages of learning. … Strategies that more actively engage the person's mental processes should be more effective in supporting learning" (O'Malley and Chamot, 1990, p. 18). This quotation suggests that learner strategies, once they are learned and deployed, can be used to enhance learning. Thus, learner strategy deployment improves a learner's ability to learn. Applying strategies unconsciously or inappropriately results in ineffective learning or incomplete long-term retention. In order to promote conscious and appropriate deployment of strategies, an SBI programme can play a significant role.

Cognitive Theory makes a distinction between controlled and automatic processing in memory. This distinction resembles Anderson's categorisation: the difference between utilising knowledge in declarative and procedural memories. There is a difference in the

processing capacity necessary for mental operations of a task that requires a large amount of processing, and a task that proceeds automatically and demands little processing energy. Anderson (2010) states that "as people become more proficient at a task, they seem to use less of their brains to perform that task. The way in which we perform a task can change as we become expert at it" (p. 244). This proposition has implications for language learner strategies deployment. It indicates that proficient learners who can use learner strategies successfully have an automated mental process for strategy use and they use strategies subconsciously. This raises a question of whether LLS are conscious or subconscious. Nevertheless, Anderson (1996) stated that "the power of human cognition depends on the amount of knowledge encoded and the effective development of the encoded knowledge" (p. 355). This suggests that whether conscious or sub-conscious, deployment of learner strategies first requires information on them to be encoded in the learners' minds.

Macaro (2006) suggested 'a cognitive framework for language learning' which he illustrated learning strategies in working memory. "The framework argues for a distinction between learner strategies and subconscious activity in the brain" (Macaro, 2006, p. 325). The quotation suggests that strategies are conscious cognitive processes. Separating them from subconscious activity is claiming that they are not strategies any more when they are proceduralized. Thus, according to Macaro strategies are conscious cognitive processes. However, when they are proceduralized, they are automated strategies which become a part of subconscious processes in the brain. Macaro (2006) goes on to state that "subconscious activity interacts with neurological processes and results in changes over which the language learner or user exerts virtually no conscious control" (p. 325). This statement reflects how Anderson (2000/ 2010) explains expertise: "the way in which we perform a task can change as we become expert at it" (p. 244). According to this, when a skill becomes automatic the nature of the skill changes; it is in the unconscious of the learners, and the learner cannot necessarily recall it as declarative knowledge. This notion of automatization can be exemplified with a Vygotskyan term: internalisation. Language is seen as a tool in Vygotskyan perspective, and after the tool is acquired and internalised, it functions as a mediator of the learners' high mental processes (Kozulin, 2003, p. 65; also see Oxford & Schramm, 2007; Zuengler & Miller, 2006). To Vygotsky learners talked to themselves when learning L1 at a young age. Such a self-talk could be used as an example in foreign language settings to encourage peer interaction or peer modelling. Although

learner strategies can be explained by Vygotskyan perspective, too, such an account is outside the framework of this thesis.

LLS are used by students to facilitate learning of complex skills such as reading. First, they apply strategies consciously. This takes up space in working memory, as this is the cognitive stage (Anderson, 2010, p. 244). As the strategies are practised they become more and more proceduralized, so more strategies or cognitive skills can be dealt with at the same time. This process can also be described as internalisation. They become embedded in the learners' language system, and they are used as one of the tools for producing meaning. Learner strategies are proceduralized, automaticized (Anderson, 2010) or internalized (Kozulin, 2003) and they work at the subconscious level. At this stage, we have to accept that we do not know what happens in the brain. They are applied to tasks such as reading subconsciously. The learner may not even be aware that s/he is using them. LLS are used quickly and automatically, because they are embedded in complex mechanisms involved in reading. Although they are used without awareness, they are still strategies used with speed. Thus, complication arises at this point, as they are difficult or impossible to observe and difficult to bring into the learner's consciousness again.

Macaro (2006) refers to the accepted notion among some researchers (N. Ellis, 2001; Schmidt, 1990) that working memory deals with attention, control and consciousness. He uses this consensus to claim that learner strategies are in the working memory. This claim is questionable considering that working memory is not responsible for storing information for a long period of time. In the short-term memory "storage is temporary" (Anderson, 2000, p. 27). It stores information only for a short period of time and long-term information is stored in the long-term memory. To McLaughlin, as stated earlier, there are two long-term memories, one of them stores declarative knowledge and the other procedural knowledge (Mitchell et al., 2004). The three-stage skill acquisition shows that skills are transferred from the declarative knowledge to procedural knowledge; in other words, from declarative memory to procedural memory. Claiming that learner strategies are located in the working memory solely because working memory deals with conscious knowledge does not explain the location of learner strategies. Macaro (2006) seems to reflect N. Anderson's (1999) notion on the perception of strategies; he states that "the goal of explicit strategy instruction is to move readers from conscious control of reading

strategies to unconscious use of reading skills" (p. 77). This indicates that when strategies become automatic they become skills.

Having presented the informative account above, a theoretical framework that applies to the present study has been developed. Using the accounts of the Act-R and the Cognitive Theories, the way learner strategies may be learned and deployed by learners are explained (see section 4.2.1).

3.4.1 Conclusion

In this section, two theories of cognition, the Act-R and Cognitive Theories have been explained in detail. This detailed account was necessary as the notions of Act-R and Cognitive Theories are being brought together in a theoretical framework of LLS. This framework is presented in the methodology chapter to form the connection between the literature and the present study.

3.5 Section IV - Empirical Studies

This section focuses on experimental and quasi-experimental intervention studies on reading strategies which were conducted with both adults and adolescents in foreign language learning situations around the world (see Plonsky, 2011for an overview). An experimental study is a study that incorporates all aspects of a true experimental study. A quasi-experimental study lacks one or more aspects of a true experimental study such as random sampling. The studies that are involved in the following two sections (sections 3.5.1 and 3.5.2) focus on motivation (i.e., Harris, 2007; Grenfell, 2008; Pappa et al., 2003), interest (i.e., Raymond, 1993), the ability to persist (i.e., Macaro and Erler, 2008) and impact of SBI (i.e., Kusiak, 2001). There are various other studies on LLS research which are either not experimental in nature or focus on skill areas other than reading. There are studies which focus on general learner strategies (e.g. Karadeniz, 2008; Fleming & Walls, 1998; Takeuchi, 2003, 2011; Lan & Oxford, 2003; Gu et al., 2005; Chamot et al., 1999; Hosenfeld, 1979), listening and strategy use (e.g. Graham 2006b; Graham et al., 2008;

Graham, 2007; Graham & Macaro, 2008; Graham, 2003b; Graham et al., 2011), listening, writing and strategy use (e.g. Graham & Macaro, 2007), writing strategies (e.g. Macaro, 2007), attitudes (e.g. Graham, 2004), metacognition (e.g. Graham, 2003a, 2006a), decoding (e.g. Woore, 2010, 2009, 2007), descriptive reading strategy studies (e.g. Erler, 2002, 2004; Zhang et al., 2008), cooperative learning and strategy instruction (e.g. Mansfield, 2010) and order of strategy acquisition (Chesterfield & Chesterfield, 1985). A reading strategy is what a learner uses to facilitate effective reading, i.e., inference or summary. There are a few significant characteristics of an effective SBI such as length of time and metacognitive components. An SBI is effective when it is taught for a long period of time, not just for one or two weeks. Metacognition is an important component because it helps to orchestrate strategy-clusters (see Hassan et al., 2005).

In Northern Cyprus, there are studies in language learning however, to the best of my knowledge, there have not been any studies which focused on SBI of reading strategies in the secondary school context. Most studies are conducted with adult learners in university settings. There have been studies on the effects of school entrance examinations (e.g. Yaratan, 1991), attitudes (e.g. Dereboylu, 2004), reading skills of university learners (e.g. Dahlameroğlu, 2003), learning strategies in university settings (e.g. Yıldıray, 2003; Ersay, 1998; Denker, 1998; Tekhanli, 2007), learning approaches and self-efficacy (e.g. Yaratan and Suphi, 2012) and academic achievement (Uludağ, 2012), strategy training in listening (Yeşilbursa, 2002), and strategy training in speaking (Bundak, 2006).

The aim of focusing on experimental and quasi-experimental studies of reading is to allocate space for a detailed description and critical review of the studies. Some of the studies were useful in providing ideas for the present study. These studies are organised in two sections 1) studies on adults and 2) studies on adolescents. Finally, the section is concluded by listing what was learnt from these studies, how I decided to write individual student profiles and how they guided the formation of the research questions in the present study.

3.5.1 Empirical studies with adults

The following studies are experimental and quasi-experimental studies which were conducted with adults. Although the participant students in the present study are adolescents and the results of studies with adult participants are arguably not directly transferable to the present study, it is useful to understand the results obtained from these research projects too.

Zhicheng's (1992) study is an experimental study in which random assignment was used. Students were assigned into experiment and control groups through the matched pair technique. The aim of the study was to investigate the effects of teaching reading strategies on improving the reading comprehension of ESL learners in the USA. The participants consisted of 29 college students, with an average age of 22. Strategy training was done on four reading strategies: cognitive, memory, compensation and test-taking strategies. However, neither are the strategies explained nor the duration of the study mentioned. The experimental group was offered pre-reading activities and weekly reading tests were administered to the students as part of the regular class activities. The following data collection instruments were used: 1) three reading passages with ten multiple choice questions. The passages were used to test different strategies; 2) a questionnaire; and 3) a survey (on education backgrounds, academic expectations and the general use of reading strategies).

The outcomes show that memory, cognitive and compensation strategies were useful in aiding reading comprehension. Introducing strategies was found to be useful in improving students' interaction with the text. On the other hand, the test-taking strategy was not useful in improving reading comprehension; and no statistical significance was found between the test-taking strategy and language proficiency level.

Raymond's (1993) study is an experimental study conducted in the USA. The aim of the study was to investigate the effects of structure of strategy training in the recall of expository prose for university students reading French as a second language. The participants consisted of 43 high intermediate level university students aged between 18 and 23. The training involved description, sequence, causation, problem solution and

comparison. The training was done only for two weeks, for five hours. In the last session, short quizzes were provided for the participants to evaluate their use of TLSs (Top Level Structure). Before the intervention started, students took a second language reading test. During both pre- and post-tests students were given a reading text to read and then used a Likert scales designed sheet to comment on the text. The Likert scales are designed to measure readers' perceptions of 1) text difficulty, 2) memorability, 3) affect, 4) interest, 5) background knowledge, 6) clarity of argument, and 7) organization. Thus, learners had three stages to complete: 1) read the text, 2) complete the attached Likert scales, 3) recall the text in writing.

The author stated that there were not any significant differences in second language reading ability between the experimental and control groups before the intervention, but she also indicated that there was a difference between the mean scores of control group (M= 34.23) and experiment group (M=32.19). This suggests that although there was a difference between the control and experiment groups on reading ability before the study, the difference was not significant. After the study, the mean score for the post-test recall of the experimental group was higher than the control group. It is possible that the high post-test score of the experimental group was due to the fact that they were already better than the control group at the start of the intervention. The results of this study are not conclusive; it does not show clearly that SI improves reading ability.

Flaitz et al.'s (1995) study is an experimental study conducted in the USA, aimed at Metacognitive Awareness Raising (MAR). The participants consisted of 229 college-level students learning Spanish as a foreign language; there were 6 experimental and 6 control groups. The aim was to increase metacognitive awareness in all four skill areas. The intervention lasted only for 50 minutes per session. Two means of measurement were used 1) a demographic questionnaire, 2) final course grades. The control group received a placebo questionnaire relating to myths about language learning. The questionnaire was a Likert-scaled instrument attempting to ascertain students' beliefs about attitudes towards language learning. The intervention materials involved 1) a hand-out called 'how to survive Spanish 1 and 2' outlining twenty-six language learning strategies, 2) a midterm checklist of strategy use, 3) an activity involving the categorization of those strategies, 4) a feedback questionnaire for teachers.

The researcher mixed students of Spanish I and Spanish II; similarity of the groups was shown through statistical analysis. The "metacognitive awareness raising has a positive effect upon the achievement of students in college-level Spanish I and II courses" (Flaitz et al., 1995, p. 342). Strategies that were reported to be used by more than half of the students after the intervention study are as follows: 1) guess when in doubt; 2) repeat aloud; 3) review class notes; 4) name objects in Spanish; 5) don't be afraid to make mistakes; 6) speak to others in Spanish; 7) listen to people talking in Spanish; 8) write down words you don't know; 9) record new vocabulary and grammar in a notebook. Several teachers reported that their students appeared to be taking better notes, more risks, and finding opportunities to practice. This study shows that even one session would be effective for adults to increase their metacognitive awareness. However, a similar outcome is less likely to happen with young school children.

Kitajima's (1997) study was an experimental study conducted in the USA. The aim was to do referential strategy training for second language reading comprehension of Japanese texts. The participants consisted of 28 college students, aged between 20 and 30. There were 15 students in the control group and 13 in the experimental group. The strategy training involved the use of referential ties. The strategy training was implemented at two levels: syntactic and discoursal. At the syntactic level: 1) identifying phrasal divisions by listing verbs and conjunctions, 2) identifying a logical connection between clauses by specifying functions of conjunctions and adverbials, such as cause and consequence, contrast and exemplification, time and place. At the discoursal level: 1) forming questions, based on verbs and some cohesive devices, 2) establishing a current situation and a current role assigned to referents at a focal part of the text, 3) evaluating whether the identified situation and role would produce any discrepancy with the previous information and the subsequent information. The intervention lasted for one academic semester. Both qualitative and quantitative measurements were used. However, there was not any measurement of strategy change. A Reading Comprehension Test was used as a pre- and post-test measurement. Students were given a multiple-choice Reading Comprehension Test before the intervention. A Reading Comprehension Test consisting of a narrative story of four paragraphs was administered as a post-test. Then, the students' reading comprehension was rated by two teachers based on a five-point scale.

The results showed significance for the last two paragraphs and no significance for the first two paragraphs. This result suggests "positive effect of monitoring referent problems upon the readers' reading comprehension" (Kitajima, 1997, p. 93). Although positive results were reported in the paper, the post-test outcomes were mixed; suggesting that the training was sometimes effective in monitoring referential ties.

El-Koumy's (1999) study is an experimental pre- and post-test design conducted in Egypt. The aim of the study was to investigate the effects of three semantic mapping strategies on EFL students' reading comprehension. The participants consisted of 187 college level learners learning English as a foreign language. There were three treatment groups with 79 students in each. The pre-test also showed that all participants were poor comprehenders. The treatment groups were as follows: 1) teacher-initiated sematic mapping; 2) student-maintained sematic mapping; 3) teacher-student interactive sematic mapping. The intervention lasted for five months with one session per week. Two TOEFL reading comprehension tests were used as measures of reading comprehension for all three groups. One model test was used as a pre-test and the second was used as a post-test measure. However, strategy change was not measured. Effectiveness of three different teaching methods of semantic guessing strategy was evaluated. Effectiveness was evaluated through the reading comprehension measurement only, rather than a direct measurement of the strategy.

The post-test results suggested significantly higher scores of the teacher-student interactive sematic mapping group than the student-mediated semantic mapping groups. There was no significant difference in the mean scores between the teacher-initiated semantic mapping group and the student-mediated sematic mapping group. These two methods were equally less effective in developing students' EFL reading comprehension. The purpose of El-Koumy's study is different to the purpose of the present study. He focused on the interactive aspect of the instruction, while the focus of the present study is the effectiveness of the SBI. Nevertheless, El-Koumy's study is useful in showing that an SBI programme which allows interaction between the teacher and students could achieve better results.

Walters' (2006) study follows a pre- and post-test design and investigates methods of teaching inferring meaning from context. The study was conducted on 44 ESL students

aged between 17 and 47 in California, USA. Students came from 12 different countries and they were at various different levels of proficiency. They were divided into three groups as advanced, intermediate and beginner using their previous TOEFL and TOEIC scores. The strategy training focused on inferring word meaning from context. "The main aim of the study was to see which of the three conditions, general strategy, specific context clues or practice, was more effective in improving the ability to infer from context and/or reading comprehension" (Walters, 2006, p.183). There were four groups of learners: 1) a general strategy group, 2) a specific context clues group, 3) a practice only group, and 4) a control group. The intervention lasted for six hours and the outcomes, including strategy change, were measured in the following way: 1) ability to infer was measured through rational deletion cloze tests (three versions were used); 2) reading comprehension was tested through IELTS (two versions were used); 3) language aptitude was measured through a test that consisted of a language analysis task using an artificial language.

Based on ability to infer meaning from context and the reading comprehension test, the differences between the control and experimental groups were not significant. However, the experimental groups performed slightly better with the largest improvement seen in the strategy group. However, the researcher reported significant differences when the context clue group was compared to the control group, stating that the context clue group showed a greater gain in reading comprehension. When all four groups are compared (on reading comprehension); the outcomes showed that all groups improved their performances from pre- to post-test. However, the only significant difference between the groups was between the context clue and control groups, with the context clue group showing a greater gain in reading comprehension. When the groups which improved their performances significantly from the pre- to the post-test were investigated, the results showed that both the context clue and strategy groups show significantly higher post-test scores. This suggests that these two ways of instruction were more effective as compared to practice only. This outcome suggests that SI, regardless of the method of instruction can be effective in improving reading comprehension.

Gladwin et al.'s (2008) study aimed to compare two approaches to strategy instruction in Spanish: 1) an interactive, instructor-supported reading approach (IRIS model); and 2) traditional reading instruction. The study followed a pre-test-post-test control group design. The participants consisted of 52 adults attending a graduate research institution. There

were two experimental and two control groups; there were 16 and 11 students in the experimental groups and 14 and 11 in the control groups. Strategy instruction was focused on plot re-call. Three interventions over two days, six interventions in total, were done through the use of three different texts over a semester. The interventions occurred with three week intervals. The outcomes were measured through pre- and post-testing. A reading comprehension test in Spanish was used as a pre-test measure. Experimental group students were given homework and the answers were discussed by students in small groups in the following class; these factors ensured student mediated interaction. This was followed by whole class discussion and the post-test measure. As a post-test measurement, students in both groups wrote a ten-minute one-page plot recall based on the reading of the previous lesson in English (three recall tests were administered after each reading in both groups). Change was only measured by the use of recall tests. There was also no use of Think-aloud Protocols.

The outcomes of three recall tests were contradictory. Although not statistically significant, the control group outperformed the experimental group in the first recall test the experimental group outperformed the control group in the third test. Despite that, according to the authors the data showed a trend toward increased comprehension by the experimental classes. The length of the study (two days) may be the main reason of contradictory outcomes.

Talbot (1995) carried out metacognitive strategy training to develop second language learners' awareness of expository text patterns. The study used a pre-test-post-test experimental design; classes were randomly allocated to treatment and control groups. The participants were 244 high intermediate level adults of Chinese background studying for higher diplomas in a Hong Kong tertiary institution. The treatment group consisted of 183 students from 9 classes, and the control group of 61 students from 3 classes. Text coherence strategies were taught during the instruction. They were: 1) identifies overall textual schemata; 2) relies on textual norms for the prediction about text development; 3) uses overt cohesive cues. The intervention included a measure of English language proficiency in reading. Students' gain in metacognitive awareness was defined as high gain or low gain.

To sum up Talbot's findings: 1) the high gain – high proficiency treatment group showed improvement; 2) the high gain – high proficiency control group did not show any improvement; 3) the results of the low gain – high proficiency group were mixed; and 4) when the low gain – low proficiency group was compared to the high gain – low proficiency group, it became obvious that high gain – low proficiency group improved more. Vocabulary weakness was reported to be problematic for all participants (both treatment and control). There was a bottom-up problem before applying the top-down strategies; that is word recognition problems prevented students from using top-down strategies. Although students had difficulties caused by their proficiency levels, the intervention group students showed awareness of top-level structure. They were able to show reasonable comprehension and an appreciation of top-level patterns. The outcomes suggest that metacognitive strategy training was effective. Even the low proficiency students could benefit from increased levels of metacognition.

These studies involved different reading strategies and the length of the interventions varied too. Some papers did not report the length of the SBI although it is critically important for the interpretation of the results. There are reports of both positive and mixed results on the effectiveness of SBI programmes. There are studies which investigated whether there is a method of SI delivery that is more successful than other; the outcomes are mixed. Zhicheng (1992) suggested that SI improves students' interaction with the text, which is a significant contribution. This finding may show that SI could improve reading skills which are not even involved in the SI, because, through interaction with text, learners discover them themselves. El-Koumy's (1999) contribution is also significant in showing that an SI programme, which follows a positive teacher-student interaction, is more successful than others. Talbot's (1995) study is important for focusing on Think-aloud Protocols. Talbot presented a thorough analysis on how much gain students had of metacognitive strategies in reading. He divided students into achievement levels to further investigate differences between students' strategy gains relative to their achievement levels.

As opposed to the present study, these studies were conducted with adults. Differences in age groups could produce different results. Thus, the outcomes of the present study will be interpreted in light of the studies presented in the next section. However, these studies on adults, especially El-Koumy's and Talbot's studies, guided the present study. Employing a

more interaction based approach and investigating learner strategies relevant to their achievement levels have been valuable contributions to the present study. The next section concerns empirical studies conducted on adolescents.

3.5.2 Empirical studies with adolescents

The common feature of the studies presented below is that they were all conducted on adolescents or they involve adolescents as well as other age groups. These studies are especially significant to the present study because of the comparability factor. They are also important in guiding this research, because there is less known on SI studies that involve adolescents than there is on adults.

Harris's (2007) study is a quasi-experimental study drawing on both qualitative and quantitative data. The aim of the study was to explore progression in reading and listening strategy instruction with near-beginner learners of French in London. The study lasted for nine months. There were sixty student-participants aged 12 and 13. The strategy instruction involved the following strategies: layout, pictures, title, prediction, keep reading, main ideas, skip over, familiar words, cognates, names, possibilities, common sense, say, break the words, read it over, and grammar clues. The outcomes, including strategy change, were measured by pre- and post-tests. The instruments involved were: reading and listening tests in French, questionnaires on reading and listening strategies, questionnaires on attitudes and motivation, and post-intervention questionnaires with learners' views on the SI. However, use of Think-aloud Protocols was not mentioned in this paper. Although domains of the study involved both reading and listening, the results obtained for reading are presented in this chapter for the purposes of the present project.

The results showed that the experimental group had significantly higher scores, suggesting that the SI was effective. Motivation levels in both groups decreased. However, it decreased significantly less in the experimental group. The fact that motivation decreased contradicts the finding that SI was effective. However, the reason for a decrease in motivation may be due to the demand placed on the students' processing capacities. This is one possible reason for the outcome and this conclusion is stated and explained by Harris.

Also, the case of modern foreign language learning in England must be pointed out here. In England, motivation often drops considerably in year 8 for learning French and German. Therefore, for Harris's project is a positive outcome that motivation levels of the intervention group dropped significantly less compared to control group. In her study SBI was beneficial in reducing a drastic decline that would otherwise have occurred.

In the process of moving from supported practice of limited combinations of strategies to independent use of the full range and using authentic texts, students' responses to the attitude questionnaire suggested that they were cognitively overloaded, since they had to: 1) identify what they did and did not understand; 2) remember all the strategies and select the most appropriate; and 3) use the appropriate strategies to work out meanings. Concerning the results of this study, it could be argued that SI is making learning a foreign language more demanding and thus decreasing students' motivation. However, the fact that motivation of the experimental group students declines less suggests that SI may increase motivation levels in the longer term.

In the extra attitude questionnaire a student's response challenged the time of move from scaffolded support to independent strategy use. The student said: "it's ok when the teacher shows us new strategies but when I am on my own I do not know which ones to use" (Harris, 2007, p. 198). This quotation suggests that the student did not become an independent learner by the end of the SI. Harris further suggested that "not only was further practice needed but also further guidelines were needed to develop the metacognitive knowledge necessary for selecting the most appropriate strategies for the task in hand" (Harris, 2007, p.198), because students were getting confused about when to use which strategies due to the options of strategies available to them. Thus metacognitive knowledge does not improve rapidly so as to enable learners to independently use strategies. The student responses on the questionnaires may relate to "the gap between declarative and procedural knowledge and the nature and length of the practice stage" (Harris, 2007, p.198). The fact that learners report deployment of strategies does not necessarily mean that they are actually able to use them independently. They may not even use them at all, but the mere presence of the questionnaire tells them that they should.

Grenfell et al.'s (2008) paper was presented at the AILA conference in Essen, Germany. This paper and Harris' (2007) that is explained above are parts of a bigger study, which is a

quasi-experimental intervention study, conducted in London. The training involved the same strategies presented in Harris (2007) above. Their project involved one intervention and there was one set of data collection; they presented different parts of the same project. The data collection methods involved in Grenfell et al.'s (2008) paper were reading test and attitudes questionnaires. The use of Think-aloud Protocols was not mentioned in this paper either. The aim of this paper is to investigate learners' responses to strategy instruction.

The outcomes reported in this paper, in relation to reading skill, are that 1) students in the SBI group made more progress than the control group; 2) "Being high attaining, female or from a more privileged socio-economic background did not appear to confer the expected advantage" (p.11); 3) intervention was found to be a significant factor in determining progress; 4) the bilingual students were reported to have improved more than the monolingual students, although not statistically significant; 5) the attitudes of all students towards their language learning declined. However, those of the experimental classes declined less than the control classes. According to these outcomes the intervention was effective in contributing to students' progress in the target skill. However, the fact that students' attitudes declined causes contradictions. Similar to the cause of decline in motivation, decline in attitudes may be due to the processing demand that students were faced with.

Macaro and Erler's (2008) study was a longitudinal quasi-experimental intervention study conducted in England. The study aimed at raising the achievement of young-beginner readers of French through strategy instruction. Participants were beginner learners of French in year 7 to 8. Learners were aged between 11 and 13. There were intervention and control schools, 62 students in the intervention schools and 54 in the control schools. A total of 116 students participated to all pre- and post-tests. SI was based on the cycle proposed in Macaro (2001). To put it briefly, the cycle follows the following steps: awareness raising, modelling, scaffolded practice, removal of scaffolding and evaluation of attitudes. Strategies taught: 1) guess from the words around the problem; 2) think hard about words I might know; 3) use a process of deduction; 4) sound out the word phrase; 5) use common sense; and 6) remember to read the whole sentence to see if it makes sense. The texts for the SI programme were developed by the researchers and teachers used these as extra materials. The control group did not receive any extra materials. The intervention

lasted for fifteen months and outcomes, including the measurement of strategy change, were measured through 1) a French reading comprehension test, 2) reading strategy use, and 3) attitudes towards French. These tests were administered pre- and post-intervention and compared to a control group.

They found significant improvement in some of the strategy use and attitudes towards French. This finding seem to contradict the findings of Harris's (2007) and Grenfell et al.'s (2008) papers which are reports of an SBI with one set of data collection. While Harris (2007) and Grenfell et al. (2008) reported that both motivation and attitudes of the experimental group students declined, Macaro and Erler reported improved attitudes. Possible reasons of differences in the outcomes are discussed here. Both studies were conducted over a long period of time. Therefore, the difference in the outcomes could not be caused due to the length of the studies. The difference may be caused by the type of measurement, the attitudes test used by Macaro and Erler (2008). They measured students' general attitudes to learning French rather than measuring attitudes to learning the specific skill under investigation, which is reading. Thus, the SBI may have improved learners' general attitudes towards learning the target language, but it is not clear how much their attitude of the reading skill improved.

Macaro and Erler (2008) further suggested that metacognition improved while students made decisions about clusters of strategies and evaluated strategy use. "The orchestration of a cluster of strategies thus demanded a continuous metacognitive decision-making process which included monitoring, evaluation and re-configuring the clusters of strategies used" (Macaro and Erler, 2008, pp. 105-6). Their findings on the improvement of metacognition also differ from the findings of Harris (2007). While Harris shows that students did not develop full metacognitive knowledge by the end of the SBI in order to use strategies independently, Macaro and Erler report in general terms that metacognition improved. While Macaro and Erler's report on metacognition seems vague, Harris's conclusion on the development of metacognition reflects the reality; a similar outcome to Harris (2007) is reported in this thesis (see the findings chapter). Metacognition is key for strategy orchestration, thus such a contradiction must be addressed in further research.

Kusiak (2001) conducted an experiment and control group design intervention study to investigate the effect of metacognitive strategy training on reading comprehension and

metacognitive knowledge. The aim of the study was to shift students' attention from the role of vocabulary to understanding in reading. Strategy change was measured through pre- and post-testing, however there was not any use of Think-aloud Protocols. The participants were 158 secondary school students, 80 of which were in the control group and 78 in the experimental group. The strategy training involved the following strategies: 1) finding the main idea of the paragraph, 2) recognising topic sentences, 3) distinguishing the main idea from supporting details, 4) distinguishing different text patterns, 5) concentrating on key words, 6) guessing word meaning from the context and 7) identifying the purpose of reading. The intervention lasted four weeks. Training took two classes per week which makes eight classes in total; each lesson was 45-minutes long. The experimental group students were exposed to extra hours of English during the study. Although her study is one of the most valuable studies in the LLS field, exposing students to extra hours of instruction complicates interpretation of the findings. This is a major limitation for this study. In order to ensure that the groups were at the same level, she administered a general language competence test. Two weeks later, students were given 1) a metacognitive awareness questionnaire (which had two parts), and 2) a reading comprehension test. Students were asked to comment on how they thought they could become better readers.

The outcomes showed that the reading comments of students increased in both groups. The experimental group students' commented more on practising reading and less on the importance of vocabulary knowledge. The control group commented more on the importance of vocabulary knowledge. "It may be assumed that the experimental group students became more aware of the nature of the reading process and more sensitive to 'pure' aspects of reading, those not related to vocabulary" (Kusiak, 2001, p. 262). This outcome suggests that SI changed the perception of the experimental group students to reading. Some comments concerned the difference between silent reading and reading aloud such as the role of pronunciation of words in reading a text. "They reported that listening to a text which is read out loud, e.g. by a teacher, can help them to recognise and understand words in a text that they know from the spoken language" (Kusiak, 2001, p. 26). According to this outcome, students who use sub-vocalisation as a reading strategy may be more able to understand the meaning of words by concentrating on the correct pronunciation. Kusiak reported that the number and type of comments between control and experimental groups changed after the experiment. The experimental group students commented more on reading and understanding, however the control group commented

more on vocabulary. This outcome shows that strategy increases text engagement, so students become more able to comment on the reading itself rather than thinking that reading depends on vocabulary knowledge. Lastly, the students were asked to evaluate their reading performance. The pre- and post-test results were statistically compared. The outcomes show that training improved students' self-evaluation skills. However, there was no significant change in the control group. Lack of change in the control group suggests that SI is effective in improving students' evaluation skills. Self-evaluation skill is an important element of all SBI cycles. Evaluation stage is the last stage of every SBI cycle. It functions as a means of reflection device for the students. Students reflect on their strategy deployment experience. They figure out whether the strategy or the strategy-cluster was effective for their purpose. Such a reflection and hearing their peers reflect on their experiment helps students improve in effective deployment of strategies.

The effect of metacognitive strategy training on the students' reading comprehension was positive. The reading comprehension of the experimental group significantly improved after the training, and they demonstrated a statistically significant improvement in reading comprehension in the post-test as compared to the pre-test. Students were divided into three groups for comparison reasons: low, average and high. However only low and high language proficiency groups were taken into consideration for the analysis; the experimental and control group students were compared. The results showed that the training had a more positive impact on the high proficiency group. This outcome suggests that the high proficiency group was more able to deal with the demand of learning to use strategies; meaning that those students who have more language may be more able to use strategies.

Chularut and Debacker's (2004) study followed a randomised pre-test-post-test control group design. The aim of the study was to investigate the influence of concept mapping on achievement, self-regulation, and self-efficacy in students of English as a second language who were studying in the United States. The participants consisted of 79 ESL students aged between 15 and 22; there were 55 undergraduate students and 24 high school students. There were five stages that students were asked to follow to complete their concept maps: 1) Select major concepts, 2) Range concepts, 3) Cluster the concepts, 4) Rearranging, rethinking, re-clustering, adding prior knowledge and searching for input, 5) Link related concepts. During the training, 5 reading passages were used, from TOEFL

model tests and Wild Life magazine. The level of English proficiency was measured by the Michigan Test of English Language Proficiency. The achievement test was used to measure students' understanding of the reading passages; it consisted of knowledge, comprehension and application level items. Training sessions were conducted outside of regular class time which suggests that experimental group students were exposed to extra hours of English. Similar to Kusiak's study, exposure to extra hours of instruction is a big limitation of this study. The duration of intervention was four weeks including pre- and post-testing. The outcomes were measured through pre- and post-test instruments. These instruments involved: (1) achievement (2) self-regulation, and (3) self-efficacy. To test self-regulation and self-efficacy the 'Attitude toward mathematics survey' was adapted. The survey consisted of three sub-scales: a) self-regulation: a self-monitoring subscale, b) self-regulation: a knowledge acquisition subscale, c) a self-efficacy scale. This was the only instrument that was used to measure strategy use.

The outcomes suggest that the scores of the concept mapping group were higher than the scores of the individual study groups. The self-monitoring and self-efficacy scores of the concept mapping group were higher than the individual study groups. The scores of the high proficiency group were significantly higher than the scores of the low proficiency group. The scores of the concept mapping group were higher than those of the individual study group. However, in terms of knowledge acquisition, the scores of lower English-proficiency students were higher than the scores of higher English proficiency students. So, lower-English proficiency students gained knowledge but they were not able to apply their knowledge. The higher proficiency students' were better in using strategies, possibly because their proficiency was higher. Generally, the scores of the concept mapping group was higher, suggesting the training was effective.

Bimmel et al.'s (2001) study was a quasi-experimental study designed to investigate the effects of strategy training on reading comprehension in first and foreign languages. The pre- and post-tests were used to measure strategy change. However there was not any use of Think-aloud Protocols. The study was conducted on 15-year-old Dutch students in the Netherlands. Students were in the 3rd year of regular secondary education. There were 12 students in the experimental group and 119 in the control group. The experimental group students were from six different schools, a pair of students from each school was selected. The experimental students' own classes were used as control groups. Both experimental

and control group students were in the same classroom, which increased the risk of contamination. The students were divided into weak, average and good readers in Dutch (L1). Strategy instruction was done in Dutch (L1), there was no training in English (L2). Their reading comprehension was tested in both Dutch and English in order to investigate students' improvement in Dutch (L1) as well as in English (L2). The English test results would point out any transfer effect that there may be. The strategy instruction lasted for four months and involved the following strategies: 1) looking for key fragments, 2) paying attention to structure marking elements (hinge words), 3) making up questions (questioning), and 4) mapping the most important information from the text (semantic mapping). The outcomes were measured by two means of data collection: 1) Strategy specific tests (a. two subsets of key fragments; b. two subsets of hinge words; c. two subsets of questioning; d. two subsets of semantic guessing) and 2) Reading comprehension tests in Dutch and English. The reading comprehension tests were taken from the national final exams.

The outcomes showed that there was no significant difference between the intervention and the control groups in the key fragments test and questioning test. However, there was significant improvement in the semantic mapping and the hinge words tests. These test results offer contradictory outcomes. Reading comprehension tests in L1 (Dutch) and L2 (English) suggested the average score of the experimental group was much higher than the control group, although statistically not significant. The poor outcomes of this study may be due to the procedures of the SI. The instruction was conducted in the learners' first language (Dutch) and the transfer effect of strategies was tested, although, Gelderen et al.'s (2004) and Gelderen et al.'s (2007) studies support Bimmel's outcomes, in their claim that L1 reading comprehension has a large contribution to L2 reading comprehension and that the hypothesis of the transfer effect could be correct. The outcomes of Bimmel's study suggest that strategies may or may not transfer; and if they do, they do so poorly. On the contrary, Harris and Grenfell's (2004) claim that in order for learners to become more strategic learners, collaboration between teachers of all subjects is necessary appears sensible. If, for example, learners could practise strategies both in their first language and the foreign language, it is possible that commonalities in strategic use between the languages would help them. However, such a study plan is outside the constraints of the present study.

Pappa et al. (2003) planned an intervention study which followed a pre-test-post-test control group design. As reported in the paper, the aim of the study was to investigate whether strategy instruction on semantic mapping would produce more successful comprehension in English as a Foreign Language. There were four groups: 1) a strategy instruction group; 2) a strategy instruction and motivation boost group; 3) a motivation boost group; and 4) a control group. The study lasted for two weeks and it was conducted with 119 Greek learners of English, aged between 14 and 15, in a language centre. Strategy instruction involved metacognitive strategy training and semantic mapping. An English proficiency test and a reading comprehension test were administered as pre- and post-test data collection measures. However, change in strategy use was not measured.

The results showed that students who received training, irrespective of the type of training, improved their performances significantly. The control group had the same performance in both of the testing phases. The motivation plus semantic mapping group differed significantly from the motivation group and the semantic mapping group. The performance of students who received both types of intervention (motivation plus semantic mapping training) was significantly higher than the performance of the students who received either the motivation or the semantic mapping training. They reported effect sizes of groups as follows: motivation plus semantic mapping training had a large effect (d=1.20); motivation training had moderate effect (d=.75); and semantic mapping training had small effect (d=.46). It is neither possible to make conclusions on the strategy uptake nor is it possible to understand whether this type of instruction made any difference to students' motivation. The only conclusion that is possible to make is that motivation added to semantic mapping group achieved higher scores on the reading comprehension test. Nevertheless, assuming that the groups were comparable, this study shows that combining SI with a motivation boost may be effective.

The studies on adolescents indicate that SBI is mostly effective with adolescents, although there are some mixed outcomes. Macaro and Erler (2008) and Pappa et al. (2003) reported effect sizes of small to medium for SI studies on reading. There are mixed outcomes on whether motivation and metacognition increase or decrease; and it seems that attitudes decrease after an SBI. However, SI increases students' awareness of reading processes; and a study with a motivation boost may be more effective. It also seems that reading strategies

that are acquired in the first language do not transfer to a second language automatically. These outcomes have been taken into consideration when designing the present study.

The next section shows how the research questions were developed in light of the studies that are presented in this section.

3.5.3 Conclusion

The studies that are presented above show aspects that need further research in SBI. There is an obvious lack of experimental studies on SBI in school settings in the Turkish Cypriot context. There is also a lack of research on strategy-clusters in LLS research.

It is possible to conclude the outcomes of the studies that are presented as follows:

- SBI seems to be effective in improving students' scores in reading comprehension, although there are some mixed outcomes. Strategies like memory, cognitive and compensation are among useful strategies but test taking strategies are found not to be useful in improving reading comprehension. However, there is a lack of experimental research on reading strategies with adolescents in the Turkish Cypriot context.
- At the start of instruction, SBI may decrease motivation depending on how much challenge learners face with. However, this can change for persistent students at later stages.
- There are mixed outcomes on whether SBI decreases or increases attitudes towards English.
- There are also mixed outcomes on whether SBI decreases or increases metacognition. Harris's (2007) research shows that guidance is needed to improve metacognition.
- SBI increases students' awareness of reading processes and vocabulary knowledge is not the only requirement to become a good reader.
- Sub-vocalisation may help students to understand the meaning of words or prevent misunderstandings.

- SBI increases students' self-evaluation ability.
- High proficiency groups are more able to use learner strategies, although low proficiency groups seem to benefit from it too.
- Transfer of strategies from L1 to L2 may not be possible.
- Involving a motivation boost as part of an SBI may make the SBI more effective.
- Following a teacher-student interactive approach to SBI is more effective than teacher-initiated or student-mediated groups.
- There is a limited number of research studies on strategy-clusters. Analysis of them could provide a better understanding on how students use them; and they would provide information about learner strategy while learners are engaged in the task or reading text.
- Writing a student profile for each learner would help to understand a learner's deployment of learner strategies in more detail in conjunction with other characteristics of the learner. Although the frequency of strategy use is also measured for statistical purposes, it should be pointed out here that quantity and frequency of strategy use is not very important but the quality in terms of effective clustering is important. The student profiles will show the quality of strategy clustering.

The above bullet points summarize the key points of the experimental and quasi-experimental research on SBI. The research questions that are employed in the present study are written based on the above bullet points. They are as follows:

1) Can SBI bring about change in reading strategy deployment and reading comprehension of year 7 EFL secondary school students?
    a. Is there any difference in reading comprehension ability between the groups in the pre- and post-tests?
    b. What is the difference between pre- and post-tests in terms of frequency of strategy use for intervention and control groups?
    c. What is the difference between the intervention and control groups in terms of frequency and the way strategy-clusters are used?
2) Does the overall programme have any impact on the factors that influence success?
    a. Has the SBI intervention had any impact on students' attitudes to reading in English?

b. Is metacognitive awareness of intervention group students different than the control group students after the SBI?

The way in which these questions relate to the previous research is explained in the Methodology Chapter (see section 4.3).

3.6 Chapter Conclusion

This chapter is divided into four sections: section one was on reading; section two on LLS issues and SBI; section three was a theoretical account of LLS; and the last section was on the empirical studies on LLS.

Section one discussed processes and models of reading. The high and low reading processes were used as reference points to divide reading strategies into two as top and bottom level strategies. A strategy such as inference is referred to as top level strategy because it helps the high level reading processes to function. In a similar way a strategy such as semantic guessing would help a beginning reader to engage with the text at word level which is a low level process. Semantic guessing strategy in this study involves the following strategies: known words, find the root, and compound words. Section 4.2.2 presents a justification for the selection of the reading strategies for this study. The interactive models of reading are presented as useful in explaining how reading works. These notions are applied to this study and the theoretical framework of reading was developed. It is presented in the first section of the methodology chapter.

Section two focused on the still unresolved issues of definition, identification and classification. It also states that strategy-cluster deployment is a new area of research in LLS. Lastly, the major SBI cycles are compared. They are used in the adaptation of the SBI cycle that is used in the present study. It is explained in the second section of the methodology chapter.

Section three presented two major theories of cognition: The Act-R Theory and the Cognitive Theory. Notions of these two theories are combined so as to complement each

other and a theoretical framework of LLS is developed. This framework attempts to explain the strategy acquisition and deployment in this study. It is presented in the first section of the methodology chapter.

The last section, established that there is lack of experimental LLS research in school settings in the Turkish Cypriot context. It also shows that there is a lack of research on learners' strategy-cluster deployment. This issue relates back to the first section, where quotations from leading researchers in LLS are presented as proof of lack of research in this area. Also, in this last section, all the major outcomes of the previous empirical studies are listed with a statement that they shaped the research questions in the present study. The way that the literature relates to the research questions in the present study is accounted for in detail at the beginning of the second section in the methodology chapter.

The next chapter is the methodology where all the accounts of the literature review in this chapter are taken a step further to embed them into the present study in the way that is briefly stated above.

CHAPTER IV – METHODOLOGY

4.1 Introduction

This chapter is divided into two sections. In the first section the theoretical frameworks of LLS and reading are presented. These two theoretical frameworks are placed at the beginning of this chapter to form a link between the Literature Review and Methodology chapters. They also focus on significant theoretical aspects of the study. The theoretical framework of LLS follows on from the third section of the previous chapter (see section 3.4), which defined the Act-R Theory and Cognitive Theory. In this chapter, the way these two theories were used together to explain reading strategy acquisition and deployment was described. In other words, the cognitive process is explained theoretically and it is illustrated on a diagram. The Think-aloud Protocols which are also discussed towards the end of the chapter, are used in order to get insights on students' cognitive processes. The theoretical framework on reading relates back to the first section of the previous chapter (see section 3.2) and explains how the reading strategies of the SBI were chosen for the present study. The SBI cycle, too, is presented towards the end of this chapter.

The second section starts with a reminder of the research questions and shows how they are linked to the literature. The beginning of this section relates to the fourth section of the previous chapter (see section 3.5). In this second section, the design of the study is explained first. This is followed by an account of the ways of obtaining information in LLS research and qualitative and quantitative instruments of data collection are presented. The quantitative instruments involved Attitudes and Reading Strategy Questionnaires and a Reading Comprehension Test. The qualitative instruments involved Think-aloud Protocols and Metacognitive Awareness interviews. These were followed by the SBI cycle and the data collection timetable. The timetable is an important part of the study, because of the timing of pre- and post-tests; and especially as the time interval between the end of the intervention and before the administration of the post-tests was significant. Lastly the lesson plans and teaching materials are presented.

The next section is on the two theoretical frameworks that are centrally important to the present study.

4.2 Section I - Theoretical Frameworks

Two theoretical frameworks are presented in this section. The first one is the theoretical framework of LLS. It combines notions of Act-R Theory and Cognitive Theory to show how strategy learning and deployment is perceived in the present study. The second framework is the theoretical framework of reading. It is used to explain reading and how the strategies that were chosen as part of the SBI in the light of reading are explained by Bernhardt (1993). This section aims to address a theoretical concern in LLS research which was phrased by Macaro (2007) as follows: "intervention needs clear links between the theory of the skill one is trying to improve, the theory of strategic behaviour that one is adopting, and the model of strategy instruction that one then delivers to the students" (p. 242). Therefore, 1) the theoretical basis for the strategic behaviour and the way SBI works is addressed with framework one and 2) the link between the intervention and the skill is expressed in framework two.

These two frameworks are explained by using the terms that are presented in the Literature Review Chapter. There may be some repetition of ideas, but here the terms are used to explain how reading strategy acquisition and deployment are perceived to work in this study.

4.2.1 Theoretical Framework of LLS

LLS acquisition and deployment is better explained by pulling the notions of the Act-R and Cognitive Theories together. The Act-R Theory provides a comprehensive and reliable theory on how learning takes place. However, there are notions of language learning that the Act-R Theory does not reflect, i.e., noticing. These notions are addressed by Cognitive Theory and are explained below. Learner strategy acquisition, following the notions of Cognitive Theory, can be explained in two stages: automaticity and restructuring. The

automatisation stage is the stage of strategy uptake and practice; the restructuring stage is reorganising and evaluation. However, there are stages that go before automatisation that are explained by the Act-R Theory.

LLS acquisition can be explained using the types of knowledge offered by the Act-R Theory. These knowledge types are declarative and procedural; they are represented in memory as declarative memory and procedural memory. Declarative knowledge accounts for how learners accumulate rules, and procedural knowledge for how these rules are proceduralized and restructured. According to these, the stages of skill acquisition that is offered by Act-R Theory do not apply to LLS acquisition as they are. There seems to be a stage missing at the beginning. The first stage that is offered by the stages of skill acquisition of Cognitive Theory can be used to fill in the missing stage; selection. Thus, the stages that facilitate the transition from declarative to procedural knowledge are 1) selection, 2) cognition, 3) associative and 4) autonomous stages. This theoretical framework of LLS is illustrated in the figure below.

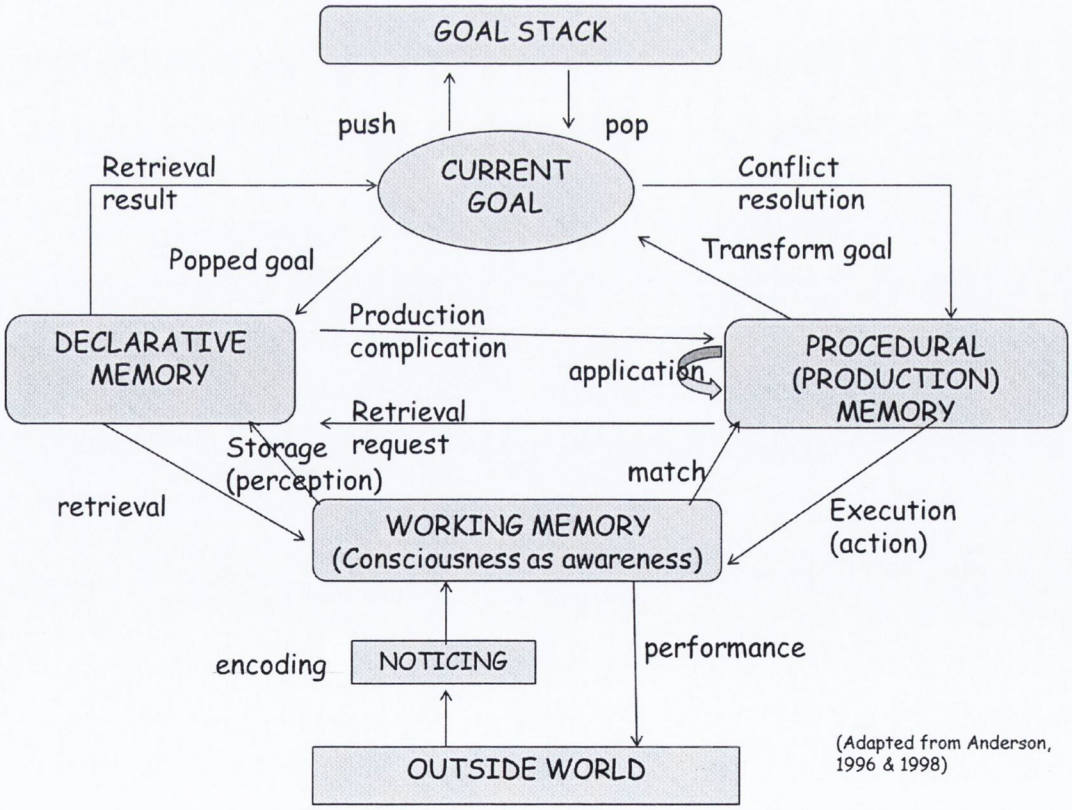


Figure 1: Theoretical Framework of LLS

This figure was adapted from two figures in Anderson's books for illustration purposes. It is a combination of two figures, one published in Anderson (1996b) and the other in Anderson (1998). It shows processes involved in general skill acquisition and use. There are two notions of Cognitive Theory which are incorporated into the diagram, which represents the ideas of Act-R Theory. These notions of Cognitive Theory are noticing and consciousness as awareness. The diagram is used in this chapter to illustrate how learner strategies are acquired and deployed.

Learner strategies are goal oriented. Use of a learner strategy is triggered by a challenging learning situation. A problem presents itself, and a learner strategy, from a group of strategies, is selected to address the problem. These two ideas of a learner having a group of ideas at his/her disposal is represented as the 'goal stack' and a selection of one to solve a problem is represented as the 'current goal'. There is a constant interaction between the goal stack and the current goal in memory. At the opposite end of the figure, there is the 'outside world' which refers to input, noticing which is significant for learning, and the working memory. Besides all processing demands on the working memory, which will be accounted for shortly, a level of consciousness as awareness is required. Explicit SBI corresponds to the noticing stage, which is the awareness raising stage in the cycle of SBI. Learners first notice a strategy before they use it. When a learner has noticed a strategy, it is up to the learner to be conscious of it and search for opportunities to practise it. The consciousness is controlled by the working memory. However, there are other responsibilities of working memory as well within the process of strategy uptake. Strategies that are brought to the attention of learners are introduced to the working memory (selection stage). Learners may pay attention to it or it may go unnoticed. However, those that learners paid attention to are introduced to the declarative memory as a learning fact (cognitive stage). Thus, learners have the knowledge of the strategy. However, this does not mean that the learner would be able to apply the strategy to learning or a comprehension problem. At this stage practice plays a key role in transforming the declarative knowledge into procedural knowledge; or moving the knowledge from declarative memory to procedural memory. Such a process takes an extensive amount of time, and there is not an exact measure of it (associative stage). At this stage there is a constant process of restructuring. As the learner gains experience in the deployment of the strategy, s/he makes adjustments to how, where and when s/he uses it.

Even when the deployment of the strategy is proceduralised (autonomous stage) such restructuring may still take place, this is shown as application on the diagram.

When the learner starts to use one or more learner strategies in accordance with the current goal, rapid and complicated processing procedures occur in the learner's mind. Such processing occurs between 1) input and working memory, 2) working memory and declarative memory, 3) working memory and procedural memory, 4) declarative memory and procedural memory, 5) declarative memory and current goal, 6) procedural memory and current goal, 7) goal stack and current goal, and 8) within procedural memory. Such interactions occur when they are required in less than a second. Interaction between declarative and procedural memories suggests that even when a strategy is proceduralized learners may still look for declarative knowledge. Both declarative and procedural memories work in conjunction with the current goal, because the current goal determines which strategies have to be used. The interaction within the procedural knowledge indicates the need for constant restructuring.

The above figure illustrates cognitive processes involved in LLS in a comprehensive and plausible way. The next section explains the theoretical framework that is used to explain reading and strategy selection for the SBI in this study.

4.2.2 Theoretical Framework of Reading

This section explains the theoretical framework that is adapted from Bernhardt (1998). She is an authority in reading research; she wrote on interactive approaches to reading for second language learning and explained processes involved in reading. Her work is based on empirical data and the interactive model of reading is presented in a comprehensive manner. It was used as a criterion for the selection of strategies that were included in the SBI.

Bernhardt's (1993/1998) work on the interactive approaches showed how bottom-up and top-down operations interact with each other. It also showed how these operations interact during reading. The implication of her work for teaching practice is the importance of

teaching them in combination, because learners generally have problems in both levels of operations. Based on the empirical data, Bernhardt claims that there are six features that demonstrate an active reader's selection of processes that are part of the nature of reading. Out of these six features three are text-driven and three are conceptually driven. The text driven factors are 1) word recognition, 2) phonemic/graphemic decoding and 3) syntactic feature recognition. Word recognition involves interpreting the semantic meaning of a word. Errors in word recognition happen when learners misinterpret the meaning of a word. For example, perceiving the meaning of phonemic/graphemic decoding involves misunderstanding of a word based on visual or aural similarities that words share. For example, interpreting every as very or 'village' as 'villa'. Syntactic feature recognition refers to interpretations that are beyond word level interpretations. This causes misunderstanding of the meaning conveyed in a sentence. It also involves other features that relate to tenses and nouns.

The conceptually driven factors are 1) intratextual perception, 2) metacognition, and 3) prior knowledge. Intratextual perception refers to how the reader perceives the parts of the text and how s/he understands it as a whole. This is significant especially at the beginning of the reading process, because the perceptions that the reader forms influence how the text is interpreted. A misinterpretation at the beginning of reading may cause the reader to misunderstand the whole text. For example, a formal letter from a business man could be perceived as an informal letter to a friend. "Metacognition refers to the extent to which the reader is thinking about or reflecting on what is being read" (Bernhardt, 1998, p. 122). This feature is significant for monitoring the comprehension process. Prior knowledge refers to a reader's existing knowledge about the topic of a text. The prior knowledge helps the reader to personally relate the text. It also helps the reader to remember the content of the text easily. Bernhardt (1993, p. 122/3) defines prior knowledge as "the reader's existing knowledge of the world or of particular topics that infiltrate the reader's recall. This feature also encompasses any assumptions or expectations that readers may bring to the text based on their own experience".

These features that are proposed by Bernhardt (1993) are critically central to the present study. They were used in the selection of strategies for the SBI. Strategies that corresponded to the three text-driven operations and strategies to represent three conceptually driven operations were selected. These correspondences were done based on

the definitions of reading factors that are offered by Bernhardt. "Reading factors" is a term used by Bernhardt (1993) for important components of reading such as word recognition and syntax. The strategies and the reading factors are listed in the table below.

Reading strategies versus theoretical distribution of reading factors			
Reading strategies	**Reading factors**	**Reading Operations**	**Definitions of Reading Strategies**
Sub-vocalisation	Phone-graphemic features	Text-driven operations	rereading aloud bits of the text while thinking
Semantic guessing (familiar words, compound words, word roots)	Word recognition		This is used to focus on individual words, and it involves the following: Using known words: Focusing on the words known to understand the rest of the story Compound words: Breaking compound words down to check if any part is known to the student Word roots: focusing on the word roots, detaching prefixes or affixes to analyse the word
Elaboration	Syntax		Students expand on what is conveyed in the picture using their imagination
Prediction	Perceptions	Conceptually-driven operations	Using predictions to fill in the gaps the student had during the process of comprehending the story
Inference	Perceptions		Coming up with conclusions about the story related to what the story teaches.
Background knowledge	Prior knowledge		Bringing in the background knowledge to increase the level of comprehension
Question generation	Perceptions		Asking oneself questions about the story
Monitoring	Metacognition		Watching strategies use throughout reading, monitoring requires strategic awareness
Summarization	Perceptions		Summarising the story at the end of reading
Picture	-	Awareness of text structure and graphic organisers	Using picture to make sense of the story
Title	-		Using the title to figure out what the text is about

Table 2: Reading strategies versus theoretical distribution of reading factors

In the table above, the reading strategies that are involved in the present study are listed along with reading factors and reading operations that they correspond to. Picture and title are explained as awareness of text structure and graphic organisers because they are not closely linked to reading factors.

These strategies, when used together, help learners read more strategically and improve foreign language reading comprehension. They were selected for the intervention study based on a relevant review of literature, examination of strategy taxonomies and Reading Strategy Questionnaires used by various researchers, and the results of the pilot study. The above strategies can be grouped into two: bottom level strategies, which require phonetic, morphological and syntactic knowledge; and top level strategies, which are sophisticated strategies. Bottom level strategies could be used by poor readers if they are taught grammar intensively in the previous years of schooling. Top level strategies, on the other hand, require experience in reading. This grouping is done according to the reading operations that are shown on table 2 above; and the reading processes that are explained in section 3.2.1. Students whose language proficiency level is higher can use both bottom and top level effectively. To Nassaji (2003a) "lower-level component processes, such as word recognition and graphophonic processes, in addition to higher-level syntactic and semantic processes, contributed significantly to the distinction between skilled and less-skilled ESL readers" (p. 261). According to this, students who engage more in top-level strategies could be trying to tap into higher-level reading processes, which could suggest that they are more skilled ESL readers.

The reading strategies that were introduced in the SBI cycle were selected based on two criteria. First, a Reading Strategy Questionnaire was adapted based on Mokhtari and Reicherd (2002), Duncan and McKeachie (2005), Phakiti (2003), Oxford (1990) and Erler (2007) and it was administered to year seven students and in-class observation notes were used to choose the reading strategies appropriate to the students' needs. This questionnaire was then revised and piloted to address a reading strategy range that students were both familiar and unfamiliar with. Second, Bernhardt's (1998) theoretical reading factors were used to match the strategies to the reading factors. Through this criterion, strategies which relate to different reading factors were involved in the study and this ensured an interactive approach to reading. The issue of categorisation of strategies in LLS research became a problem when selecting reading strategies for this thesis. There are various categorisation

systems (see chapter 3) with long lists of strategies which overlap (see Oxford, 1990; O'Malley & Chamot, 1990).

The bottom level strategies included in the present study are text structure awareness, graphic organisers, sub-vocalisation and semantic guessing. Using these strategies, students know what they need to pay attention to when they encounter a new reading text.

There is a range of text structures, such as the levels of importance of information and paragraph organisation. However due to the level of the participating learners, only title is used as text structure awareness. The students' proficiency level was known at the time when the SBI was designed. Data was collected on the proficiency of learners during the pilot study. Pictures as graphic organisers were used to interest them and contribute in comprehension. The other bottom level strategies involved in the present study after the pilot study were sub-vocalisation, semantic guessing and prediction. The pilot study showed that medium and low level students were not good at pronunciation skills which often resulted in misunderstandings when reading. Thus, sub-vocalisation was involved in the study to encourage students to focus on correct pronunciation. If the student uses sub-vocalisation successfully, the "phonological representation serves as an access code in working memory for text integration processes that construct meaning" (Stanovich, 1992, p. 4; also see Perfetti, 2001). As a consequence, the correct pronunciation may help students to work out the meaning of some words they would misunderstand otherwise. However, it must be noted that sometimes learners pronounce a work wrong and this prevents correct comprehension (see Erler, 2002). This is an issue of proficiency threshold and it can only improve in time and with practice. Being able to use semantic guessing strategy requires some morphological knowledge (see Razı and Grenfell, 2012). For example, to guess the meaning of 'unhappy', the learner needs to know the meaning added with 'un' to the word. Prediction helps students to guess or predict the meaning of sentences.

Top level strategies, on the other hand, were taught to encourage students to reach an understanding beyond the basic, word level comprehension. Inferencing is considered as one of the sophisticated strategies of reading, because it requires management of lower level reading processes such as sounds and letters to some extent to be able to infer meaning from a reading text. Despite this, inferencing is one of the natural processes that

human beings use in everyday life to make sense of the world around them. Inferencing is not only a strategy it is a skill, a process applied to all sorts of comprehension such as written, oral and visual. It is an ability that begins well before children start to read. As stated by Grabe (2009), "[h]umans engage in inferencing from very early childhood and inferencing skills are parts of the basic cognitive processes that all humans carry out in interpreting their environment" (p. 68). He explains the major contributions of inferencing to reading comprehension:

a) integrate new information with prior knowledge
b) interpret and situate information that is decontextualized
c) synthesize information from multiple cues and sources
d) evaluate information in terms of a reader's goal and attitudes
e) understand information that may be conceptually different from prior expectations (Grabe, 2009, p. 69).

This list makes the importance of inference for reading comprehension clear. Inference strategy acts like a glue that sticks all the pieces of information together and forms a knowledge basis for comprehension. To Nassaji (2003b, p. 658), morphological knowledge and background knowledge influences success of inferences.

Background knowledge (prior knowledge) is one of the important characteristics of reading. It would have been surprising if it was not because it is one of the ways of retrieving information from our memory to make connections with what we are reading (see Grabe, 2009). A reader who reads in a familiar area reads differently than a reader who reads in a new area. There is an interaction with other concepts for comprehension purposes. Although it is necessary, it is difficult to comment on its usefulness, because the use of background knowledge can make negative contributions as well as positive. For example, a weak reader may call up the wrong background knowledge and draw wrong inferences. Therefore, background knowledge is not an easily treated factor (Grabe, 2009, p. 74). When, however, the topic interest is high, background knowledge could help in reading comprehension. Despite the drawbacks it may cause, background knowledge is an essential component of reading and central to construction of the meaning from a text (Grabe, 2009, p. 76).

Question generation is used during multiple strategy instruction; it was proved useful in L1 reading, "[t]here is strong evidence that question generation improves memory for text information, the identification of main ideas, and accuracy in answering questions" (Grabe, 2009, pp. 209-10). Question generation helps in promoting discussions around text comprehension. Question generation does not only help with comprehension and monitoring, it also encourages criticisms of the text content. Through question generation learners practise sub-strategies like connecting information, noting text organisation, making inferences, establishing main ideas, monitoring, clarifying information (Grabe, 2009, p. 236) and checking comprehension. Although question generation was proved to be useful in the L1 context there is little empirical research on the effectiveness of question generation in L2 reading contexts. In the present research, summarization either by the teacher or by the learners through teacher questioning was done. Summarization was not included in the SBI programme at the planning stage in order not to overload the learners, however it was naturally involved during the lessons. It was usually used at the end of the lesson to summarize what was read and what the learners understood from the text. Summarization was proved to be a useful strategy to ensure reading comprehension in L1 contexts. However, there has been little research investigating summarization strategy and its impact on L2 reading (Grabe: 2009, p. 209).

Monitoring is a metacognitive reading strategy that improves reading comprehension. Grabe (2009, p. 211) suggests that monitoring carries a group of other strategies under its umbrella:

1. has a reason for reading and is aware of it
2. recognizes text structure
3. identifies important and main-idea information
4. relates text to background knowledge
5. recognizes relevance of text to reading goal(s)
6. recognizes and attends to difficulties
7. reads carefully
8. clarifies misunderstanding.

Grabe's definition of monitoring, that it holds a group of other strategies, is one way of understanding this strategy. Monitoring, rather than holding a group of strategies, acts as a

controlling mechanism. It is almost like a third eye or a camera, which watches strategy deployment. As the learner brings in various strategies to solve reading problems, s/he watches himself/herself at the same time.

Monitoring is usually combined together with planning and evaluation as a group of metacognitive strategies. Both planning and evaluation were implicitly part of the study. Evaluation was part of the SBI and planning is a core strategy for strategy clustering. However, especially planning was not explicitly emphasised in the cycle. This strategy was indirectly involved when students were encouraged to use reading strategies in clusters.

As is the case for other strategies, there is research in L1 contexts which show that monitoring is a useful strategy. However, there is little research on monitoring and its impact on reading comprehension with L2 readers. Research in the past 15 years or so showed that strategy instruction which focuses on "multiple strategies in combinations, consistent practice with appropriate key strategies, and strategy instruction while engaged in reading and discussing the text" is effective (Grabe, 2009, p. 215). Therefore, in the light of the existing research, the present study is a strategy intervention programme which incorporates multiple strategies practised consistently, engaging students in story reading with plenty of opportunities for discussions in L2.

4.2.3 Conclusion

This section presents two theoretical frameworks. The first is for the LLS and the second is for the selection of reading strategies for the SBI.

The Act-R Theory in conjunction with the Cognitive Theory was explained in the literature review chapter. In this chapter, it was presented in response to the needs of the present study. The way these theories work while learners learn a reading strategy and they use a strategy or a strategy-cluster is explained visually on a diagram. The second framework explains the text-driven and conceptually driven processes of reading and they are illustrated on a table. The reading strategies that were involved in the SBI were selected taking this framework as a reference point. The strategies that relate to the text-driven

operations are referred to as bottom-level strategies and those that are related to the conceptually driven processes are referred to as top-level strategies in this thesis. The application of such a theoretical framework on the selection of the reading strategies is one of the significant aspects of this study.

The aspects presented in this section are explained in the literature review chapter, but the reasons why they are significant to the present study are discussed directly here. The frameworks that are presented here show that way the previous literature was interpreted and applied in this study. This section establishes the move from the literature review chapter to the methodological approaches used for the design of this study.

The next section is on the methodological approaches to the design of this study. It involves the details of the qualitative and quantitative data collection instruments. However, information on the process of the analysis for each of these instruments can be found in the analysis and findings chapter.

4.3 Section II – The Methodological Approach

Having set the theoretical frameworks of the present study, this section is on the methodological approach. The theoretical framework of LLS explains strategy acquisition and deployment. The theoretical framework of reading matches the reading strategies to reading factors. They also justify the methodology. For example, having adopted the theory of cognition, using Think-aloud Protocols was a necessity to understand students' cognitive processes. Also, having accepted the arguments on the interactive approaches to reading in increasing reading comprehension, a Reading Comprehension Test was administered.

In this section, first, the design of the study is presented in detail. An extended account was needed for this part because this study, as a mixed methods quasi-experimental research design, draws from both quantitative and qualitative research approaches. Second, commonly employed methods of obtaining information in LLS research are explained. Third, the quantitative data collection instruments, which are used in the present study, are

explained: the Individual and Socio-cultural Differences Questionnaire (the Background Questionnaire), the Attitudes Questionnaire, the Reading Strategy Questionnaire, and the Reading Comprehension Test. After the data collection instruments are explained, the Quantitative Data Bank is listed. Fourth, the qualitative data collection methods which involve the Think-aloud Protocols and the Metacognitive Awareness Interview are accounted of. Then, the Qualitative Data Bank is presented. Fifth, the cycle of the SBI that is adapted for the need of the present study is presented. Lastly, the data collection timetable, lesson plans and the teaching materials are explained.

Before the design of the study is explained, the research questions are presented here with the justifications depending on the previous experimental studies in the literature. The outcomes of the previous studies are summarised in section 3.5. The research questions of the present study are as follows:

1) Can SBI bring about change in reading strategy deployment and reading comprehension of year 7 EFL secondary school students?
    a. Is there any difference in reading comprehension ability between the groups in the pre- and post-tests?
    b. What is the difference between pre- and post-tests in terms of frequency of strategy use for the intervention and control groups?
    c. What is the difference between the intervention and control groups in terms of frequency and the way strategy-clusters are used?
2) Does the overall programme have any impact on the factors that influence success?
    a. Has the SI intervention had any impact on students' attitudes to reading in English?
    b. Is metacognitive awareness of intervention group students different than the control group students after the SBI?

The research questions of the present study reflect the gaps in the LLS research field. Question 1a addresses the need for experimental research on reading strategy instruction in the Turkish Cypriot secondary school context. The aim of Question 1c is to make an original contribution to the LLS research field by collecting information and analysing strategy-cluster deployment. The outcomes of question 1b would statistically support the information on strategy deployment. The statistical outcomes are used to support the

findings of the Think-aloud Protocols. There are mixed outcomes on whether SBI increases or decreases students' attitudes to language learning. I address this issue with question 2a. There are also mixed outcomes whether SBI increases or decreases students' motivation and metacognition. Question 2b focuses on the issue of metacognitive awareness. Data on motivation is also collected and it is used to describe students on the student profiles, which are presented in section 5.5.4. The idea of writing student profiles is borrowed from Grenfell and Harris (1999). A student profile involves information on the student's motivation, metacognitive awareness and various examples of strategy clusters. They are useful in providing detailed information on individuals.

The next section explains the design of the present study.

4.3.1 The Design of the Study

In this section, the design of the study is explained with all its characteristics as an experimental research following a mixed methods design. The section is concluded by mapping the research questions against the data source.

The study was planned as a mixed-methods quasi-experimental intervention study. The reasons for following this design are explained in this section. Such a research design would address the call for experimental intervention studies in language learner strategies research. This quantitative research design was also necessary in order to address one of the aims of the study: investigating the impact of reading strategies on reading comprehension. The second aim of the research is addressed with the qualitative aspect of the study, which is investigating strategy-cluster deployment by students. Quantitative research provides statistical data through surveys, experimental or quasi-experimental research designs. Quantitative research is useful if the researcher aims to assess attitudes, opinions, preferences, demographics, practices and procedures; prove or disprove a correlation between two phenomena; or produce evidence concerning cause-effect relationship (Kumar, 2005). Surveys in the form of questionnaires and interviews are widely used by LLS researchers to gather and describe data on learner strategies. Surveys were used at the beginning of LLS research, in the 70s and 80s, to identify, describe and

classify learner strategies (see Oxford, 1990; Stern, 1975; Rubin, 1975). There were also attempts to teach learner strategies to unsuccessful learners and measure effectiveness. These early SBI studies were not always designed rigorously enough to guide future research. They especially lacked detail when the outcomes were reported. Later, there has been a call for rigorous experimental studies (see Hassan et al., 2005) that measure the impact of SBI. In experimental studies, the researcher manipulates variables and tries to determine a relationship between or within variables. If, for example, the researcher has control and experimental groups, numeric data can be collected and the groups can be pre- and post-tested without much time required for their administration.

All quantitative research follows an orderly process that guide the researcher from 1) hypothesis (or research question) formation 2) identification of data sources and 3) research tool, 4) establishing procedures for conducting the research, to 5) analysis of data (Tailor, 2005, p. 92). Such an orderly process would bring structure to research. Hypothesis formation is the first and the most significant step of quantitative research. Hypotheses can also be presented as research questions. Research questions are used as hypotheses in the present study. The second step is identifying data sources depending on the type of research design. Data sources can be students, teachers, or teacher and student interactions. Once data sources are defined, research tools can be identified. Research tools are used to collect data from the data sources. Questionnaires, interviews, standard tests, checklists and interventions are some of the research tools (Sarantakos, 2005). The next step is establishing specific procedures of data collection. Being clear about when, why and how the identified research tools will be administered is significant. The last step is to decide on the analysis of the data. Quantitative researchers usually employ statistical procedures for data analysis.

Quantitative research follows the above listed common stages. Because quantitative studies are traditional modes of research they follow procedures exist for them. It is worth mentioning though this is not the case for all research environments, "underlying quantitative research methods is the belief or assumption that we inhabit a relatively stable, uniform, and coherent world that we can measure, understand, and generalise about" (Gay, Mills & Airasian, 2006, p. 9). Such a research design does not allow flexibility for the researcher. This aspect of quantitative research is contrary to qualitative research which works within researcher designed frameworks, allowing more room for innovation and

creativity (Creswell, 2009, p. 19). Although school settings are hardly stable and uniform, it is still possible to find a generalizable aspect through quantitative research. It is also not necessary to follow all the suggestions of a quantitative study. They must be adjusted depending on the study. For example, true experiments are usually done in laboratory conditions and it is essential to randomly assign participants to experimental and control groups in order to eliminate the possible effects of rival explanations of the findings (Bryman, 2008, p. 37). However, imposing requirements of laboratory conditions on classroom settings can be counterproductive. A true experimental study has the following key features:

1) one or more experimental and control groups,
2) random allocation to control and experimental groups,
3) pre- and post-tests to ensure parity and to see the effects of dependent variable,
4) one or more interventions to the experimental group(s),
5) isolation, control and manipulation of independent variables,
6) non-contamination between the control and experimental groups (L. Cohen et al., 2007, p. 275).

These key features can be controlled by taking actions for and clearly explaining aspects like participants, materials, procedures and measures. In the present study, participants are explained in the context chapter; pre- and post-test instrumentation, teaching materials and procedures of data collection will be explained in detail later in this chapter. When one or more of these key features are missing in an experimental study, it is called as a quasi-experimental study to indicate that not all of the requirements of an experimental procedure are met. It is logical, in educational studies, to design quasi-experimental studies by only keeping the requirements of true experiments as reference points. Quasi-experimental studies are appropriate for educational research, because they offer the flexibility that is needed to keep the classroom setting as natural as possible during the study.

Allocation of participants can be either random or non-random (i.e. conveniently selected). When participants are randomly assigned to groups, random sampling, they have equal opportunity to take part in the study. Random sampling is done by randomly picking names of students from a pool and assigning them to groups randomly. It is used to

eliminate any systematic differences among participants that could affect the outcomes. Random sampling is used in true-experimental studies to ensure that the sample is representative of the population. However, it is neither always possible nor necessary to carry out research that is true-experimental in nature. It is not always possible to undertake true experiments (L. Cohen et al., 2007), because it is rarely possible to randomly assign participants to groups in educational research. Such restrictions are usually imposed by school policy and regulations. Besides, outcomes obtained through random sampling may not reflect the true nature of a classroom setting. Using naturally formed classrooms, convenience sampling, would possibly provide us with outcomes that reflect the real situation. When it is not possible to ensure the tightly controlled conditions of a true experiment the design is referred to as a quasi-experimental study (Creswell, 2009, p. 155).

Random sampling would create a clinical condition which would be far from reality about the implications of the study for the wider population. Thus, the present study was not planned as a true-experimental study from the beginning. It became clear during the pilot study that a true-experimental study would not be possible even if it had been planned this way. Random allocation would not be possible because the classes were pre-arranged by the school authorities. The students were not grouped following any criteria such as success; the classes were mixed-ability groups. The school authorities placed students into classes considering the primary school that the students were coming from. This was done in order not to separate friendship groups. State primary schools in Northern Cyprus are generally similar regarding the level of education, background and achievement profile of students.

Quasi-experimental designs have been used by LLS researchers interested in strategy instruction, because it is one of the best type of designs which show success or otherwise of the intervention studies. Success of such studies is generally measured by various procedures of pre- and post- testing as quantitative data collection methods. In the present study too, there are pre- and post-tests administered before and after the intervention study in both control and intervention groups. The pre- and post-tests consisted of: a) a Background Questionnaire; b) a Reading Strategy Questionnaire; and c) an English Reading Comprehension Test. There were two intervention and two control groups. The details of the intervention study are presented later in this chapter. The quasi-experimental nature of the present study imposes a structure on the data collection procedures and

requires statistical analysis. This impedes our ability to reach to a deeper understanding of strategy clusters used by the students and their metacognitive awareness. In order to gain an interpretative perspective a qualitative design was needed to be incorporated into the quasi-experimental design.

The purpose of an experimental design is to control conditions to be able to observe the true effects of the independent variables upon the dependent variables. Validity is an important concern in all experimental designs. L. Cohen et al., (2007) summarizes the distinction between internal and external validity in two questions. Internal validity asks: "Do the experimental treatments, in fact, make a difference in the specific experiments under scrutiny?" and external validity asks the following question: "Given these demonstrable effects, to what populations or settings can they be generalized?" (L. Cohen et al., 2007: 155). An experiment would not be possible without internal validity. However, an experimental research is possible without external validity (L. Cohen et al., 2007, p. 157).

Internal validity seeks to demonstrate that the findings of a study can actually be sustained by the data (Morrison, 1993, p. 165). The aim of having a control group and random assignments in true experiments is to control for the possible effects of rival explanations of the findings (Bryman, 2008, p. 38). Selinger and Shohamy (1989, p. 149) emphasize the fact that controlling for sources of internal validity is the biggest problem in a quasi-experimental design, because, as mentioned earlier, it does not match all the conditions for a true experimental research. In order to ensure the internal validity of the present study, two control groups were allocated along with two intervention groups. However, for both true and quasi-experimental designs invalidity can occur at any stage of the study. Some possible threats of internal validity such as history, maturation, statistical regression, testing, experimental morality (dropout rate) and instrument reactivity (Brayman, 2008, pp. 38-39) are difficult or impossible to control. They occur without intention of the researcher. Having an awareness of them and being cautious is the only thing a researcher can actually do to increase validity. For example, in order to control for possible invalidity based on students' histories, a background questionnaire (referred to as the Individual and Socio-cultural Differences Questionnaire) was used. Some other factors, such as instrumentation and selection can be controlled with caution, by ensuring reliability of instruments before administration and paying attention to the sample selection process if it

is possible to do a random selection. To ensure validity, through reliability of instruments, in the present study, a pilot study was conducted on the instruments to check their reliability. For the Reading Strategy and Attitudes Questionnaires that were used in this study, a second pilot (see Appendix VII) study was conducted as some changes were done to them after the first pilot study (see Appendix VIII).

External validity refers to the degree to which the findings are generalizable to a wider population. Positivistic interpretation of generalizability is different then naturalistic. For positivistic researchers, it is vital to strip out all the contextual variables. They have to be isolated and controlled and samples randomised. For naturalistic researchers, who favour qualitative research, context is vital because it enables the researcher to say a lot about human behaviour. In naturalistic research, generalizability is possible if comparability and transferability (also see Guba & Lincoln, 1994) is ensured (L. Cohen et al., 2007, p. 139). In other words generalizability, in qualitative research, is possible by ensuring that the two contexts are similar to each other (Hammersley, 1993). Larsson (2009, p. 36) argued that it is up to the audience to decide on the generalizability of the qualitative research. Although this is right to some extent, the researcher must also have a say on which contexts the research can be generalised to. The qualitative outcomes of the present study, for example, can be generalised to the state secondary schools in Northern Cyprus. However, if this study is to be duplicated in another context, it is the audience's responsibility to decide on the generalizability issue.

Variables are important elements in experimental and quasi-experimental research. "A variable refers to a characteristic or attribute of an individual … that can be measured or observed and that varies among the people … being studied" (Creswell, 2009, p. 50). Independent and dependent variables are two commonly known variables. Independent variables (i.e., the SBI cycle) are the ones which cause, influence, or affect outcomes. They are also referred to as treatment variables. Dependent variables (i.e., reading comprehension scores, frequency of strategy use) depend on the independent variables. Dependent variables are the outcomes or results of the independent variables. There are other variables such as intervening or mediating variables (i.e., picture, title, prediction strategies etc.) which stand between the independent and dependent variables. For example, if students do well on a Reading Comprehension Test (dependent variable), the result may be due to two reasons that influenced their performance: 1- their study

preparation, e.g. a course they have taken (independent variable); 2- test taking strategies that they studied during the course (intervening or mediating variable).

Collection of quantitative data was necessary for two reasons. First, quasi-experimental studies require control of dependent and independent variables. Control of such variables requires quantifiable measurements to observe the impact. In the present study one of the independent variables which can also be referred to as the treatment variable is the SBI. The aim of the SBI was to improve students' reading strategy deployment. The other independent variables such as attitudes and reading comprehension are not measured through any means of manipulation (see Creswell, 2009, p. 157). The independent variables in the present study are statistically controlled; these are demographics such as gender and socio-economic backgrounds. Thus, in the present study, there are three types of independent variables, one of them is manipulated which is the SBI programme; the other two are non-manipulated, statistically controlled variables, the test and the questionnaires, are only observed through measurements. The dependent variables (i.e., the outcomes), on the other hand, must be identified. The dependent variables are presumed to be caused by or influenced by the independent treatment condition (SBI). The second reason of quantitative data collection is to triangulate the findings with the qualitative data to reach to more profound and justifiable outcomes.

There are two principles on which qualitative research differs from quantitative research: "(1) qualitative research often involves the simultaneous collection of a wealth of narrative visual data over an extended period of time, (2) as much as is possible, data collection occurs in a naturalistic setting" (Gay, Mills & Airasian, 2006, p. 399). Of course, these two principles explain qualitative research in general and they are mainly applicable to purely qualitative design. When qualitative design is a part of a quantitative research design, collection of qualitative data is not necessarily carried out for an extended period of time (Denzin & Lincoln, 2005). In the present study, for example, collection of qualitative data was done at the end of the intervention in the naturalistic school setting. Mackey and Gass's (2005) definition of qualitative research is much more in line with the aims of the present study. Qualitative research provides careful and detailed description of data; aims to study individuals in their natural settings; uses fewer participants; aims to observe whatever is present there rather than testing specific hypotheses; may generate hypotheses as an outcome of the research (Bogdan & Biklen, 2007). In other words, it helps the

researcher to get a better understanding of the phenomenon under question (Seale, 1999). More specifically Creswell (2003) suggested that a qualitative research aims to collect open-ended data such as extensive notes taken at a research site, interview data, and videotape and audiotape recordings. Qualitative research can be considered as an appropriate research procedure to be applied in a study:

(1) if there is little research done on a concept or phenomenon,
(2) if the topic has never been addressed with a certain sample or group of people,
(3) if there is a need to understand and explain it better,
(4) if the variables that should be examined are not known by the researcher,
(5) or if existing theories do not apply with the particular sample or group under study (Creswell, 2003: 173).

In the present study, all five aspects listed above are valid for the research question that is based on strategy-clusters. Thus, the qualitative design was needed to be incorporated into the quasi-experimental design of the present study, because there is little research done on strategy-clusters. There is a need to explain how students orchestrate strategy-clusters and the cognitive processes of students who use them (see Griffiths, 2008 and Chamot, 2008). The best method to collect information about them is Think-aloud Protocols. Thus, a combination of the quantitative and qualitative research approaches in a mixed methods design was required for this study.

In all mixed method designs, there is either a dominating research approach, quantitative or qualitative, or they are equally dominant (Creswell, 2009, p. 207). In the present study, both approaches are considered as equally dominant. The quantitative part of the design would provide statistical information and the qualitative data collection methods which are Think-aloud Protocols and metacognitive awareness interviews provided detailed information on strategy-cluster deployment and metacognition. Such data provides generalizable outcomes through statistics as well as information on students' cognitive processes and is rich in raising the voice of the participants in the study. This design, for the specificity of this study, is called 'a quasi-experimental mixed-methods design'.

Thus, a researcher may want to use mixed methods if the aim of the research is both to obtain generalizable findings and to have a detailed view of the phenomenon or concept

(Creswell, 2003). The final data involves both quantitative and qualitative information, so that the researcher can capture the best of both quantitative and qualitative approaches. "The purpose of mixed methods research is to build on the synergy and strength that exists between quantitative and qualitative research methods in order to understand a phenomenon more fully than is possible using either quantitative or qualitative methods alone" (Gay, Mills & Airasian, 2006, p. 490). The two distinct approaches of data complete each other, and, as a result, outcomes can be justified and are more reliable. "The growing practice of utilizing qualitative and quantitative data illustrates the fact that these two research approaches should not be viewed as opposing poles in a dichotomy, but rather as complementary means of investigating the complex phenomena at work in second language acquisition" (Mackey & Gass, 2005, p. 164). There are various advantages of using a mixed methods approach, but none of the three is superior to the other research procedures. A good researcher knows that the method that s/he chooses to use depends on the research questions, and it should not be predetermined (Silverman 2005). In the present study, the need for a mixed methods approach has become clear when I realised that following one approach or the other would not provide a full picture of the phenomenon that is aimed to be addressed in the research questions.

Mixed methods research started to be used when researchers recognized that all methods had limitations. Researchers use mixed methods to neutralize or cancel any biases inherited in any single method and to triangulate data (Creswell, 2009, p. 14). The difficulty related to the mixed methods approach is that it requires the researcher to be familiar with both quantitative and qualitative research procedures (Guba and Lincoln, 1994). Mixed methods research aims to collect numeric information (e.g., on instruments like questionnaires) as well as text information (e.g., on think-aloud protocols or stimulated recall protocols). The data can be collected simultaneously or sequentially. For example, a sequential mixed methods procedure could begin data collection with a quantitative method and then follow with a qualitative method to have a detailed exploration through a case study. This kind of sequential mixed methods procedure is followed in the present study. First, quantitative data was collected at the beginning and at the end of the intervention. Then, qualitative data was collected to closely investigate strategy-clusters and metacognition.

Using a mixed methods design increases the concurrent validity of the study. "Triangulation is a powerful way of demonstrating concurrent validity, particularly in

qualitative research" (L. Cohen et al., 2007, p. 141). Triangulation is a way of using two or more methods in order to justify the findings by collecting the same kind of data following at least two different methods. Triangulation is sometimes called the multi-method approach (L. Cohen et al., 2007, p. 141). Researchers selectively experience the environment through research methods, because research methods are never atheoretical or neutral. Therefore, relying on one method presents biased results (Tashakkori & Teddlie, 2003). Findings that are reached following two or more methods, increase researcher's confidence. Using two equivalent forms of data-gathering instrument, known as alternative forms, in order to check if the instruments yield similar results would strengthen reliability of the findings (Morrison, 1993: 163). Triangulation is used through the use of multiple instruments in the present study in order to increase concurrent validity and reliability. For instance, the Reading Strategy Questionnaire was used to support the findings of the Think-aloud Protocols.

The research design utilized in the present study is used with the aim of answering the research questions listed at the beginning of this chapter. The research questions are mapped against the data collection methods as shown in the following table.

Research Questions and Methods of Data Collection		
General research questions	**Specific research questions**	**Methods**
(1) Can SBI bring about change in reading strategy deployment and reading comprehension of year 7 EFL secondary school students?	(a) Is there any difference in reading comprehension ability between the groups in the pre- and post-tests?	Reading Comprehension Test
	(b) What is the difference between pre- and post-tests in terms of frequency of strategy use for intervention and control groups?	Reading Strategy Questionnaire
	(c) What is the difference between the intervention and control groups in terms of frequency and the way strategy-clusters are used?	Think-aloud Protocols
(2) Does the overall programme have any impact on the factors that influence success?	(a) Has the SBI had any impact on students' attitudes to reading English?	Attitudes Questionnaire
	(b) Is metacognitive awareness of intervention group students different then the control group students after the SBI?	Metacognitive Awareness Interview

Table 3: Research Questions and Methods of Data Collection

The data collection methods that are matched to each research question are commonly used in the LLS research field. Question 1a could be answered by using a reading comprehension these pre-and post-intervention in order to observe possible differences. The questions 1b and 2a were answered depending on questionnaires. Information on the frequency of strategy deployment could only be collected with a questionnaire. Similar to reading strategies, attitudes are not easy to observe. Thus, asking students about their attitudes with a questionnaire was the best alternative. Also, questions 1a, 1b, and 2a required collection of pre-and post-test data. The questionnaires and the comprehension test were useful to efficiently collect data. These three questions were significant in showing whether SBI could be effective in the Turkish Cypriot context. Question 1c is a crucial question whose analysis procedure and the results provided valuable information for the LLS research field. In order to answer this question, students' Think-aloud Protocols were analysed. Gaining insights into strategy cluster deployment by students is hardly possible, if at all, through other data collection methods. Lastly, question 2b is used to collect supportive information for the questions 2a and 1b; when the outcomes of 1c are triangulated with 1b and 2b, students' development in the deployment of strategy clusters become clear.

The data collection methods that are briefly presented in the above paragraph are explained in detail in the following sections.

4.3.2 Ways of obtaining information in LLS Research

LLS research aims to study learner strategies that are deployed by first and second language learners and the variables (i.e., social environment) that influence their use. However, language learner strategies are not usually directly observable, so researchers need to find a way to 'access' learners' cognitive processes. There are different methods suggested to be used in LLS research. Macaro (2001, pp. 44-66) suggested that, in LLS research, we can find out about our learners' strategies by asking them and by observing (in a broad sense) them. He explained that we can ask learners through: diaries, questionnaires and interviews. We can observe them by using Think-aloud Protocols and by looking for traces (observing students during the class hour) of learner strategies (also

see Cohen & Macaro, 2007, p. 94). Observations would be one of the alternatives, but they are not the best alternative in LLS research. Language learner strategies are "not directly observable since they refer to internal, mental processes, and …, strategy use is not a fixed attribute of individuals, but changes according to the task, the learning conditions, and the available time" (Cohen & Macaro, 2007, p. 93). Data obtained through observations are product indications or some clues about strategy use, but observations do not reflect the process used by learners to arrive at the product. Hence, observation is not the best method to use to describe strategy deployment. One of the earlier techniques used in LLS studies was retrospective interviews (see Faerch and Kasper, 1987). Due to its flexibility in terms of providing the opportunity for clarification and elaboration, it has still been used. The most frequently used method has been self-report questionnaires like the Strategy Inventory for Language Learning (SILL) developed by Oxford (1990).

Cohen (1998, p. 34) suggested that there are three types of verbal reporting used in second language research:

1. Self-report: Questionnaires are one type of self-reports. Learners specify the degree to which the statements apply to them when they are involved in a task completion or problem solving activity. Statements on a questionnaire are removed from the actual event in question.

2. Self-observation: Self-observation data can be introspective or retrospective depending on the time interval between task completion and data collection. Examples of self-observation are stimulated and immediate recalls.

3. Self-revelation (also known as "think aloud"): The learner reports his/her thought processes as s/he completes the task. The distinctive characteristic of think-aloud is that the task completion and report of thought processes occur simultaneously.

The above mentioned data collection methods have been used in different combinations for various purposes by LLS researchers: interview and questionnaires (eg., Erler, 2007; Oxford, 1990); classroom observations (eg,. O'Malley & Chamot, 1990); think aloud protocols (Gu et al., 2005), and questionnaires with think aloud protocols in a mixed

methods research (eg., Harris, 2007). In addition, there are some other innovative methods of data collection such as reading task interview (Kern, 1989) and strategy specific tests (Bimmel, 2001). A reading task interview is a text interview process which incorporates think-aloud protocols. A student is given a reading text, one sentence at a time and s/he is asked to share his/her thinking process. Strategy specific tests are a series of a reading comprehension test which involves eight sub-tests. Each two set of sub-tests are used to test one strategy.

Some researchers use qualitative methods and some others use quantitative methods in relation to the way they think of the truth (see Navickas, 1976). Questionnaires and statistical analysis of them have been widely used in this research area as objective tools of enquiry (e.g. Oxford, 1990), but there have been concerns about the limitations of these tools. The researcher who uses questionnaires "has complete control over the questioning, and the respondent usually does not have an opportunity to elaborate on the answers" (Cohen, 1998, p. 27). Learners' responses constitute their generalized statements about strategy use. When learners move away from the language learning or language use behaviour, their statements may become less accurate, they may overestimate or underestimate the frequency of use of certain strategies. Also, they may not be aware of when and how they are using language learning strategies. Hence, these problems may prevent the researcher from collecting accurate data. As Dörnyei (2003, p.131) points out, it is useful to "combine the questionnaire survey with other data collection procedures".

Qualitative data collection procedures can "enlarge the methodological toolbox of strategy researchers and might strengthen their endeavours in future strategy studies involving mixed-method designs" (Cohen & Macaro, 2007, p. 94). A mixed methods approach is embedding two distinct research traditions which understand reality differently (see Pring, 2004; Navickas, 1976). Their differences come from looking at a phenomenon from different angles which, when combined could suggest a better understanding.

Among all data collection methods, verbal report measures such as Think-aloud Protocols are the most feasible to obtain empirical evidence on learner strategies. Verbal report protocols reveal in detail how language learning strategies are used while performing tasks. Introspective verbal reports elicit mental processing from the learner as s/he completes a given task in 20 seconds; and elicitation of mental processing through retrospective verbal

reports done after the task is completed by the learner. As indicated in Grenfell and Harris's book (1999: 54), "... it is not easy to get inside the 'black box' of the human brain and find out what is going on there. We work with what we can get, which, despite the limitations, provide food for thought...". Among all other data collection methods, Think-aloud Protocols are critically important and central to any research project on learner strategies.

Quantitative and qualitative methods were used to collect data and to triangulate outcomes in the present study. Among them, the Think-aloud Protocols play a crucial role in the originality claim of this project. The following sections introduce the data collection methods that are used in the present study in more detail.

4.3.3 Quantitative Data Collection instruments

This section is on quantitative data collection methods and the data bank which involves the Reading Strategy Questionnaire, the Attitudes Questionnaire, the Background Questionnaire and the Reading Comprehension Test. The Reading Strategy Questionnaire, the Attitudes Questionnaire and the Reading Comprehension Test were used as both pre- and post-test measures. The next section presents an account of the questionnaires.

4.3.3.1 Questionnaires

In this section the questionnaires used in this study are discussed in relation to the literature on questionnaires. Three questionnaires were used in the present study. One of them was used to collect background information regarding students' individual differences and socio-economic backgrounds. It was only administered before the intervention study. The other two questionnaires were used to collect pre- and post-test data on the attitudes of students and the frequency of strategy use. In the most general sense questionnaires provide the researcher with factual, behavioural and attitudinal data about the participants (Brown & Rodgers, 2002). Factual questions are about demographic characteristics (e.g., age, gender, race), socioeconomic status, level of education and occupation. In L2 studies,

the questions might be related to language learning history and other relevant questions. Behavioural questions can be about people's actions and habits. Attitudinal questions are about attitudes, beliefs, interests, and values. Questionnaires are defined by Brown (2001: 6) as "any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers".

Questionnaires may consist of questions or sentences, and they are referred to under different names such as interventions, batteries, scales, or surveys. Typically questionnaires include items that ask about a specific piece of information and give response alternatives to choose from. They are highly structured, so they are most suitable for quantitative, statistical analysis. Theoretically, questionnaires can consist of open-ended items, as well as close-ended items, that are qualitative and explanatory in nature. However, open-ended items are not suggested by theoreticians because the respondents superficially and briefly engage in the topic. Instead of open-ended questionnaires, interviews would be more suitable to collect long and detailed data. An open-ended question is starting a sentence and asking the participants to complete it, for example, "an effective teacher..." (L. Cohen et al. 2011, p. 393). Instead of using open ended questionnaires, an interview and questionnaires were used in the present study. The questionnaires consist of closed-ended questions, and the interview is used to collect more detailed information about students' metacognitive awareness.

There are different types of questionnaires regarding the structure of the alternatives: rating scales, multiple-choice items, rank order items, numeric items and checklists (L. Cohen et al. 2011). These types are used according to the participants and the subject under investigation. The Likert scale, for example, is a type of rating scale and has been commonly used in language research. The Reading Strategy Questionnaire in the present study is a Likert scale, ranging from 'strongly agree' to 'strongly disagree'. Likert scales have variations in the number as well as wording of the options. In L2 studies language learning strategy inventories, such as Oxford's (1990) Strategy Inventory for Language Learning (SILL), ask about the frequency of strategies used. SILL is one of the well-known and most used questionnaires in LLS studies and it uses categories ranging from 'Never or almost never true of me' to 'always or almost always true of me'.

There are many advantages of using questionnaires. The main advantage of the questionnaires is their efficiency in terms of researcher time and researcher effort. Questionnaires can be used with different people in different situations targeting different topics. Data can be collected in a structured format and can be administered without the help of the researcher and it is straight forward to analyse (Wilson and McLean, 1994). Therefore, a huge amount of data can be collected within one hour and data can be processed using some computer software. Despite that, I was present during the administration of the questionnaire, in the present study. Administrating the questionnaire in the absence of the researcher has disadvantages. A researcher who administers a questionnaire himself/herself would be able to provide explanations, answer questions and check that every questionnaire is complete. The design process of questionnaires can assist in identifying associated analysis stages. The major advantage of close-ended questionnaires is that they do not leave room for subjectivity, which is why they are sometimes referred to as 'objective' items. So, they provide a useful method of collecting data in a structured format. They are suitable for quantitative, statistical analysis through a computer database; and this makes the data processing easier.

The questionnaire items were determined by the SBI programme. Despite that, the questionnaire items were adapted from the literature, because questionnaire construction is a demanding and time consuming process. It requires extensive interviews with the target group and a number of piloting interviews (see Sellitz et al., 1976). For this reason, the questionnaire was constructed by consulting available reading strategy questionnaires existed in the literature which demonstrated the validity of the items. These questionnaires which are as follows: Mokhtari and Reicherd (2002), Duncan and McKeachie (2005), Phakiti (2003), Oxford (1990) and Erler (2007). The Background, Attitudes and Reading Strategy Questionnaires (see Appendix IX) were presented as a single questionnaire to the students in Turkish (see Appendix X). The first part is on reading strategies and involves items of Word Level, Cognitive and Metacognitive Strategies. In some classification systems the word level strategies can be categorised as cognitive strategies (i.e., O'Malley & Chamot, 1990). However, in this study using Erler (2006) as a reference the word level category was added. The second part involves items in relation to attitudes towards reading. The questionnaires were pilot tested twice. The aim of the first pilot study was to receive feedback from the students on issues such as language and clarity of the questions and to investigate for cultural appropriacy. Students were asked to write their comments on

the side of the paper or tell them to me. The first pilot study on the questionnaires (see Appendix VII) suggested that some items had to be rephrased and that some questions had to be eliminated. The changes made on the questionnaires made the second pilot study necessary. The second pilot of the questionnaires (see Appendix VIII) was done to investigate whether the questions were clear enough and to statistically calculate the reliability of it. "*Reliability in quantitative* research is essentially a synonym for dependability, consistency, replicability over time, over instruments and over groups of respondents" (L. Cohen et al., 2007, p. 146). The meaning of reliability in quantitative research refers to precision and accuracy. The internal consistency of the Reading Strategies Questionnaire used in the present study was measured using SPSS. The internal consistency of the questionnaire was measured for the second pilot study. Internal consistency was measured with Cronbach's Alpha and some authors put forward a level of 0.70 – 0.80 (Larson-Hall, 2010, p. 271) as acceptable. Cronbach's Alpha was measured as .848, which shows acceptable internal consistency, for the reading strategies questionnaire during the second pilot study. Thus, it was reliable to be used in the intervention study.

In the present study, the Reading Strategy and Attitudes Questionnaires are used as pre- and post-test measures for the SBI. The sample size used for the questionnaires represents all of the 7th grade secondary school students, because the sample size is big and the classes were all mixed ability classes. This is the case for all State Secondary Schools in Northern Cyprus. Thus, the external validity of the study is increased and this allows for the generalizability. As well as external validity, content validity is important to pay attention to. Content validity is showing that the instruments measure what they intend to measure (L. Cohen et al., 2007, p. 137). The content of the instruments must cover the subject area to be tested. In the present study, details about what is taught in the intervention study are outlined to show that the entire content of the interventional programme is covered in the questionnaire.

A sample would be needed when involving the whole population in the research. This is not possible for practical, time and financial reasons (see Gorard, 2003: 56). Although there is not any clear-cut answer to how large the sample size ought to be, the larger the sample the better. A large sample size increases reliability. It is vital to set the parameters of the wider population (Morrison, 1993, p. 114). A sample that is unrepresentative, skewed, too small or too large can easily distort the data. If the sample is too small

statistical analysis may be prohibited, however too large a sample may be unmanageable (Morrison, 1993, p. 113). When designing a sample size, if the means of data collection is a questionnaire, it is important to consider non-respondent, attrition and number of participants (i.e., participants leaving the research or returning incomplete or spoiled questionnaires) (L. Cohen, 2007, p. 105). Therefore, it is advisable to be ambitious in the size of the sample (Gorard, 2003, p. 60) and use as large a sample as possible. Thirty is considered to be the minimum number if a researcher wishes to run some statistical analysis (L. Cohen et al., 2007, p. 101), and one must make sure to have the minimum number of thirty cases per variable such as gender. Borg and Gall (1989) suggested that in "experimental research, it is desirable to have a minimum of 15 cases (individuals) in each group to be compared" (p. 233). If a questionnaire is used, the sample size should be determined considering the kind of statistical analysis one is planning to run prior to undertaking the actual research. For example, in order to run chi-square on an 8-point Likert scale ranging from 'never true of me' to 'always true of me', more than five people must tick at least five variables. In this case, the bigger the sample size there is more possibility to get at least five participants ticking each variable. Although, Borg and Gall (1989, p. 233) argued that having at least fifteen participants is required for an experimental study, it must be noted that this is the minimum number. It is useful to include as many participants as possible. However, to do so, one needs to think about the limitations of the study too, such as the time limitations and the number of researchers involved. Four classrooms are involved in the present study. There are two intervention and two control groups. The total number of participants was 119. There are 61 students in the intervention groups and 58 students in the control groups. Sample sizes in experimental studies in LLS research varies from 25 (Carrell, 1985) to 116 (Macaro and Erler, 2008). Thus, taking the previous research as reference, the number of participants involved in the present study is plausible.

Although questionnaires are useful, they are not without their disadvantages. An ill-constructed questionnaire can produce unreliable and invalid data. There are a number of problem sources about using a questionnaire that should be considered. The questions should be simple enough to be understood by everyone because the respondents answer the questions on their own. This is a critical point, especially when the questionnaire is prepared for children or adolescents. Language should be appropriate for the age group. If the questionnaire is too long respondents may lose focus and provide careless answers.

Thus, question items should be limited to crucial ones in order not to bore the participants. However, this prevents the researcher from inquiring deeper. If the questionnaire is lengthy or monotonous the respondent may get tired or bored which will influence the responses towards the end (see L. Cohen et al., 2011; Dörnyei, 2003). In the present study, the questions were written in a simple language and they were kept short because of the age of the students. Respondents may not be reliable or motivated to fill in the questionnaire, simply because they may not enjoy, benefit from or understand the questions. Moreover, they may misread or misinterpret the questions. This disadvantage was sought to be overcome with the researcher's explanations both at the beginning of administration and each time help was required by the respondents. However, if there is a large sample size or there has to be more than one administration of a questionnaire, being present at each administration takes a lot of time from the researcher. Furthermore, the researcher has little opportunity to correct the respondents' mistakes, because there is not any personal contact between the researcher and the respondent. This issue has been overcome by the researcher's presence during data collection. Students were able to ask questions about the items they did not fully understand. Respondents do not always provide true answers of themselves, because they are worried about social desirability or prestige. In this case, the results will show what they "report to feel or believe, rather than what they actually feel or believe" (Dörnyei, 2003). Therefore, prestige bias influences validity of the data seriously. In order to encourage students to provide true answers they were not asked to write their names. Also, the respondent may be unsure of the sentence or may not want to give a negative answer and go with something that sounds good. Respondents' positive or negative impression of the topic may influence the answers that they give, which is named as the Halo effect. These disadvantages of using questionnaires as data collection method can be compensated by using another data collection method which addresses the same phenomenon from a different perspective. In the present study, the disadvantages of the Reading Strategy Questionnaire were compensated through the use of Think-aloud Protocols (see section 4.3.4.1.1).

4.3.3.2 The Reading Comprehension Test

In this section the selection process of the Reading Comprehension Test is explained. The Reading Comprehension Test (see Appendix XI) was given to all participant classes,

before and after the intervention, in order to test students' level of reading comprehension. The aim was to understand whether any change would take place in the reading comprehension level of the intervention groups. A standardized test was preferred in order to produce test results that are universally comprehensible. What is more, there are serious validity (see Messick, 1993 and Wolf, 1994) and reliability (L. Cohen et al., 2007) issues involved in writing a test which is a time consuming process. Such a test construction was neither the aim of this research nor was it easy within the time limitations.

The starting point for the selection of the Reading Comprehension Test was the English secondary school curriculum used in the Northern Cyprus. The curriculum referred to the proficiency levels that are listed in the Common European Framework of Reference (CEFR, 2001). The framework listed achievement levels from Basic User to Intermediate User and Proficient User. These three levels are further divided into two. For example, Basic stage consists of 1) Breakthrough and 2) Waystage. According to the curriculum, the 7th year students were at stage A2 (Waystage). The Secondary School English Curriculum was designed to prepare 7th year students to reach stage B1 which is the threshold in the Independent User stage in the Common European Framework of Reference for Languages (ECLSS, 2005, p. 9). Students who reach stage B1 can pass Cambridge Preliminary English Test (PET). Students were given the reading section of these tests during the pilot study. The results showed that students found both KET and PET difficult to cope with. Thus, I decided to use the reading section of Flyer as a standardized Reading Comprehension Test. Flyer is at stage A2 of CEFR (2001) and it is equal to KET in the level of difficulty. The only difference is that Flyer is written for young language learners. Flyers' test was pilot-tested during the second pilot study and proved to be appropriate for the proficiency level of the students. The Flyers test had the potential to trigger reading strategy deployment. The first four sections encourage use of bottom level strategies, sections five and seven trigger top level strategies and six relates to both levels of strategies.

Cambridge ESOL examinations are standardised exams and they are matched to the common reference levels that are referred to in the English secondary school curriculum. There are two tests that matched to stage A2: 1) Cambridge English Flyers' Test and 2) Cambridge English Key For Schools Test (KET). Although both tests were written for the same level and that they were appropriate for the age group, the Flyers' Test had more

pictures and KET seemed to be more appropriate for older learners or for learners with higher English proficiency. Students were reassured at the beginning that the test did not aim to test their overall ability in English language and that it would not have any impact on their overall results at the end of the semester. They were informed that the test was related to the questionnaires administered earlier. Students agreed to take part in the achievement test as well. Three students in class 7E reported that they had taken the test before in a private course on Cambridge examinations. So, these three students were eliminated from the reading comprehension part of the study.

After the students completed them, they were marked and evaluated for the amount of challenge the students were faced with. There were more correct answers in the Flyers tests then the KET. Also, students who completed KET stated that they found it too challenging. Thus, Flyers test was chosen to be used for the data collection. A test that learners would be able to complete could provide more information about their English than a test that they are not able to deal with at all. The ultimate aim was to observe change between test 1 and test 2 by comparing scores of the same students who took the same test at the beginning and at the end of the intervention study.

Students who did not participate in either pre- or post-Reading Comprehension Tests were eliminated; this was necessary due to the statistical analysis tool, Wilcoxon test, which suited the required analysis in the best way (see section 5.3.2). In order to find each student's improvement; their pre- and post- Reading Comprehension Tests were matched. Therefore, out of 119 participants 67 students were present for both pre- and post-Reading Comprehension Tests, so there were 33 experiment and 34 control group students left. Thus, the number of pupils completing the test ended up being small and this limits the conclusions that are drawn from the statistical analysis on the reading comprehension test.

The questionnaires and the Reading Comprehension Test were accounted for as quantitative data collection instruments. The data collected through these instruments is referred to as the Quantitative Data Bank. The content of the Quantitative Data Bank is summarised below.

4.3.3.3 The Quantitative Data Bank

In this section, content of the Quantitative Data Bank is listed. The analysis of the data bank can be found in section 5.3. The table below summarises the Quantitative Data Bank.

The Quantitative Data Bank				
Type of data	**Data source**	**Total no. of participants**	**No. of intervention group-students**	**No. of control group-students**
Statistical data on students' background	Questionnaire	101	50	51
Statistical data on strategy use	Questionnaire	Pre-test:101 Post-test: 97	50 50	51 47
Statistical data on attitudes	Questionnaire	Pre-test:101 Post-test: 97	50 50	51 47
Statistical data on reading comprehension	Reading Comprehension Test	67	33	34

Table 4: The quantitative data bank

The data on students' backgrounds involves two types of information: individual and socio-economic differences. The part on the individual differences involves data on (a) the amount of help the intervention and control groups receive outside the classroom, i.e. from family or family friends; (b) gender variable to investigate whether the difference between the groups would have an impact on the study outcomes. The part on the socio-economic differences involves data on parents' educational and occupational status. To prevent confusions, I have to state that socio-economic background in this thesis is not compared to strategy deployment. It only provides information about students. It is also used as background information to be able to compare students.

The data on strategy use involves information on students' deployment of (a) word level strategies, (b) cognitive strategies, (c) metacognitive strategies, and (d) data on the overall effectiveness of the SBI on strategy deployment.

The data on reading comprehension involve (a) each student's progress from pre-test to post-test and (b) data on the overall effectiveness of the SBI on reading comprehension.

The next section is on the qualitative data collection instruments and the Qualitative Data Bank.

4.3.4 Qualitative Data Collection instruments

This section focuses on the qualitative data collection instruments and the Qualitative Data Bank. Qualitative data was collected to gather more detailed information from students. For this reason, Think- aloud Protocols and Metacognitive Awareness Interviews were used. These instruments were used at the end of the intervention study, in order to understand how the SBI changed the intervention groups. These changes are justified through comparisons between the intervention and control groups.

These twelve students, six from the intervention and six from the control classes, were selected from students that volunteered to take part in the Think-aloud Protocols. Each group of six were divided into three representative levels of achievement: two low, two medium and two high level students. Each of the representative levels of achievement was coming from a different class in order to include students from a wider population. The allocation to representative levels of achievement was done by the classroom teachers, by the person who knows the students best. The teachers considered the students' grades and their classroom performances when allocating students into achievement levels. The Think-aloud Protocols were conducted individually. Students were allowed to participate in the think-aloud training in pairs. After Think-aloud Protocols, Metacognitive Awareness Interviews were conducted.

The next section is on the Think-aloud Protocols.

4.3.4.1 Think-aloud Protocols

In this section, a general introduction to the Think-aloud Protocols is presented. The following two sub-sections are on issues that cause difficulty when using Think-aloud Protocols.

Think-aloud is an introspective method used to gain understanding of learners' cognitive processes. "Introspection is the process of observing and reflecting on one's thoughts, feelings, motives, reasoning processes, and mental states with a view to determining the ways in which these processes and states determine our behaviour" (Nunan, 1992, p. 115). As explained on page 106, information about the current cognitive processes is readily available in the short-term memory. Therefore, learners are asked to say what goes on in their minds as they complete a task or solve a problem. If this information is recalled from the long-term memory, the participant may state what s/he thinks the researcher wishes to hear rather than the reality. Therefore, having the participant state what goes on in his/her mind as he/she completes a task within the first 20 seconds is called introspection; and it is more likely to obtain accurate information than retrospection. Retrospection is when the participant completes the task and then states what went on his/her mind. Stimulated recall is an example of retrospection, this is similar to an interview and it would not be suitable for the purposes of this study. "The think-aloud technique is closer than retrospective techniques to the mental action in which subjects think back on actions performed at some prior time" (Nunan, 1992, p. 117). According to this, Think-aloud Protocols as introspective methods produce outcomes that are closest to students' actual cognitive processes. Learners may not be able to remember how they combined strategies if they do not state them or give clues of deployment immediately after deployment. This characteristic makes collecting data on the strategy-cluster deployment a delicate process. Such cognitive processes could only be observed through Think-aloud Protocols.

Gu et al.'s (2005) study provides evidence suggesting that Think-aloud Protocols are possible to use with elementary school children too. However, they suggest that the researcher should use probing and leading questions often, this is why they called their procedure as 'probed think-aloud'. Although using Think-aloud Protocols with young children may be challenging, it could be possible to do with adolescents. Macaro (2007)

has conducted a study with 12 year olds on writing skills. Similar to Gu et al., he suggests that doing Think-aloud Protocols with children is not easy or not the same as doing them with adults. So, he calls them Think-aloud Interviews. Think-aloud Protocols may be different than Think-aloud Interviews, because children may find understanding what they are asked to do difficult or they may forget to verbalise what they think as they work on the given task. They start to verbalise their cognitive processes when prompted by the researcher. However, the time interval between the thinking activity and verbalisation can influence reliability of the learners' responses. If verbalisation is not done within the first twenty seconds it is not immediate verbalisation and it cannot be named as think-aloud, because it does not match the critical requirement of the Think-aloud Protocols. This is why trials to conduct Think-aloud Protocols as a data collection method may end up being an interview. However, Think-aloud Protocols may be largely possible to do with adolescents when the task is carefully selected to match to their proficiency levels. Thus, all we can do, as researchers, is to make sure that students' verbalisation is the closest possible to their cognitive processes by making sure that the task is appropriate.

There are steps that should be followed during the data elicitation procedure, which can help increasing the reliability of the data. Most of these steps are followed in the way that is listed in Macaro (2001). The first step in the procedure is finding ways of making the student feel at ease and explaining to the student how this think-aloud process can be done. This was done during think-aloud training which is explained later in this section. The second is explaining to them that they are asked to articulate their thought processes and the strategies that they use while they are reading. Third is providing a student with the reading text and ensuring that s/he understands what s/he has to do to accomplish it. Fourth is starting the recording and asking the student to start reading. While the student is engaged in reading it is important to promote the student to talk about his/her thinking process if s/he is not articulating his/her thoughts and actions. While prompting the student, phrases like 'Are you sure?' or 'That's good' should be avoided. Instead, phrases like: 'What makes you say that?'; 'What made you do that?'; 'What are you thinking at this moment?'; 'Please keep talking' should be used (Macaro, 2001, p. 63). In the present study, after the Think-aloud Protocols were completed, I transcribed the protocols (see Appendix XII) and listed the strategies that were used by each student. Lastly, strategy clusters were identified and they were analysed for qualitative characteristics (see section 5.5.2).

Think-aloud Protocols have their limitations but most researchers (e.g. Grenfell & Harris, 1999; Gu et al., 2005) favour using them in LLS research. Despite criticisms that verbalization does not accurately reflect cognitive processes, many researchers like Schrmann (2005) think that it is a feasible method and it may be the only method that helps us to get the closest possible information to the actual cognitive processes. Because the current activity stays in the short-term memory for a short time, then either it moves to the long-term memory or it is lost. Using a retrospective method, like diaries or questionnaires, it is possible to ask participants to recall their cognitive process, but this would be recalling one's cognitive process from the long-term memory. When the participant recalls his/her reasoning, cognitive process, from the long-term memory it may not provide us with the accurate information. Participants may just state what they would do, not what they actually do in the given situation, or may simply state what they think the researcher would like to hear. Considering these, Think-aloud Protocols may be the best method possible to get the most accurate information possible about learners' cognitive processes. Strategies are not directly observable so we need to depend on learners' verbalizations. As Grenfell and Harris (1999) stated "it is not easy to get inside the 'black box' of human brain and find out what is going on there. We work with what we can get, which, despite the limitations, provides food for thought" (p. 54).

Think-aloud is not an easy task for adolescents. They need to be told how this process works. The next section is on training students on how to think-aloud.

4.3.4.1.1 Training in Think-aloud Protocols

The Think-aloud Protocols require training, because it requires metacognitive awareness to do that. The participant should know that something is going on in his/her mind; pay attention to what is going on in his/her mind; and verbalise it (Macaro, 2001). This process develops as children grow older. The participants in the present study are adolescents, so they may or may not have completed their development of metacognitive awareness. This meant that I needed to prepare training that was tuned down to the maturity level and age of the learners. Think-aloud training would increase reliability (Bowles, 2010) and quality of verbal reports elicited. As opposed to think-aloud training, Macaro (2001, pp. 65-66) suggested that a demonstration of thinking aloud could be done, because, he suggested,

without a demonstration learners would not easily understand the nature of the think-aloud task. However, demonstration that is done to illustrate think-aloud may form preconceptions about the strategies that students should verbalise during the think-aloud, therefore the response could be biased. For this reason, illustration is not the best alternative. The most appropriate choice would be using games to show how to think-aloud. Warm-up activities and think-aloud training could be provided to the participants as a whole group. This would be useful in helping to break the ice between the researcher and the children, and make children feel at ease when doing the think-aloud protocol to collect data. Think-aloud training is also a good opportunity to introduce the equipment to be used during the data collection.

Two training activities were tested during the pilot study. One is doing a picture puzzle and thinking aloud about the pieces, and the other is guessing the shape of an object in a bag by touching it and talking about its shape which is called 'Guess What's Inside'. These two activities are not the same as doing a reading task and thinking aloud, but they are useful activities to prepare learners. An alternative activity could be filling in speech/thought bubbles of students doing a reading activity which may possibly help learners to get a closer illustration to what they are asked to do in the think aloud interview. During the study only 'Guess What's Inside' could be used due to the time limitation. Using games rather than a reading task is a way of avoiding forming preconceptions about the strategies that the learners may think that they should be using. It is also important to familiarise students with the equipment such as video cameras and voice recorders in order to help learners feel comfortable during the interview. Therefore, the students do not feel awkward or may feel less uncomfortable in the presence of the equipment.

In the present study, the participating students were given think-aloud training right before the Think-aloud Protocols. Some students attended training alone, some others preferred to be with their friends. The think-aloud training was done through a puzzle. The student would be given pieces of a puzzle and would be asked to put the pieces in the right places. They were told that it was very important that they shared their reasoning. They were asked to talk about what they thought. One of the directions the researcher gave involved: "as you find the right pieces tell me how you decide that the piece is the one to fit in a particular place, what features you look at and what are these features making you think?" After the think-aloud training was over, the researcher would summarise the whole activity

for the student: "Here you tried to find the right pieces, to complete the puzzle, as you looked for and found the pieces you told me what you thought, what went on in your mind, what features in the pieces you looked at and how you matched them. Now I would like you to do the same as you read the text that I am going to give you. Tell me what goes on in your mind as you read it." This summarisation formed the transition from training to the Think-aloud Protocols. If the training was done in pairs, students would be invited out of the class to wait for his/her turn to attend the Think-aloud Protocols.

Think-aloud training is necessary to make the outcomes as accurate as possible. However, training by itself does not ensure a successful think-aloud protocol, there are a number of other issues which could influence the students' input. The next section is on the issues that may influence the outcomes.

4.3.4.1.2 Other Issues of Think-aloud Protocols

The strategy elicitation procedure is not a straight forward process. There are a number of issues that would influence Think-aloud Protocols in L2. These are 1) selection of task, 2) communication problems, 3) equipment such as audio or video recorders, 4) language choice: L1 versus L2, and 5) prompting during think-aloud protocol. All these issues were considered carefully before the protocols were conducted.

The type of task or text that is selected by the researcher can influence the quality of students' Think-aloud Protocols (Cohen & Macaro, 2007). It is important to adapt the level of the text to age of the participants. What is more, the task or the text should be interesting for the students in order to keep them engaged. The type of task would influence strategy use because of the language involved. Different strategies would be used by learners who are familiar with the task then those who are not familiar. Using a text or a task that is just above the competence level of the students can be useful. A reading text that is too challenging would put students off; one that is too easy would discourage use of strategies, because they would not need them. In the present study, to ensure that both control and intervention groups could deal with the reading text, a short story (see Appendix XII) that learners are culturally familiar with was selected. Such a reading text would make it easier for the students to use their background knowledge (see Harmer, 2001). A close evaluation

of the textbook that was used at the time showed that at least half of the words in the reading text were familiar to the students. The text was adapted to add familiar words which ensured that it was at students' threshold level.

Researchers encounter communication problems especially when they deal with children's silence or soft voices. Despite the difficulties researchers like Gu et al. (2005) suggest that think-aloud is a feasible method to use with children. Think-aloud Protocols are mostly used with adults and it is easier to conduct it with adults. However, communication problems were not expected with adolescents in the present study.

It is important that the think-aloud protocols are audio or video recorded. Introducing equipment to students is significant to make them comfortable; this is valid both for children and adult participants. In this study audio recording was used instead of video recording because students in the pilot study were more comfortable with audio recording. In order to overcome possible disadvantages of audio recording, students' gestures were noted down as clues about what they were thinking. The point that the researcher starts to record remains arbitrary, because the learner may start to plan the task before the tape is switched on. The learner may have already planned the task before the researcher asks him/her to start to verbalise his/her thinking process. The task should not be shown to the student before the recorder is started.

Think-aloud Protocols were conducted in the students' first language (L1), Turkish. They were transcribed and analysed in the same language. The transcriptions were done in Turkish so that every expression of learners could be noted down. After the analysis was completed they were translated into English to be included in the thesis. The researchers need to be clear about the language to be used during think-aloud. Target language or learners' first language as well as a mixture of both can be used. The problem is that the thinking process of the learner may be different in his/her first language and s/he may not be able to express the thinking process in the target language. Excluding L1 from foreign language classrooms creates an obstacle to building a rapport with the students. Some teachers (Macaro, 2001, p. 68) suggest that some strategy elicitation techniques should be in learners' L1 to let them express themselves in whichever language they are more comfortable with. Likewise if some of the questions that the teacher or the researcher asks are difficult, both languages and a glossary can be used. Using one language or another is

called 'codeswitching' and it can be used during an interview. However, it can be difficult during the Think-aloud Protocols. "It is one thing to codeswitch within the same communicative framework (sometimes called a 'language plane') but quite another to do so in vastly different ones: the plane of the task itself and the plane of verbalizing the strategies" (Macaro, 2001, p. 69). Research evidence suggests that the language of thought is in L1, even for advanced language learners. Learners engage in plenty of processing during Think-aloud Protocols, there might be an element of L1 thought involved in both the language processing during task completion and the processing involved in verbalisation of strategies. In order to make the student feel at ease and to get a clearer understanding of the learner's cognitive process it might be advisable to use the learner's L1 during think-aloud interviews.

Care should be taken when a learner is prompted to verbalise their cognitive process, because how often and when the researcher should prompt may not be clear. When prompting, the researcher may sound like a teacher and may make the learner think that s/he is doing something wrong. Even questions such as 'What makes you say that?' or 'What are you thinking at this moment?' may mislead the learner, so it is important to be careful about the tone of the voice when prompting in order not to be intrusive. At the beginning of the Think-aloud Protocols the student would be given the reading text and be reminded that it was important to share what they thought as they read. A single think aloud training was not enough for all the students to understand that they needed to stop at certain occasions and talk about their thoughts. So, I needed to stop the student as s/he read and ask him/her what went on in his/her head. The student was asked to read aloud. After each couple of lines were read the student was stopped and asked to talk about their thoughts. This normally went on until the end of the story. However, some over-prompting was inevitable in this study, as it is shown in table 53.

Although conducting Think-aloud Protocols has difficulties, it is one of the most interesting and effective data collection methods on learner strategies. After the Think-aloud Protocols, a short interview was conducted with students. The next section is on interviews.

4.3.4.2 Interviews

In this section, conducting interviews is explained with an account of the Metacognitive Awareness Interview that was used in the present study. A short motivation interview was also conducted, but its outcomes are only used as an introductory account on the student profiles that are presented in section 5.5.4. The Metacognitive Awareness Interview was conducted right after the Think-aloud Protocols. The questions were as part of the Think-aloud Protocols for the students, so it was more convenient to do it this way rather than asking for another time slot from the students. The interview questions were as follows:

(a) How do you differentiate an easy text from a difficult text?
(b) Could you evaluate your reading performance?
(c) What are the strategies that you used? Do you think these strategies were useful for you?

The first two questions above relate to students' metacognitive awareness and the last question refers to students' declarative knowledge of reading strategies. All of the above questions were adapted from the questionnaire published in Phakiti (2003) and the last two are among the interview questions used in Zhang (2001). Although the above questions were structured as questionnaire items in Phakiti's study, they were used as interview questions in the present study to give learners an opportunity to explain themselves. The fact that Zhang (2001) used them in her research on metacognitive knowledge in reading strategies justifies that these questions are suitable to be used as interview questions too. Measuring validity of interview questions is not as straight forward as calculating validity of questionnaires. However, as Abraham and Vann (1996) stated that "in validation, we must look … at how the data are interpreted, that is, what inferences are drawn from the results and how these inferences are justified, and what uses can legitimately be made of these interpretations" (p. 2). Thus, the present study shows students' answers in a table in the findings chapter (see section 5.4) and expresses interpretations in reference to students' answers to address the issue of validation. L. Cohen et al. (2007) suggested that interviews can be validated by comparing them to another measure that has already been validated; this is known as convergent validity. "If the two measures agree, it can be assumed that the validity of the interview is comparable with the proven validity of the other measure" (L. Cohen et al., 2007, p.150). The fact that the interview questions are adapted from a

questionnaire (Phakiti, 2003) which was found to be highly valid (0.82) shows that the interview questions, in the present study, are considered as valid too.

What is more, minimizing the amount of bias is also a way of achieving validity. Among the sources of bias are the characteristics of the interviewer, the characteristics of the respondent and the substantive content of the questions (see L. Cohen et al., 2007, p. 150). The attitudes, opinions and expectations of the interviewer can be an issue of bias, especially when interviews are conducted with adolescents. Forming a relationship based on trust with the interviewee is important to encourage the student to openly and truthfully tell their experiences or thoughts to the interviewer. This can be ensured by attending the interview with a mind that is cleared from pre-judgements, opinions and expectations that may make the interviewer have a certain attitude towards the participant. Both positive and negative attitudes would produce biased outcomes. Attending an interview with preconceived notions makes the interviewer have a tendency to seek for answers that support these notions. The interviewer may not have pre-judgements, but s/he may misinterpret the response of the interviewee. In order to avoid misinterpretations, it is important to show evidence from data. Alternatively, the interviewee may misunderstand the question that is being asked. In order to avoid such a source of bias, the interviewer must make sure that the interview questions are clear and the interviewee understood them in the way that they are intended. Children or adolescents, as interviewees, can be inarticulate. The interviewee may be quiet due to the question being at the wrong level for his/her age. In such a circumstance the interviewer must encourage the participant to say more by, for example, asking the same question in a different way. Rephrasing questions can be done by using simple vocabulary which still keeps to the point but helps the interviewee to understand the question better. Leading questions, during the interview, must be avoided. The researcher must make sure that the questions do not influence the answer or the researcher does not put the words into interviewee's mouth. Morrison (1993, pp. 66-7) gives the following examples: 'When did you stop complaining to the head teacher?' assumes that the respondent was a frequent complainer, 'How satisfied are you with the new mathematics scheme?' assumes some dissatisfaction. By rephrasing such questions it is possible to make them less leading. For example: 'How frequently did you have conversations with the head teacher?' and 'What is your opinion of the mathematics scheme?' would be less leading questions. Even when questions are asked in the right manner, students may not provide the correct answer. If a friendly relationship is not

formed with adolescent students from the beginning, they may feel that the interviewer is part of an authority and they do not feel comfortable. When they do not feel comfortable they may provide the answer that they think the interviewer wishes to hear (McCormick and James, 1988).

One of the main differences between questionnaires and interviews is that interviews provide the chance of having a face to face conversation with the interviewee. An interview is a social situation; therefore there is non-verbal mediation of verbal dialogue. "Non-verbal paralinguistic cues affect the conduct, pacing and relationships in the interview and the support, threat and confidence felt by the interviewees" (L. Cohen et al. 2007, p. 153). Non-verbal clues can be used to show sympathy to the interviewee. They can also be used as a source of information by the interviewer. For example, in the present study, some participants looked confused when they were asked a question about strategy use. They did not explicitly state that they were confused. However, such non-verbal clues (Schramm, 2005) were observed to provide further explanations to students.

Another problem involved in interviews is recording them. Taking notes during the interview or summarising it at the end presents a bias. The interviewer is more likely to remember or record the answers that s/he expected to get and not those that s/he does not agree with (L. Cohen et al., 2007, p. 155). The most reliable way is to audio or video record them. The researcher can watch or listen to the interview over and over again focusing on the details of the interview.

Kvale's (2009, pp. 166-7) list of attributes of a skilled interviewer summarizes the above section well. It has been suggested that a skilled interviewer should know the subject area that is being interviewed, allow time for the interviewee to answer, pay attention, get the conversation going, be critical to ensure validity at all stages, remembers conversation and make interpretations. The interview must be well structured in order not to confuse the interviewee. Terminology must not be used with adolescents. Such issues could easily interfere with the interview process at all levels. An awareness of these issues that may be a source of bias helped me to gain a useful perspective and conduct successful interviews.

Reliability, on the other hand, is achieved through "fidelity to real life, context- and situation- specificity, authenticity, comprehensiveness, detail, honesty, depth of response and meaningfulness to the respondents" (L. Cohen et al., 2011, p. 204). Embedding these values in a qualitative study starts from the administration of the data collection measures and continues in the analysis process. In the present study, these qualities of a qualitative methodology are followed as guidelines when conducting and analysing both the Metacognitive Awareness Interviews and the Think-aloud Protocols.

The next section lists the Qualitative Data Bank.

4.3.4.3 The Qualitative Data Bank

The Qualitative Data Bank involves Think-aloud Protocols and Metacognitive Awareness Interviews of twelve students. The list of participants with their achievement levels and the total duration of Think-aloud Protocols with Metacognitive Awareness Interviews are as follows:

Student and Data Information			
Student name	**Achievement level**	**Class**	**Total duration of Protocols and Interviews (in minutes)**
Kristina	High	7B	21.31
Martin	Medium	7B	14.03
Simon	Low	7B	21.59
Claire	High	7C	18.00
Mary	Medium	7C	28.51
Allen	Low	7C	20.26
Beatty	High	7D	14.49
Iona	Medium	7D	19.03
Ivan	Low	7D	06.29
Kevin	High	7E	23.08
Hannah	Medium	7E	17.00
Alfred	Low	7E	16.20

Table 5: Student and data information

Metacognition of all twelve students were compared in section 5.4. In order to closely investigate strategy-cluster deployment, six students were selected as representatives of their groups. The selection could not be the results in any way because the initial analysis showed that students from the same achievement levels and the same groups showed similar patterns of strategy deployment. Student profiles can be found in section 5.5.4. The following table summarises the Qualitative Data Bank.

The Qualitative Data Bank			
Type of data	**Data source**	**No. of participants**	
		Intervention group	Control group
Metacognition	Metacognitive Awareness Interview	6 (2 high, 2 medium, 2 low level achievers)	6 (2 high, 2 medium, 2 low level achievers)
Strategy-cluster deployment	Think-aloud Protocols	3 (1 high, 1 medium, 1 low level achiever)	3 (1 high, 1 medium, 1 low level achiever)

Table 6: The qualitative data bank

The data on metacognition involves students' comments on (a) the level of difficulty of a reading text, (b) self-evaluation of reading performance, and (c) their perceptions on the benefit of reading strategies.

The data on the strategy-cluster deployment involves strategy clusters that were analysed based on a criterion which was developed after studying these clusters.

The next section explains the SBI that was followed in this study.

4.3.5 The Cycle of the Strategy Based Instruction

In this section, the SBI cycle that was employed in the present study is explained. The SBI cycle is adapted from Cohen (1998), Chamot (2005), Chamot et al. (1999) and Grenfell & Harris (1999) (see section 3.3.5). Some aspects of the SBI were combined in order to produce a suitable SBI cycle for this study. Harris (2007) was significant for the ideas on the progression across strategies and opportunities for independent practice. I have to

emphasise that I adapted the SBI cycle and I did the SBI training in the school myself. Thus, the planning and implementation of the cycle reflects my understanding of how is should be carried out.

The initial plan of the SBI cycle involved: 1) preparation, 2) modelling, 3) general practice, 4) expansion, and 5) self-evaluation. The aim was to plan a cycle that was possible to complete at every lesson. However, it became obvious after the first lesson that it was not possible to cover all of these stages in every class. Thus, the SBI cycle was further adapted. The cycle was divided into two phases. The final version of the plan is shown in the table below:

The Cycle of Strategy Based Instruction	
Day one - General Awareness Raising (40-mins) (Preparation Stage)	
Phase 1 (5 lessons) Strategy/Strategy-cluster Training	**Phase 2** (7 lessons) Strategy-cluster Practice
Modelling	Modelling
General Practice	Expansion
Evaluation	Evaluation

Table 7: The cycle of strategy based instruction

The SBI cycle was not an additional lesson it was integrated into students' daily lives. According to the plan that is shown in the table above, the first lesson consisted of general awareness rising which was done with a Dutch poem (see Grenfell and Harris, 1999, p. 76). Students were given time to discuss the poem in pairs. Then, they shared what they understood and how they understood it. This process revealed the reading strategies that they used and increased their awareness of reading strategies. This first lesson corresponds to the preparation stage which is the first stage in Chamot et al. (1999) and Chamot (2005); and the awareness rising stage in Grenfell and Harris (1999). In this stage teacher identifies students' current learning strategies for familiar tasks, in some studies this stage is completed with a strategy questionnaire or an interview (see Ikeda, 2006).

As stated earlier, the first 40-minute-block with the students was spent on the Dutch poem (see Appendix VI) as an awareness raising task. The rest of the 12 lessons consisted of two phases. The first phase involved 5 lessons and the second phase involved 7 lessons. The first phase followed three stages: modelling, general practice, and evaluation. The modelling stage is when the teacher models, names and explains the new strategy or strategies. In this first phase, a strategy like background knowledge was introduced as a single strategy, and sometimes a strategy like semantic guessing that involves sub-strategies (familiar words, word roots, compound words) were introduced as a group. Use of the semantic guessing strategy was modelled with a demonstration on the board; and use of background knowledge was explained with examples. During the practice stage, students practise the new strategy or strategies with different reading texts. The evaluation stage is when students evaluate their own strategy deployment immediately after practice. It was aimed to complete all these three stages in one lesson to give students a sense of completion, although this was not always possible.

In the first phase, modelling played a significant role. In this first stage, I modelled a strategy in front of the class. Prediction and question generation were combined together because coming up with a prediction requires question generation. Modelling was done by reading the beginning of the story and making a prediction myself. For example, a story called "The Lake Monster" was used to teach 'prediction' and 'question generation' strategies. After a student read the first paragraph I modelled the question generation strategy with the following questions: 'why did the boy play by the lake?'; 'did he hear the story before?'; 'did he get into the water?' Question generation helps students to focus on their thought processes and they lead to various predictions. While I made predictions I encouraged students to make predictions too. Then, we read another section of the story after which I asked students to make predictions themselves. The lesson was concluded by asking students to evaluate the strategies that they practiced.

In the first phase students are introduced to strategies that they may have not realised or tried before. In the second phase, they practise all the strategies that they have been introduced to in the first phase. They have the chance to try the strategies that they were exposed to before and they also have the chance to practise them in different combinations. This second phase too starts with modelling in order to remind students of the strategies and also to introduce the strategies to be practised during the lesson. Modelling stage is

important to show students that strategies can be combined and used as strategy clusters. The expansion stage is when students are given a reading text and asked to read it individually or to discuss it with their peers. The difference between the expansion and the general practice stages is that the reading texts that students were presented with were longer in the expansion stage and that they were encouraged to use strategies in combinations as strategy clusters. The evaluation stage in the second phase was when student evaluated strategy-cluster deployment more than individual strategy deployment. There was a similar kind of progression in the order of texts too. The reading texts were ordered from short texts to longer texts.

The reading strategies that were introduced in the SBI cycle were selected based on two criteria. First, a Reading Strategy Questionnaire was administered to year seven students and in-class observation notes were used to choose the reading strategies appropriate to the students' needs. Second, the theoretical framework of reading was developed and the selected strategies were matched to reading factors. Through this criterion, strategies which relate to different reading factors were involved in the study and this ensured an interactive approach to reading. This SBI cycle have the potential to teach students that L2 reading is a text comprehension process rather than a vocabulary learning activity (see Kusiak, 2001).

In this study, the issues of SBI are recognised and addressed as follows: 1) students were allowed to use L1 when they were evaluating strategy deployment, reflecting and verbalising their thought processes in SBI classes. This procedure placed less demand on students' mental processing capacity. 2) Although use of authentic texts in SBI classes is criticised, authentic children's stories with some language adaptation were used in this study. Authentic texts showed the relevance of strategies and created opportunities for the students to use strategies. When groups of strategies were used with authentic texts strategies that students were familiar with were used. 3) Monitoring and evaluation as part of metacognition were involved explicitly and planning was involved implicitly in the study.

The next section explains the data collection timetable.

4.3.6 Data collection timetable

In this section, the data collection timetable, as shown in the table below, is presented. The timetable was prepared before the data collection was started. However, when the English teachers were liaised with about the plan of the timetable, some adjustments had to be made. The study was started on the 16th February 2010.

The timetable was planned to fit in the autumn semester of the academic year. Seven days were allocated for pre-test data collection at the beginning of the semester. The pre-tests involved, as previously explained in this chapter: the Reading Strategy Questionnaire, the Background Questionnaire, and the Comprehension Test. These instruments were administered to both intervention and control groups. Seven weeks were allocated for the SBI. The classroom teachers agreed to give two 40-minute-slots every week for six weeks. One-40-minute slot was used in the first week for reading strategy awareness rising. Two lessons were done for each of the two intervention groups for the rest of the six weeks. So, 13 lessons in total could be done with each of the two intervention classes.

I taught class 7C on Mondays and Wednesdays and class 7D on Tuesdays and Fridays. Although there are drawbacks of researcher teaching the class, for example students' may work harder because they like the researcher and they make more progress, choosing to teach the classes myself was the best alternative available to me. What is more, students may like the teaching programme itself rather than the teacher. The teaching programme was intensive in terms of hours of teaching, but it was not intensive regarding the number of strategies taught for the whole semester. Students got the opportunity to use and to talk about each strategy several times. As soon as the pre-test data collection was completed, the first lessons with the intervention groups started on the 24th of February with 7C and on the 26th with 7D. The Dutch poem (see Grenfell and Harris, 1999) was introduced as a reading strategy awareness raising activity. The rest of the six weeks were busy in terms of teaching new reading strategies and encouraging students to practise them. The reading strategies were taught in the following sequence: between 1st and 5th March: picture, title, semantic guessing, elaboration and sub-vocalisation; between 8th and 12th March: background knowledge, prediction and summarisation; between 15th and 19th March: inference and question generation, and the first lesson of the second phase of the SBI cycle

started. The next three weeks, between 5th and 23rd April the second phase of the SBI cycle was followed. In this second phase students revised strategies that were introduced in the first phase.

The reading strategies involved in the SBI were chosen after studying reading strategy taxonomies. The reading strategies were ordered from bottom level to top level strategies (see section 4.2.2). In other words, they were ordered depending on the amount of demand they would have on the working memory, from easy to difficult strategies. Most strategies were combined in strategy clusters when they were presented in the classroom. 'Semantic guessing' together with 'title' and 'picture' formed the first strategy cluster that was practised. 'Semantic guessing' is a small strategy cluster in itself and it involves: 'familiar words', 'word roots', and 'compound words'. These strategies were combined because, they were bottom level strategies and they would work best when they were combined.

Two weeks were allocated as a time interval between the end of the teaching and beginning of post-test data collection. Leaving time interval between the teaching and testing is significant to test what learners actually learned. Four weeks were allocated for the administration of post-tests at the end of the semester. Post-tests were the same data collection measurements administered as pre-test measurements together with the Think-aloud Protocols and the Metacognitive Awareness Interviews.

Data Collection Timetable		
No. of procedures	**Date of Procedures**	**Procedures**
1	**Week 1** – 16th-23rd Feb.	Pre-test administration
2	**Week 2** – 24th-26th Feb.	**Lesson 1:** Awareness rising
3	**Week 3** – 1st-2nd Mar.	**Lesson 2:** Picture & Title & semantic guessing & elaboration
4	**Week 3** – 3rd-5th Mar.	**Lesson 3:** Sub-vocalisation
5	**Week 4** – 8th-9th Mar.	**Lesson 4:** Background Knowledge
6	**Week 4** – 10th-12th Mar.	**Lesson 5:** Prediction & summarisation
7	**Week 5** – 15th-16th Mar.	**Lesson 6:** Inference & question generation

8	**Week 5** – 17th-19th Mar.	**Lesson 7:** Revision
9	**Week 6** – 22nd-23rd Mar.	**Lesson 8:** Revision
10	**Week 6** – 24th-26th Mar.	**Lesson 9:** Revision
11	**Week 7** – 29th-30th Mar.	Lesson 10: Revision
12	**Week 7** – 31stMar.-2ndApr.	Lesson 11: Revision
13	**Week 8** – 5th-6th Apr.	Lesson 12 : Revision
14	**Week 8** – 7th-9th Apr.	Lesson 13: Revision
15	**Week 9** – 12th-16th Apr.	Time interval
16	**Week 10** – 19th-23rd Apr.	Time interval
17	**Week 11** – 26th-30th Apr.	Post-test administration
18	**Week 12** – 3rd-7th May	Post-test administration
19	**Week 13** – 10th-14th May	Think-aloud Protocols & Motivation-Metacognitive Awareness Interviews
20	**Week 14** – 17th-18thMay	Think-aloud Protocols & Motivation-Metacognitive Awareness Interviews

Table 8: Data Collection Timetable

This section presented the data collection timetable involving the administration of the pre- and post-tests. The data collection timetable is also presented in the table above. The next section presents the teaching materials and the lesson plans used during the intervention.

4.3.7 Lesson Plans and Teaching Materials

In this section the lesson plans and teaching materials that were used during the SBI are presented. The lesson plans (see Appendix IV) were written in the light of my previous teaching and teacher training experiences. Teaching materials (see Appendix V) were selected from children's stories and they were rewritten according to the proficiency level of students.

The lessons were planned in a way to incorporate steps of the SBI cycle and introduce the strategies in the clearest way possible. The third lesson, for example, was on 'sub-

vocalisation'. This strategy was introduced in isolation. It would have been more useful to combine this with 'semantic guessing', because 'sub-vocalisation' would be useful for the students when trying to recognise words in a text. However, students needed practice in pronunciation to be able to recognise words. The difficulty level of the activity was brought down for the 3rd lesson so that more students could participate. The focus of the 3rd lesson was introducing a range of sounds to students to increase their familiarity to English pronunciation. This 3rd lesson was a fun lesson for almost all students in both intervention groups, students enjoyed playing with sounds. 'Sub-vocalisation' was then practised in a short poem. The drawback of this lesson was that a reading text was not the main teaching material used, but this strategy was brought in later in the semester to offer more practice opportunities. In the fifth lesson, 'prediction' was clustered with 'question generation'. A relatively long reading text was necessary for these strategies. After students read the beginning of the text, they were encouraged to create questions based on what they already knew. This activity leads to making predictions about the rest of the story. Inference and question generation was combined for sixth lesson to offer more opportunities to create questions. According to this, students read the text and created questions about the text, I would encourage them to ask more inferential questions. This led to making inferences based on the story. Usually, depending on time limitations, I encouraged them to use the strategies that they found useful. For example, during the fourth, fifth and sixth lessons along with the strategies in the timetable, strategies taught in the second lesson were used, because 'picture', 'title' and 'semantic guessing' can be used with any strategy when reading a text for the first time. 'Summary' was a reading strategy that was naturally involved in the SI cycle. In almost each lesson there was an occasion when 'summary' was used to talk about the story. It helped learners to better understand the story as they shared their interpretations with their classmates.

The paragraph below shows how and in what order the students used reading strategies. It shows that all these strategies are needed to effectively read a story in a foreign language. Although Cotterall (1993) concluded that they taught too many strategies in their study, in the present project, the need to add summarisation strategy during the SBI shows that the number of strategies was not too many.

Ideally all the strategies that were taught during the SBI are useful in comprehending a story. Ideally, the students would use the strategies in the following order: they look at the

'picture' and the 'title' as soon as they get the text. When they start to read the text they use 'semantic guessing' and 'sub-vocalisation' when they need. They use 'sub-vocalisation' to read correctly and recognize words. They use 'semantic guessing' to make sense of words. Meanwhile, they think of what they know, 'background knowledge', about the concepts introduced in a text and decide on what they are curious about, 'question generation'. They 'generate questions' throughout reading and 'predict' the end of the story when they are half way through. When they finish, they talk about what they have learned by using 'inference' and 'summary' strategies. This cycle of reading strategy deployment was the target cycle that I aimed to teach students. The aim of the revision classes was to demonstrate the use of this cycle, and to help students utilize the cycle. Scaffolding was often provided for the students throughout the intervention study.

During independent work in the classroom students would use reading strategies on 'Victor saves the village' in the following way:

There are many pictures around the story which was very useful and interesting for the students. They could easily figure out the meaning of the title from the pictures. They could find the root of 'sailor', which is semantic guessing strategy. They would know the meaning of 'sail' from the list of sports that they learned. Sub-vocalisation strategy would be effective for them to understand the meaning of 'mopping'. They would know the sound of 'mop' from spoken language. They could easily use their background knowledge, because they all knew a variation of a pirate story. The story was divided into two on purpose. When students finished reading the first page they were asked to predict the end of the story. This way they were kept curious for a few minutes and were encouraged to ask questions about the story. There is a moral lesson to be learned in the story, the students were asked to infer the moral of the story. This was usually done by summarising the story or a part of the story first.

The preparation of the programme involved making decisions on teaching materials. Although it has been suggested that authentic materials would put students off (Harris, 2007), the teaching materials consisted of poems and children's stories from a story book and the internet. Based on previous experience, it was assumed in this study that stories would appeal to the students. However, kids' magazine articles and interviews with celebrities were not selected thinking that they would be irrelevant to their culture. All the

materials were rewritten in order to tailor the language structure and vocabulary down to the level of the students. Stories were simplified making sure that they were still challenging for the children, but not too difficult to turn them completely off (see Chamot et al., 1999: 99). A reading text that's too hard would not be useful for eliciting strategies, because students could not understand anything from the text. A reading text that's too easy would still be counterproductive, because students would not need to use strategies. Each strategy on the programme was matched to a story which could best encourage the use of the strategy or the strategy clusters that is planned to be introduced.

One of the options was to use the short reading texts in the students' textbook, but the reading texts were too short and they were not stories. They were dialogues between young people going through different adventures in each unit. Using stories is particularly important when teaching strategies. Long as well as short reading texts were selected. Short reading texts were used at the beginning of the SBI intervention; longer stories were used in the second phase, especially when use of large strategy clusters was encouraged. Using strategy clusters would not be possible when reading dialogues or extracts in the students' textbook.

The pilot study that was conducted with year seven classes at the same school, in 2009, was very useful in determining the proficiency level of students. The decision about the type, the difficulty level and number of materials to be used for each lesson was taken in the light of the classroom observations conducted during the pilot study. Despite that choosing materials or adapting them to the level of the students was not a straight forward task. There was a clear gap between the proficiency level of a successful student and a weak student. For this reason the materials had to be adapted in a way that could be used in a classroom which lacks homogeneity in proficiency level. Of course this was a disadvantage for the project. However, this situation had to be dealt with because all classes in the school had the same characteristic. According to the observations, it was rarely possible to cover more than one reading text in one lesson.

In this section, the lesson plans and teaching materials were explained.

4.3.8 Conclusion

In this section, the mixed methods quasi-experimental research design is explained in detail. Significant issues such as validity and reliability in experimental research were presented too. Commonly employed methods of obtaining information in LLS research are introduced. Both the quantitative and qualitative data collection instruments that are used in this study were explained. These instruments are as follows: the Individual and Socio-cultural Differences Questionnaire (the Background Questionnaire), the Attitudes Questionnaire, the Reading Strategy Questionnaire, the Reading Comprehension Test, the Think-aloud Protocols and the Metacognitive Awareness Interview. The cycle of the SBI that is adapted for the need of the present study is the most central aspect of this design. All of the data collection instruments were employed to evaluate the effectiveness of the SBI in a secondary school context in Northern Cyprus. Following on from an account of the SBI, the data collection timetable, lesson plans and the teaching materials are presented.

Next is the overall conclusion of this chapter.

4.4 Chapter Conclusion

This chapter was divided into two sections. The first section presented a discussion on two theoretical frameworks that were central to the design of this study.

The first framework showed how learner strategies were learned and deployed by language learners through the Act-R Theory with notions of the Cognitive Theory. In the second framework text-driven and knowledge-driven operations were explained. These two frameworks show how the previous literature was interpreted and applied to this study.

The second section was on the methodological approach to the design of the study. First, the design of the study, which was a mixed methods quasi-experimental design, was presented in detail. In this study, both the statistical outcomes and the qualitative findings on strategy-clusters are equally significant. An account of quantitative, qualitative and

mixed methods as well as experimental and quasi-experimental studies was made; and how all these were combined in a single study was explained. Second, ways of obtaining information in LLS research were presented before going into details of the data collection instruments. Third, Questionnaires and the Reading Comprehension Test that were used as part of the quantitative instruments for the pre- and post-test data collection were explained. Among the Questionnaires, there was an Individual and Socio-cultural Differences Questionnaire which was used to collect background information about the students. This questionnaire was administered at the beginning of the intervention. The other two questionnaires, the Attitudes Questionnaire and the Reading Strategy Questionnaire, were administered as pre- and post-data collection instruments. Fourth, the Think-aloud Protocols and the Metacognitive Awareness Interview were accounted for as qualitative data collection instruments. The Think-aloud Protocols are significant data collection instruments in the LLS field. Since most learner strategies are not directly observable and they are cognitive processes, Think-aloud Protocols offer the most effective way available to collect data on these processes. The Metacognitive Awareness Interview provided further information about students who used reading-strategy-clusters and who did not use them. Fifth, the SBI cycle that was adapted from the cycles in the literature was explained. Lastly, the data collection timetable, lesson plans and teaching materials were presented. Each lesson plan involved all three stages of the SBI cycle and the teaching materials were selected to suit the reading strategies to be taught during the intervention.

Having explained the design of the study and presented the data collection instruments, the next section moves onto data analysis and findings.

CHAPTER V – ANALYSIS AND FINDINGS

5.1 Introduction

This chapter presents the process of analysis and the research findings. As explained in the methodology chapter, data was gathered through both quantitative and qualitative measures. Integrating a mixed methods approach into this quasi-experimental intervention study produced a substantial data bank. Due to the size of the data bank, this chapter is divided into three sections. Prior to presenting section I, the findings of the Individual and Socio-cultural Differences questionnaire, which is also referred to as the background questionnaire, in this thesis, are presented. These findings provide us with some background information on the students. The information on the Individual and Socio-cultural Differences is offered as part of the introduction to the chapter, because it portrays group characteristics. Information on students' social and economic backgrounds is intended as student information. Students' socio-economic backgrounds show the possibility of the amount of exposure to English. Families of high socio-economic backgrounds provide their children with opportunities of private lessons. In this thesis, I have no intention of comparing girls and boys or relating students' socio-economic backgrounds to strategy deployment. Following on from the introduction, the above mentioned sections are presented. Section I concerns the quantitative data, sections II and III are on the qualitative data. Section I is divided into the following sub-sections: 1) Reading Comprehension Test, 2) Reading Strategy Questionnaire, and 3) Attitudes Questionnaire. Their common characteristic is that they were all administered pre- and post-intervention. Data obtained through the pre-tests offer two sets of information: Firstly, the groups were compared on the basis of the pre-test results. This comparison provided us with statistical information about the possible similarities and differences between the groups before the SBI was started. Secondly, the pre-tests formed a baseline on which the post-test data could be compared. Section II involves analysis and findings of the Metacognitive Awareness Interview. Section III presents the analysis and findings of the Think-aloud Protocols. The findings of the Metacognitive Awareness Interview and the Think-aloud Protocols are presented together in individual student profiles. There are six student profiles, each of which offers information about a student: his/her motivation for

learning to read in English, metacognitive awareness and reading strategy-cluster deployment. Strategy-cluster deployment is one of the recent research issues in LLS. These profiles are valuable in offering specific examples about student-participants and in providing qualitative support for statistical findings.

The next section is individual and socio-cultural characteristics of the groups. This section provides us with some background information on the students. It also allows us to comment on the comparability of the intervention and control groups. Thus, it is important to present the following section in the introduction.

5.2 The Individual and Socio-cultural Characteristics of the Groups

In this section two sets of information about the students are presented. The first relates to how much help they received from their families. The amount of attention students receive outside of the classroom in relation to the courses they take at school may create individual differences in their learning processes. The second is on their socio-cultural differences. The differences between families of students in terms of social and cultural values may create differences between the students. Both of these data sets are used to present some background information about the students.

The study was started in the second semester of the academic year. Random allocation of participants was therefore not possible. Classes involved in the study were as the way they had been allocated at the beginning of the year. Students had not been assigned to their classes by means of any test. A deputy principal stated that they tried to group students according to the primary schools that they were coming from in order not to separate friends. For example, Russell's Secondary School usually mixed students coming from two schools in one class to a maximum of 30. However, this was not always possible because of various numbers of students coming from different primary schools.

Due to the possible diversity of student backgrounds, a comparison of groups on some individual and socio-cultural factors was necessary. As is referred to above, factors that are concerned with the family variable were investigated. These two factors were used to

compare the intervention and control groups. Firstly, those who receive help outside the classroom; the frequency and quality of help received from an adult outside of the classroom could have an impact on outcomes of the study. Secondly, the socio-cultural backgrounds of students. Some researchers suggest that social context may be influencial on LLS (see Takeuchi et al., 2007). Drastic differences between students in terms of socio-cultural factors could produce mixed results in terms of success in reading in English. For instance, economically more able parents travel to Europe on holidays. So, such holiday trips, especially those made to England, increase students' linguistic awareness and attitudes towards learning English. Before the intervention study was conducted, students were asked whether they received help on their English studies at home, and they were given a series of questions in relation to their socio-economic backgrounds; both of which are explained in the following two sections.

The next sub-section deals with the individual differences based on the attention students get from their families.

5.2.1 Individual Differences

In this sub-section, the amount of help students receive outside of the classroom was investigated and the intervention and the control groups were compared based on this information. What is more, a statistical analysis was run based on gender in order to investigate the possible impact of the difference in the number of participants from two gender groups.

As a part of the individual differences questionnaire, students were asked to answer the following question: do you receive help on your English studies at home? 61 students from the intervention group and 58 students from the control group answered the question. Descriptive statistics (see Table 1), which were run in SPSS (19), show that 39.2% of students in the control group and 16.0% students in the intervention group received help. They normally received help from a person from the family or family friends on a weekly basis. In other words, the majority of students did not receive any help outside the classroom in either group.

Do you receive help on your English studies at home?				
Student Characteristics		**Intervention Group** N= 61		**Control Group** N= 58	
		N	%	N	%
YES		8	16.0	20	39.2
NO		42	84.0	31	60.8
Total		50	100.0	51	100.0
Statistics	Mean	56.92		45.20	
	P	0.10			
**p<0.05	* p<0.001				

Table 9: Group comparison on help students received outside classroom

Mann Whitney U test was also run in order to statistically investigate the significance of the data. As shown in the table above, the P value is .10 (p= .10) which means that the difference between the groups, in terms of receiving help from an adult outside the classroom, was not statistically significant. Although a follow up open ended question suggested that there were students who attended classes after school or received parental help at home, according to the statistical analysis, exposure to English after school would not have an impact on the results. Both intervention and control groups received a similar amount of attention on their English after school. There were students who received help as well as those who had to study on their own in both groups. Therefore, neither of the groups had more advantages than the other. It is also worth mentioning that the help students received was on general English, not just reading.

The next table shows the gender distribution in the intervention and control groups and it reports the statistical analysis in the number of girls and boys in the groups. This statistical analysis was conducted to understand whether the differences in the number of boys and girls in the groups would influence the results.

Information on the gender distribution				
	Intervention Group N=61		**Control Group** N=58	
Gender	N	%	N	%
Girl	22	44.0	15	29.4
Boy	28	56.0	36	70.6
Total	50	100.0	51	100.0
Statistics Mean	47.28		54.64	
P	0.13			

Table 10: The gender distribution

The first section on the table above is on the gender issue. There were 61 students in the intervention group and 58 in the control group. Out of 61 students in the intervention group 50 students (22 girls and 28 boys); and out of 58 students in the control group 51 students (15 girls and 36 boys) could complete the background questionnaire. Although there were more boys (n=64) than girls (n=37) in this study, the difference in the number of participants' gender was not statistically significant (p=0.13). In other words, the difference did not create biased results for one group or the other.

The next sub-section is on the socio-economic differences of the students.

5.2.2 Socio-economic Differences

In this section, the differences that there might be between the students depending on their parents' occupation and their family holiday destinations are suggested.

Students from diverse socio-cultural backgrounds may have differences in terms of linguistic awareness and attitudes. Such differences may be caused by their parents' occupation which determines their income. The differences between the intervention and the control groups were investigated through a socio-cultural backgrounds questionnaire. The following table consists of two sections: 1) mothers' educational status and 2) fathers' educational status.

Information on the parents' occupation				
	Intervention Group N=61		**Control Group** N=58	
	N	%	N	%
Mother's educational status				
No answer	1	2.0	1	2.0
Never went	1	2.0	5	9.8
Primary	21	42.0	9	17.6
Middle	6	12.0	14	27.5
High	17	34.0	17	33.3
University	4	8.0	5	9.8
Total	50	100.0	51	100.0
Statistics Mean	49.26		52.71	
P	0.53			
Father's educational status				
No answer	2	4.0	-	-
Never went	-	-	1	2.0
Primary	15	30.0	16	31.4
Middle	10	20.0	12	23.5
High	14	28.0	13	25.5
University	9	18.0	9	17.9
Total	50	100.0	51	100.0
Statistics Mean	51.11		50.89	
P	0.96			

Table 11: Socio-economic backgrounds

The above table presents accounts on the parents' educational status which gives some information about students' socio-economic backgrounds. The table shows that parents were mostly graduates of primary school, middle school and high school. Fathers of both the intervention and the control group students worked as drivers, hair dressers, workers at hotels, workers at a building sites etc., and most mothers of both groups were housewives. The statistical analysis run on parents' educational background showed that all groups were similar. The P value for mothers' educational status is 0.53, and fathers' educational status is 0.96. In other words, statistical analysis show that there were not any difference between the intervention and control groups in terms of parents' educational status.

There was also an open ended question in the same section that asked about holiday destinations of students with their parents. This question provided us with further information on students' socio-economic backgrounds. Most of the students in both groups went to Turkey for their holidays; a few of them in both groups travelled to England; and most of the control and some of the intervention group students did not go abroad for holidays.

In summary, the data presented in the above two sections provides background information about the students on the following matters: 1) statistical information on whether they received any help after school on their English; 2) statistical information about the issue of gender; 3) statistical information on parental educational status; 4) descriptive information on parental occupational status; and 5) descriptive information on preferred holiday destinations as a sign of income. Both the statistical and descriptive information suggest that the participants were not from high socio-economic backgrounds; most of the students were from middle to low socio-economic backgrounds. This information is significant for the next three sections which present the outcomes by comparing the intervention and the control groups. The data gathered with the Individual and Socio-economic Differences (background) questionnaire proves that the intervention and the control groups in this study are comparable.

As stated above, some background information about the students has been provided. The next sections are on the qualitative and quantitative data. The next section presents analysis and findings of quantitative data: 1) the Reading Comprehension Tests; 2) the Reading Strategy Questionnaire; and 3) the Attitudes Questionnaire.

5.3 Section I

5.3.1 Quantitative Data Bank - Analysis and Findings

This section gives an account of the analysis and findings of quantitative data. The Quantitative Data Bank is one of the two equally significant parts of this study – the other is the Qualitative Data Bank. All the data sets in the Quantitative Data Bank involve a pre- and a post-test. Pre-tests offer information about students prior to the intervention; and post-tests provide us with information about them after the intervention. This information enables us to observe any change that occurred between the two slots of the time period. Any difference that is observed between the two time periods could be attributed to the intervention study.

These data sets were collected in order to answer the following research questions respectively:

1) Is there any difference in reading comprehension ability between the groups in the pre- and post-tests?
2) What is the difference between pre- and post-tests in terms of frequency of strategy use for the intervention and control groups?
3) Has the SI intervention had any impact on students' attitudes to reading in English?

This section is divided into three sub-sections: 1) the Reading Comprehension Test; 2) the Reading Strategies Questionnaire; 3) the Attitudes Questionnaire. Each of the sub-sections offers an account of the analysis and findings. First, analysis and findings of the Reading Strategy Questionnaire is presented. The difference between pre- and post-test results showed the change that occurred in students' reading strategy use over three months.

5.3.2 The Reading Comprehension Test

This section justifies findings of the Reading Comprehension Test, both pre- and post-. Thirty-three intervention group students and 34 control group students took part in the final analysis of the Reading Comprehension Test. Although there were 4 classes and each class had approximately 30 students, a total of 119 students, the number of students who took part in the Reading Comprehension Test dropped down to 67. Thus, the number of pupils completing the test ended up being small and this limits the conclusions that are drawn from the statistical analysis on the reading comprehension test. The number of papers which were used in the analysis dropped down to 67 from 119 due to the following reasons. 1) Pre- and post-test papers were matched, for this reason, papers of students who participated in only the pre-test or the post-test were eliminated from the analysis. 2) Papers which were half filled and half blank were eliminated from the analysis, since they seemed to be irresponsibly handled. 3) Papers of students who took the same test in a private English class previously were also excluded from the analysis, even though they had participated in both of the administration of pre- and post-tests. After each student's pre- and post-test papers were matched, they were marked out of 50.

The Wilcoxon test, which is a non-parametric test, was employed to compare the pre- and post-test scores of the intervention and control groups to investigate any change in reading comprehension. The Wilcoxon test compared each student's pre- and post-test scores to explore any decrease or increase in their reading comprehension scores. The test produced one positive and one negative mean rank for the intervention and control group. The positive and negative mean ranks are important for the interpretation of the findings. Larson-Hall (2010) explains how SPSS runs the analysis through the Wilcoxon test as follows: [p]ositive ranks mean that an individual scored more highly at Time 2; negative ranks mean that they scored lower at Time 2. For those instances where an individual's score did not change, these ties are dropped out of the analysis" (p. 381).

The above definition is useful to interpret the results correctly. Both positive and negative mean ranks inform us on the post-test (Time 2), as compared to the pre-test (Time 1). When there was not any change between the pre- and post-test of a student, the Wilcoxon test automatically eliminated the student's paper, because there would not be any

difference between the pre- and post-test. The Wilcoxon test was used because it is a non-parametric test (see page 190 for a definition of a non-parametric test).

'P' value informs us on the level of importance of the mean scores. If the 'p' value is significant, we have to read the mean scores to interpret the meaning conveyed by it. If the positive mean score is higher, the students achieved higher at the post-test; if the negative mean score is higher, the students achieved lower at the post-test. 'P' value (a = .05) is used to decrease the possibility of Type I error. Type I error occurs when, "there are no differences between groups ... but the researcher mistakenly concludes that there are..." (Larson-Hall, 2010, p. 403). Referring to the 'p' value, comments on the statistical significance of the findings can be made.

The following table presents The Wilcoxon test results of the intervention and the control groups:

Wilcoxon Test					
Intervention and Control Groups		**N**	**Mean Rank**	**Sum of Ranks**	**Statistics**
Intervention	**Negative Ranks**	9	14.33	129.00	0.05
	Positive Ranks	20	15.30	306.00	
	Ties	3			
	Total	32			
Control	**Negative Ranks**	13	13.92	181.00	0.84
	Positive Ranks	14	14.07	197.00	
	Ties	6			
	Total	33			

Table 12: Reading comprehension pre- and post-test comparisons

Out of 32 students, 20 achieved a higher score with a mean rank of 15.30, whereas 9 students scored lower with a mean rank of 14.33. In the intervention group, only 3 students did not increase or decrease their scores. The positive mean rank of the intervention group is higher than the negative mean rank. The fact that the positive mean rank is higher than the negative mean rank suggests that, on average, the amount of increase in reading comprehension scores is higher than the amount of decrease. The sum of positive ranks in

the intervention group is higher (306.00) than the sum of negative ranks (129.00) indicating that the total amount of increase in reading comprehension scores is higher than the total amount of decrease. The 'P' value of the intervention group (p=0.05) shows that the increase in their reading comprehension scores is statistically significant. Although the sum of positive ranks is higher in the control group too, the 'P' value (p=0.84) indicates that the difference between the pre- and post-test scores is not statistically significant. Out of 33 students, 14 achieved a higher score with a mean rank of 14.07 and 13 scored lower with a mean rank of 13.92. In the control group 6 students did not decrease or increase their scores.

The figures in percentages are explanatory about the degree of improvement in reading comprehension. The mean scores presented on the table below were used to calculate percentages of improvement in reading comprehension. A comparison of mean scores of pre- (12.15) and post-tests (13.75) of the intervention group show that the group improved by 13.08 per cent, whereas a comparison on the pre- (14.64) and post-tests (14.96) of the control group show that they improved only by 2.25 per cent. Improvement of intervention group in reading comprehension is five times higher than the control group.

The following table presents the mean scores, standard deviations and Cohen's d of intervention and control groups. Cohen's d is commonly used in quantitative SLA research for the measurement of effect size (see Bowles, 2010, p. 82).

Reading Comprehension Test Statistics				
	Intervention Group		**Control Group**	
	Pre-test	**Post-test**	**Pre-test**	**Post-test**
Mean	12.15	13.75	14.63	14.96
Std. Deviation	5.01	4.45	6.07	5.98
Cohen's d	0.33		0.05	

Table 13: Descriptive statistics and Cohen's d on the reading comprehension test

The mean scores and standard deviations were used to calculate Cohen's d, a commonly used formula for effect size calculations. Interpretation of Cohen's d is done following the guidelines suggested by Cohen (see Larson-Hall, 2010, p. 118). According to his

guidelines, .20 is a small, .50 is a medium and .80 is a large effect. The Cohen's d of the intervention group is 0.33(medium) and of the control group is 0.05 (very small). Therefore, the effect size of the intervention group is between small and medium. This effect size suggests that a longer training programme could have improved learners' reading comprehension much more. The effect size of the control group is way below small. This effect size suggests that the regular English classes were not at all effective in improving students' reading comprehension.

This section offered data on the improvement of the intervention group as compared to the control group, and the data suggested that SBI was effective in improving students' reading comprehension in English. The next section presents data from The Reading Strategies Questionnaire.

5.3.3 The Reading Strategy Questionnaire

This section presents analysis and findings obtained from The Reading Strategy Questionnaire. The Reading Strategy Questionnaire had three sections: Word level (WL), Cognitive (C) and Metacognitive (MC). This questionnaire was administered as a pre- and a post-test measure, before and after the SBI. The results were analysed in SPSS using the Mann Whitney U test which is a non-parametric test. It is important to explain what is meant by the non-parametric test to clarify why the Mann Whitney U test is used for the analysis in this section. Non-parametric statistics are also named as distribution-free statistics because, unlike parametric tests, non-parametric tests do not require the data to be normally distributed whereas parametric statistics do. When statistical analysis is run with an assumption that the data is normally distributed, a bell-curve-shaped distribution, the results obtained would reflect this assumption. Thus, the distribution of the data determines whether parametric or non-parametric tests are suitable for the statistical analysis. Normal distribution means that the "distribution of data where the probability curve follows a bell-curve-shaped distribution" (Larson-Hall, 2010, p. 396). For example, grades in a classroom are normally distributed, when most students receive Cs, a lesser number Bs and Ds, and smaller number receive As and Fs. The presence of outliers means that data are not normally distributed, that there are data in the extreme ends (see Larson-Hall, 2010),

assuming a normal distribution would create completely incorrect results. The drawback of using parametric tests when the data is not normally distributed is that it can "cause you to conclude that there are no differences between groups or no relationship between variables when they do in fact exist" (Larson-Hall, 2010, pp. 373-4). The advantage of non-parametric tests is that they use the median, which is insensitive to outliers, so these tests might produce more powerful results to find statistical results. Before any statistical analysis was done on the data of the present study, the distribution of data was checked to find out whether parametric or non-parametric statistical analysis was appropriate for this study. The results showed that distribution of data had some outliers. A careful consideration on how to analyse the data, as explained above, proved non-parametric tests appropriate for this study. In order to compare intervention and control groups on the basis of pre-test and post-test results, the Mann Whitney U test was applied. Furthermore, Cohen's d was calculated to investigate the effect size of the findings.

The Mann Whitney U test was, firstly, used to compare the pre-test results of intervention and control groups. The groups were compared on the basis of the sub-categories of the questionnaire: Word Level (WL), Cognitive (C) and Metacognitive (MC), as well as the overall total. Mean ranks of each sub-category and the overall total are calculated (see Table 5). The mean ranks were used to compare the intervention and control groups on the basis of reading strategy use. The 'p' value, in the last column, shows whether the difference between the mean ranks is statistically significant. The same analysis was used to compare the post-test results of the same groups.

The table below presents the comparison of pre-test results for the frequency of reading strategy use. There are four columns on the table: the first one from the right names the sub-sections of the questionnaire and the total. The second presents the mean ranks of intervention group; third, the mean rank of the control group, and the last one the p value. 'P' value suggests whether the difference between two mean ranks is statistically significant. The last row of the table presents information on the acceptable significance of p values; any value that is bigger than 0.05 is not considered statistically significant.

Mann Whitney U Test			
Pre-test	**Intervention N=50 Mean Ranks**	**Control N=51 Mean Ranks**	**Statistics P**
WL	53.20	48.84	0.453
C	56.61	45.50	0.056
MC	55.17	46.91	0.156
Total	56.05	46.05	0.086
**p<0.05 * p<0.001			

Table 14: Pre-test results: Comparison of intervention and control groups

On the Word Level Category, the intervention group (53.20) scored a higher mean rank than the control group (48.84). However, the 'p' value (0.453) of the comparison suggests that the difference is not statistically significant. Similarly, on the Cognitive Category, the intervention group scored higher (56.61) than the control group (45.50) and the 'p' value is 0.056. Although the 'p' value is low, it suggests that the difference is not statistically significant. On the Metacognitive Category, the intervention group again scored a higher mean rank (55.17) than the control group (46.91). However, the 'p' value (0.156) does not suggest any statistical significance. The mean rank of the intervention group was higher for all three categories. In spite of the fact that, the intervention group had higher mean ranks, the 'p' values for all three categories showed that the differences were not statistically significant. As a result of higher mean ranks of the intervention group, the total mean rank was higher (56.05) than the control group (46.05); however, the 'p' value (0.086) suggests that the total difference was not statistically significant either.

The analysis of the post-test results was conducted in the same way as the analysis of the pre-test results. The table below (table 6) presents the data in the same manner as table 5.

Mann Whitney U Test			
Post-test	**Intervention N=50 Mean Ranks**	**Control N=47 Mean Ranks**	**Statistics P**
WL	56.54	40.98	0.006*
C	57.09	40.39	0.003*
MC	53.54	44.17	0.100
Total	56.64	40.87	0.006*
**p<0.05 * p<0.001			

Table 15: Comparison of intervention and control groups on the basis of post-test results

Similar to the pre-test results, the mean ranks of the intervention group in all three categories are higher than that of the control group. In the word level category, the intervention group scored 56.54 and control group 40.98; the 'p' value is 0.006. The intervention group used word level strategies more frequently than the control group students. The situation is similar for the cognitive strategy use. The intervention group scored 57.09 and the control group 40.39; the 'p' value is 0.003. On the other hand, none of the groups used meta-cognitive strategies significantly (p=0.100) more compared to the other, where the mean rank of the intervention group is 53.54 and the control group is 44.17. In terms of the overall reading strategy use, the mean rank of the intervention group is higher (56.64) than the control group (40.87) which is statistically significant (P= 0.006).

The 'p' values of the pre-test results (WL: 0.453; C: 0.056; MC: 0.156 and total: 0.086) were not statistically significant. The 'p' values of the post-test results (WL: 0.006; C: 0.003; MC: 0.100; total: 0.006) were all, except MC, statistically significant. There was not any statistically significant difference in reading strategy use between the intervention and control group students before the SBI. However, at the end of the intervention the results show that the intervention group students used reading strategies statistically significantly more than control group students.

Cohen's d test was employed to calculate the effect size for The Reading Strategy Questionnaire. The same test was used to calculate the effect size of The Reading Comprehension Test. The following table presents the mean scores, standard deviations and Cohen's d of the intervention and control groups:

Reading Strategies Questionnaire Statistics				
	Intervention Group		**Control Group**	
	Pre-test	**Post-test**	**Pre-test**	**Post-test**
Mean	72.56	77.16	67.92	67.70
Std. Deviation	13.96	15.09	12.68	14.24
Cohen's d	0.31		-0.01	

Table 16: Descriptive statistics and Cohen's d on the reading strategies questionnaire

Cohen's d of the intervention group is 0.31 and of control group is -0.01. The effect size of the intervention group is between small and medium. 0.31 is a reasonable effect size as compared to that of the control group. -0.01 suggests that the usual ways of teaching at the school did not help the students to develop reading strategies at all. Therefore, in order to encourage students to use reading strategies more frequently SBI must be incorporated into reading classes.

This section presented findings on The Reading Strategy Questionnaire suggesting that there was a statistically significant improvement in the strategy use of the intervention group students. A statistically significant improvement was demonstrated by the results of the Reading Comprehension Test too in the intervention group. When the findings of the Reading Strategy Questionnaire and the Reading Comprehension are triangulated, the interpretation may be that the SBI is effective in teaching students reading strategies.

5.3.4 Attitudinal Differences

The following table shows questions addressing attitudes towards learning to read in English in the individual differences questionnaire. There were four items addressing attitudes, each of which is presented on the table below. Under each item; first, frequency tables; second, p values as part of the statistical analysis, are presented. The aim of the statistical analysis was to investigate significance among the options of each item. Two different statistical tests were used depending on the number of options under each item. A Kruskal-Wallis Test, which is a non-parametric test (Larson-Hall, 2012, p. 378), was employed for the first, third and fourth items, on the table below. Due to the number of

variables that are involved in the analysis a Kruskal-Wallis Test was most appropriate. The first and the third items have five options or variables as 1) very happy, 2) happy, 3) I don't know, 4) a little happy, 5) unhappy. A Mann-Whitney U Test was then used for the second item. Due to the small number of variables, a Mann-Whitney U Test was employed. The options or variables in the second item were only yes and no.

	Pre-test				**Post-test**			
Attitudes towards reading English	**Intervention Group**		**Control Group**		**Intervention Group**		**Control Group**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
How do you feel about learning English?								
Very happy	26	52.0	19	37.3	24	48.0	17	36.2
Happy	18	36.0	18	35.3	16	32.0	19	40.4
I don't know	5	10.0	14	27.5	5	10.0	7	14.9
A little happy	-	-	-	-	2	4.0	-	-
Unhappy	1	2.0	-	-	3	6.0	4	8.5
Total	50	100	51	100.0	50	100.0	47	100.0
Statistics	p= 0.09				p= 0.43			
Do you like reading in English?								
No Answer	1	2.0	-	-	-	-	-	-
Yes	32	64.0	30	58.8	35	70.0	25	53.2
No	17	34.0	21	41.2	15	30.0	22	46.8
Total	50	100.0	51	100.0	50	100.0	47	100.0
Statistics	p= 0.50				p= 0.09			
How do you feel about learning to read in English?								
No Answer	-	-	-	-	1	2.0	-	-
Very happy	20	40.0	16	31.4	23	46.0	17	36.2
Happy	18	36.0	19	37.3	18	36.0	14	29.8
I don't know	9	18.0	12	23.5	5	10.0	10	21.3
A little happy	1	2.0	4	7.8	-	-	4	8.5
Unhappy	2	4.0	-	-	3	6.0	2	4.3
Total	50	100.0	51	100.0	50	100.0	47	100.0
Statistics	p= 0.32				p= 0.12			

How do you feel when you get a difficult reading passage in English?								
No Answer	-	-	-	-	1	2.0	-	-
Very comfortable	5	10.0	3	5.9	9	18.0	3	6.4
Comfortable	14	28.0	7	13.7	10	20.0	9	19.1
I don't know	7	14.0	11	21.6	6	12.0	10	21.3
Worried	19	38.0	23	45.1	22	44.0	18	38.3
Hopeless	5	10.0	7	13.7	2	4.0	7	14.9
Total	50	100.0	51	100.0	50	100.0	47	100.0
Statistics	p= 0.35				p= 0.13			

Table 17: Statistical analysis on students' attitudes on reading in English

The first item, on the table above, asked how the students felt about learning English. The pre-test results for both groups were similar: most students were very happy about learning English (intervention: 52.0%; control: 37.3%), some students were happy (intervention: 36.0%; control: 35.3%), a few students did not know how they felt about learning English (intervention: 10.0%; control: 27.5%). However, a difference in the post-test results was observed. Most students in the intervention group (48.0%) were very happy, only some of them were very happy in the control group (36.2%). Some students in the intervention group (32.0%) were very happy, but most of them in the control group were happy (40.4%). A few students in both groups did not know how they felt about learning English (intervention: 10.0%; control: 14.9%).

The second item asks whether students like reading in English. Most students in both groups, both in the pre- and post-tests stated that they liked English. However, while there was an increase in the number of intervention group students in the post-test, there was a decrease in the number of control group students.

The third item asks about how the students felt about learning to read in English. According to the pre-test results, most students in the intervention group (40.0%) and some in the control group (37.3%) felt very happy about learning to read in English. Some students in the intervention group (36.0%) and most students in the intervention (37.3%) group felt happy. The post-test results show that most students from both intervention (46.0%) and control (32.2%) groups felt very happy about learning to read in English. Similarly some students from the intervention (36.0%) and some from the control group (29.8%) felt happy about learning to read in English.

The fourth item asked how students felt when they got a difficult reading passage in English. According to the pre-test results, most students from both intervention (38.0%) and control (45.1%) groups felt worried. Some of the intervention group students (28.0%) felt comfortable, and some of the control group students (21.6%) did not know how they felt. The situation did not change according to the post-test results, most students from both the intervention (44.0%) and control (38.3%) groups felt worried. Some of the intervention group students felt comfortable (20.0%) and some of the control group students (21.3%) did not know how they felt.

The post-test statistical analysis shows that the intervention and control group students did not have statistically significant differences in attitudes towards reading in English. Although using statistically significant outcomes is more reliable when reaching to conclusions, it can be useful to consider other sources of data when there is no statistical significance. This can help us to infer whether a significant improvement may be possible if some aspects like the length of the study are changed. When the percentage of responses by each group is compared, it becomes clear that there is a steady but slow improvement in the attitudes of the intervention group. One of the reasons of slow improvement of attitudes could be the authentic texts that were used in the study. As Harris (2007) stated authentic texts when combined with the demand of reading strategy deployment, placed a burden on students' cognitive processing capacities. When this finding on attitudes are compared to the statistically significant outcomes of the intervention group Reading Comprehension Test and the Reading Strategy Questionnaire, the conclusion is that the intervention group students used reading strategies more frequently, this contributed to an increase in their reading comprehension and they also developed positive attitudes towards reading in English.

5.3.5 Summary of Findings and Conclusions

The quantitative data provided numerical data which showed any similarities or differences between the intervention and the control groups much more saliently than the qualitative data findings. According to the quantitative data findings, the SBI intervention contributed

positively to the improvement of the intervention group both in terms of reading strategy use and reading comprehension. The findings are listed below:

1. The intervention and control groups were compared about how much help they received outside the classroom. The percentages showed that the control group (39.2%) received more help compared to the intervention group (16.0%). The statistical analysis showed that the difference (alpha 0.10) was not significant. Thus, the groups were homogeneous in this respect. Although the difference between the groups is not significant, it still shows a slight difference between the groups: the control group students received more help, on general English, outside the classroom than the intervention group students. Thus, the control group students seemed to be at an advantageous position at the beginning of the intervention study. However, this did not influence the study in any way because 1) the difference is not statistically significant and 2) the help that the control group students received was rarely professional.

2. The groups were compared in terms of socio-cultural differences too. The data showed that the jobs of parents were similar for both of the groups. Mothers were mostly housewives and fathers were drivers, hair dressers or workers at hotels and building sides. Besides, statistics were done on parents' educational status to explore for any difference between the groups. The statistics showed the difference between the intervention and the control groups in terms of their mothers' educational status (P= 0.53) and fathers' educational status (P= 0.96) was not statistically significant. In other words, the groups were similar in terms of parents' educational backgrounds. Therefore, the groups were homogenous in terms of parents' educational and occupational status. Most of the students went to Turkey and a few of them to England on holidays. Thus, a similarity between the groups was observed in terms of travelling too.

3. The Reading Comprehension Test given to students as a pre- and post-test measure answers the following research question: Is there any difference in reading comprehension ability between the groups in the pre- and post-tests? The results show a statistically significant improvement in the intervention group's (P=0.05) reading comprehension scores. On the other hand, in the control group, although

there was some improvement in their reading comprehension scores, the improvement was not statistically significant. Further to the statistical analysis, Cohen's d was calculated to investigate the effect size of the Reading Comprehension Test. According to the results, Cohen's d for the intervention group was 0.33 and for the control group was 0.05. The effect size of the intervention group was between small and medium, whereas of the control group was extremely small. The outcome on the effect size may suggest that the SBI is effective in improving secondary school students' reading comprehension. What is more, SBI is much more effective than the traditional method of teaching reading at the school.

4. The Reading Strategy Questionnaire that was administered as a pre- and post-test measure answers the following research question: What is the difference between pre- and post-tests in terms of frequency of strategy use for each group? The pre-test results suggest that there was not any statistically significant difference between the groups prior to the SBI. The post-test results show that there are statistically significant improvements in the intervention group students in word level (P= 0.006), cognitive (P=0.003) and overall (P= 0.006) reading strategy deployment. However, statistical analysis did not show any significant increase in metacognitive strategy deployment. Although not statistically significant, some improvement is observed in metacognitive strategy deployment too. Cohen's d was calculated to check the effect size of the Reading Strategy Deployment. The value of Cohen's d of the intervention group (0.31) is much higher than of the control group (-0.01). The effect size of the intervention group is between small and medium, whereas the effect size of the control group is below 0. Thus, while the intervention group benefited from the SBI and increased the frequency of reading strategy deployment, the control group did not benefit at all from the regular English classes in terms of strategy use.

5. The Attitudes Questionnaire that was administered as a pre- and post-test measure addressed the following research question: Has the SI intervention had any impact on students' attitudes to reading in English? The statistical analysis on students' attitudes did not yield any significant results. The findings suggest that there was not much improvement in students' attitudes towards reading in English within

three months. Nevertheless, percentages suggest that there were attitudinal improvements in the intervention group students in the following areas: a) liking reading in English (from 64.0% to 70.0%); b) learning to read in English (from 40.0% to 46.0%); c) feeling comfortable when confronted with a difficult reading text (from 10.0% to 18.0%).

In conclusion, when the outcomes of the Reading Comprehension Test, the Reading Strategy Questionnaire and the Attitudes Questionnaire are triangulated, it becomes clear that the SBI is an effective way of planning, organising and delivering reading classes. The reading classes at Russel School were planned according to the standard textbook that was used by all secondary schools in the country. However, through the teachers' interpretation of the textbook, the reading classes usually turned into a vocabulary teaching class. SBI, on the other hand, keeps the teacher's attention focused on the fact that a reading class requires being focused on the reading processes. These reading processes are underlined by the reading strategies. However, these reading strategies are rarely integrated into teaching plans of reading classes at schools in Northern Cyprus. Of course, this generalisation is based on the data collected from only the Russel School which might be misleading. However, the fact that all secondary schools in the country have to follow the same textbook indicates that the possibility that this generalisation is correct to be highly likely.

5.4 Section II

5.4.1 Metacognitive Awareness Interview

This section presents the analysis and findings of the Metacognitive Awareness Interview conducted with the intervention and control groups after the SBI. Data in this section is analysed to answer the following research question:

Is metacognitive awareness of intervention group students different than the control group students after the SBI?

The students who took part in the Metacognitive Awareness Interview had also taken part in the Think-aloud Protocols. This was a structured interview administered at the end of the Think-aloud Protocols. There were three questions in the interview:

1. How do you understand whether a text is easy or difficult; was this reading text easy or difficult for you?
2. Can you evaluate your reading performance?
3. Do you use strategies/tactics when you read; what is the benefit of using strategies/tactics?

The second question asks students to evaluate their reading performances. They evaluated themselves. They rated themselves as poor, average and good. I did not rate their performances, I only commented on their answers by comparing different achievement levels. The third question seems to be problematic. Of course, the intervention group would mention more strategies since they were taught them. However, the question was proven effective especially in showing differences between three achievement levels of the intervention group. The data was analysed using Nvivo 8. Nvivo 8 is useful software that is used in the analysis of interviews. It allows us to code data into various categories. One category was created for each question and extracts from student interviews were coded in them. The answers of intervention group students were compared to the answers of the

control group students in order to explore similarities and differences. Any differences between the groups can be attributed to the contribution of the SBI. Different students' answers to the same question were compared. Then, key words and phrases were taken out of the extracts and a table was created named as 'key lines'.

The data are presented in the same manner. The answers of students from each achievement level, two intervention and two control group students for each level, are compared. The findings are generalised, where applicable, to those two students who belong to the same group and who are at the same level. A personalised account of some students will be presented under student profiles, later. The tables below summarize responses of four high, four medium and four low level students to the Metacognitive Awareness Interview. Two of these students at each achievement level are from the intervention group and two of them are from the control group. Due to the number of participants it is not possible to make generalisations beyond the current group of these twelve students who participated in the interview. This interview serves as an example and it provides further support for the other data sets in this thesis. The findings of the interview are interpreted in conjunction with other data sets at the end of the chapter.

5.4.2 High Level students

First, key ideas offered by high level students are presented in the table below. There are two main sections of the table; each section involves the same three questions and answers of students in the form of phrases. The first main section shows answers of the intervention group students and the second shows the answers of the control group students.

The Metacognitive Awareness Interview Key Ideas Offered by the High Level Students		
	Question	Answer
Intervention Group Students (In.H) Claire and Beatty	Easy vs. difficult passage	▪ depending on unknown words (Claire) ▪ title (Beatty) ▪ picture (Beatty)
	Evaluate yourself	▪ average; because of the unknown words (Claire & Beatty)
	Benefit of strategy use	▪ useful in understanding the story (Claire) ▪ showed awareness of strategies (Claire & Beatty) ▪ title, picture, roots of unknown words, and made guesses, guessing the end of the sentence or the story (Claire & Beatty)
Control Group Students (Co.H) Kristina and Kevin	Easy vs. difficult passage	▪ depending on the unknown words (Kristina & Kevin) ▪ title and the flow of the text (Kevin)
	Evaluate yourself	▪ good; vocabulary knowledge (Kristina) ▪ average; due to lack of vocabulary knowledge and lack of ability in pronunciation (Kevin)
	Benefit of strategy use	▪ dictionaries (Kristina) ▪ picture (Kevin) ▪ known words (Kevin)

Table 18: The metacognitive awareness interview: high level students

Claire stated that, "if there are unknown words, [the text] can be difficult for me" (see Appendix XII – TAP-C1.). Beatty said that, in order to understand the difficulty level of a text, she looked at the title and the picture. Both of the intervention group students found their reading performances average due to the unknown words, they were able to understand the text generally but they said that they missed the details. Both Claire and Beatty showed awareness of strategies; Claire stated that strategies helped her to understand the story. She articulated the usefulness of the strategies in the following way: "for example, teacher, when [Sophia] teacher gives us a text, we make guesses about it. I made a guess from the title, [Farah] made a guess too. Then, we looked at the text itself; we made guesses about what the text could and could not be about; we looked at the sentences. When the story ended, we predicted the end of the story, whether the man died or not. Then, when there is words that I don't know, I look at the root and the words around it. …Like this, this is how they were useful" (see Appendix XII – TAP-C1). The students were able to name specific strategies that they used. Claire used title, picture,

guessing the end of the sentence and the story; Beatty made guesses, used title, picture and finding roots of unknown words (semantic guessing).

Control group students, similar to Claire in the intervention group, would pay attention to known and unknown words to understand whether a text is easy or difficult. Kevin stated that he would look at the title and the flow of the text. When the control group students were asked to evaluate their reading performances, Kristina rated her reading performance as good and Kevin as average. Kristina stated that she "can understand that it is difficult, … because there are a lot of unknown words in some texts, they are difficult to understand" (see Appendix XII – TAP-K2). Kevin stated that the obstacles for him were lack of vocabulary knowledge and weak pronunciation skills. Despite that, he said his reading performance was good enough. Kristina suggested that she used a dictionary and Kevin said he used pictures and known words (semantic guessing) as strategies to get the meaning from a reading text.

The groups did not differ dramatically in terms of differentiating between easy and difficult texts. Students from both groups depended on the number of unknown words to understand whether a text is easy or difficult, and they all used picture as a strategy too. The intervention group students used the title and Kevin, a control group student, stated that he looked at the flow of the text which is a general account. Both the intervention group students and Kevin in the control group stated that their reading performances were average. Kristina gave a rather contradictory answer. She said that her performance was good, because most words were familiar to her. While in reality, she had difficulties due to the unknown words. However, in terms of expressing the benefits of strategy use, the intervention group students showed more awareness and they were able to list the strategies that they used. The control group students talked about more general strategies and they only talked about them briefly. As stated earlier in this section, these findings are not generalizable beyond the group of students who participated in the Metacognitive Awareness Interview. These findings are compared to the rest of the data set at the end of the chapter.

The next table shows the key ideas offered by medium level students on metacognitive awareness in the same manner that the above table is presented.

5.4.3 Medium Level Students

The Metacognitive Awareness Interview Key Ideas Offered by the Medium Level Students		
	Question	Answer
Intervention Group Students (In.M): Mary and Iona	Easy vs. difficult passage	▪ "Yes", I would understand whether a text is easy or difficult (Mary) ▪ unknown words (Mary & Iona) ▪ easy; because unknown words were in majority (Iona)
	Evaluate yourself	▪ poor (Mary) ▪ was not able to recall word meanings (Mary) ▪ average (Iona)
	Benefit of strategy use	▪ uses strategies in other classes too (Mary) ▪ guessing the meaning of a sentence (Mary and Iona) ▪ compound words (Mary) ▪ guessing the end of the story (Mary) ▪ looking at the pictures (Mary) ▪ The strategies are useful (Iona) ▪ they would not stop to reflect on the text in any form in the past (Iona)
Control Group Students (Co.M): Martin and Hannah	Easy vs. difficult passage	▪ being relaxed (Martin) ▪ a little difficult (Martin) ▪ unknown words (Martin and Hannah) ▪ average (Hannah)
	Evaluate yourself	▪ average (Martin & Hannah) ▪ unknown words (Martin & Hannah)
	Benefit of strategy use	▪ pictures (Martin & Hannah) ▪ title (Hannah) ▪ sentences that are easy to understand (Martin) ▪ sometimes useful (Hannah)

Table 19: The metacognitive awareness interview: medium level students

Mary stated that she could differentiate between easy and difficult texts. Both Mary and Iona stated that they paid attention to unknown words when reading a text. Iona said that reading the text was easy for her. Mary stated that her reading performance was bad, because she "didn't recall any of the words that [she] knew" (see Appendix XII – TAP-M3). Iona, on the other hand, stated that her reading performance was average. She reported the following strategies as useful for her: title, picture and prediction. Mary thought that the reading classes were useful. She talked about strategies that she thought were useful such as semantic guessing, prediction and picture. She stated that when there

were too many unknown words she could not make predictions about the story line. She explained it as follows: "When there is a text, I look at a sentence, if there are 4-5 words in a sentence but I only know one of them, hm it is difficult for me. I mean if I can't understand or make a guess the text is difficult for me." (see Appendix XII – TAP-M3). This clearly shows that the threshold level was an obstacle for her sometimes. Iona stated that the strategies they learned in the classroom were useful for them. She stated that before they would not know strategies and they would not even try to use them. She explained that our lessons were "very useful. … we, in the past, did not know the tactics and we would just read on, now that we know there are tactics to use … we did not used to even make guesses". Now that she had learned them she uses them to better understand reading texts.

Control group students reported that their reading performances were average due to unknown words. Martin said that there were some words that he did not know, despite the fact that the text was not too difficult for him. He emphasized that being relaxed while reading was significant. He explained it as follows "To read now, we should not be scared of the text when we see it. To read now, when we see the text we should not be scared of it, I mean we should not worry, if we approach it with confidence, I am sure that everyone can do this, I mean they can read like this.". Hannah said that known and unknown words determine whether a text was easy or difficult. She stated that "when I read I first look at the words. This is all. I don't understand some of the words. When I don't understand words, I don't understand the text, so understanding the text becomes difficult". According to her, the text was not too difficult, and her reading performance was average. Martin stated that he would look at the picture and predict; he would use sentences that were easy to understand to aid his predictions. His familiarity with strategies relates to the extended English reading activities that he did in his previous school. Hannah reported using picture and title. Although she attended private English classes after school, she did not use many reading strategies.

To sum up, both intervention and control group students stated that the ease or difficulty of a text was determined by vocabulary used in it and by whether they know the meaning of words it. Iona and both of the control group students stated that their reading performances were average. Only Mary said that her reading performance was average, although she was enthusiastic about reading and tried hard to understand the text. Both of the intervention

group students suggested that they found SI classes useful. They learned new strategies and became able to use them. Iona stated that, before, she did not know what to do when the text was challenging for them, but now she had strategies to employ when faced with difficulties. Both of the control group students used picture and title mostly, but they did not have a wide repertoire of strategies to use when needed.

The next table presents key ideas offered by low level students from intervention and control groups.

5.4.4 Low Level Students

The Metacognitive Awareness Interview Key Ideas Offered by the Low Level Students		
	Question	Answer
Intervention Group Students (In.L): Allen and Ivan	Easy vs. difficult passage	▪ difficult (Allen) ▪ unknown words (Allen & Ivan) ▪ never tried (Ivan) ▪ "reading is easy, understanding is difficult" (Ivan) ▪ When there is a picture, it's easy (Ivan)
	Evaluate yourself	▪ between average and weak (Allen) ▪ average (Ivan) ▪ unknown words (Ivan)
	Benefit of strategy use	▪ title, picture (Allen) ▪ strategies were useful (Ivan & Allen) ▪ not useful when did not understand much (Ivan)
Control Group Students (Co.L): Simon and Alfred	Easy vs. difficult passage	▪ neither difficult nor easy (Simon) ▪ unknown words (Simon & Alfred)
	Evaluate yourself	▪ bad (Simon & Alfred) ▪ could not read fluently (Simon) ▪ unknown words (Simon) ▪ punctuation problems (Alfred)
	Benefit of strategy use	▪ re-reading (Simon) ▪ asking a friend (Simon & Alfred) ▪ using dictionaries (Simon & Alfred) ▪ These strategies are useful for learning new words (Alfred)

Table 20: The metacognitive awareness interview: low level students

Allen found the text difficult to read because there were many unknown words for him. He said "I don't understand the words". Ivan said that he rarely read, so he did not know how to understand the level of difficulty of a text; with the following quote: "reading is easy, understanding is difficult" it is clear that Ivan did not know what was involved in a reading process. Allen said that his reading performance was between average and weak. He was aware that he was not successful in reading the text. Ivan stated that his performance was average, but he was able to explain that he had difficulties, so he showed awareness of his performance too. Allen used picture and title to understand the text. Ivan stated that strategies were useful but not for him, because he did not understand much due to lack of vocabulary knowledge.

The control group students gave more general answers such as 'neither difficult nor easy' and 'depending on how much I understand'. They both suggested that the number of unknown words determined how difficult or easy the text is. The control group students stated that their performances were bad. Alfred stated that he could not read fluently and he did not follow punctuation rules. He said "I did not pay attention to punctuation and I stammered so much". Simon said that his reading problems were caused by the number of unknown words he encountered. Simon said that they needed to use a dictionary, ask for help and re-read texts; Alfred also mentioned the usefulness of using a dictionary, and asking for help. They both stated that using these strategies were useful for learning new words.

To sum up, both groups demonstrated some level of metacognitive awareness. Only Allen among the other low level students stated clearly that the text was difficult for him because of the difficult words. The other three students were indecisive; they could not provide a strong answer with an explanation. Both groups were able to evaluate their reading performances. They generally recognized usefulness of strategies. The intervention group students thought that they were not useful for them because they did not understand enough English. Alfred was the only control group student who reported using general strategies such as using a dictionary and asking a friend.

5.4.5 Summary of the Metacognitive Awareness Interview

This section summarizes the findings of the Metacognitive Awareness Interview.

1) The students were asked to comment on the difficulty level of the reading text that they were given. All students of both groups suggested that the number of unknown words would determine whether the text would be easy or difficult for them. High and medium level students of both groups showed awareness of the text difficulty. However, low level students were not able to provide a straight forward answer. They either said that they never tried to understand the difficulty level of a text or that the text was 'neither difficult nor easy'.

2) The students were also asked to evaluate their reading performances. All students talked about the difficulty that they were faced with due to unknown words. All of their performances were between average and weak. Only one of the control group high level (Co.H) students said that her performance was good. Almost all of them were aware of how they performed.

3) They were asked to talk about the benefit of strategy deployment. This question was made clear to the control group students with an example. They were told that using the picture while reading, for example, was a strategy. This example was selected on purpose, the pilot study showed that many students, regardless of their achievement in reading, used pictures to understand a reading text. Control group students were able to list strategies that they knew and used when working on a reading text. However, they were not able to talk about the benefit of strategies. They reported using a dictionary and asking a friend, which are generally strategies used by many school students (see Appendix I). They did not talk about specific strategies that they used to understand the text that they had just read. On the other hand, the intervention group students showed an increased level of metacognitive awareness about various strategies as well as their usefulness while reading. They said that strategies made reading easier for them and they were able to talk about specific strategies that they used while reading the text. They also stated where exactly they applied certain strategies in the text. One of the intervention group

medium level (In.M) students stated that she used strategies in other reading classes too, for example, reading required in a science class. While Co.H and Co.M students talked about title and known words as strategies that they used during reading, intervention group high level (In.H) and In.M students talked about strategies like using compound words, guessing end of the story, and inference. One of the In.M students compared how she read before and after the SBI. She stated that, in the past, she would just read on without reflecting on the text at all. However, now that she had attended the SBI classes, she is more able to stop and reflect on the text while reading by using reading strategies. One of the intervention group low level (In.L) students suggested that strategies were not useful when he did not understand most of a reading text. This statement shows that he developed metacognitive awareness and he realised that some language knowledge is important to make the best use of strategies. One of the Co.L students stated that he did not use any strategies at all.

To sum up, question one showed that high and medium level students were able to distinguish difficult texts from easy ones, whereas low level students could not. Question two suggested that all students were able to evaluate themselves and they were aware of how well they performed. The third question, which was about the benefit of strategy use, showed the difference between intervention and control group students. The difference between the high and medium level students was more obvious. The intervention group students were able to talk about where they used strategies in the reading text. They were also able to list more sophisticated strategies while talking about their usefulness. One of the intervention group low level students explained it well; that strategies may not be useful when they do not understand much from the reading text. This is a significant example showing that although the intervention group low level students were not able to use most of the strategies while reading, they developed awareness about when strategies can be useful for them.

The next section is on the analysis and findings of the Think-aloud Protocols.

5.5 Section III

5.5.1 Analysis and Findings: Think-Aloud Protocols

The purpose of this section is to present data from the Think-aloud Protocols in order to facilitate comparison between different achievement levels. Think-aloud data, whilst not generalizable to the wider population, support quantitative outcomes and provide illustrative information. In the present study, analysis of the think-aloud data provides explanatory information on the strategy clusters which could not be offered through purely quantitative analysis. As noted in the methodology chapter, students from both the intervention and control groups were invited to take part in the Think-aloud Protocols. Students were divided into three achievement levels with reference of their classroom teachers. These achievement levels are named as high, medium and low. The distinction between the achievement levels was done depending on students' mid-term grades. According to this, high achievers received the highest grades, medium achievers passed their exams with average grades and low achievers failed them. As shown in the table below, two students were randomly chosen, among volunteers, for each achievement level, from both the intervention and control groups. In total, there were twelve participants in the Think-aloud Protocols; six from the intervention and six from the control group.

Participants of Think-aloud Protocols		
	Intervention Group	**Control Group**
High Level Achievers	Claire and Beatty	Kristina and Kevin
Medium Level Achievers	Mary and Iona	Martin and Hannah
Low Level Achievers	Allen and Ivan	Simon and Alfred

Table 21: Participants of think-aloud protocols according to the achievement levels and groups

These groupings were useful for the analysis of reading strategy deployment for each achievement level. In addition to the group findings, six individual student profiles are offered in order to provide specific examples with an in-depth analysis. Three of these

profiles represent the intervention group achievement levels and the other three illustrates the achievement levels of the control group. The think-aloud data answers the following research question:

R.Q.: What is the difference between the intervention and control groups in terms of frequency and the way strategy-clusters are used?

In order to answer the above question, first strategy clusters are analysed quantitatively. Along with strategy clusters, the quantity of strategy chains and chunks are reported. The quantitative findings are important in offering a comprehensible generalised account on strategy deployment. Second, an in-depth analysis of strategy clusters that were used by each student was carried out. One representative student from each achievement level was selected for the in-depth analysis, as shown in the table below. A profile was written for each student to account for their motivation, metacognitive awareness and strategy-cluster-deployment. The students are then compared for similarities and differences in the deployment of strategy clusters.

Participants of Think-aloud Protocols		
	Intervention Group	**Control Group**
High Level Achievers	Claire	Kristina
Medium Level Achievers	Mary	Martin
Low Level Achievers	Allen	Simon

Table 22: Students whose profiles are presented later in this chapter

This section, first, presents the process of analysis of the think-aloud data. This process started with identification of reading strategies in student protocols, two student protocols were then co-coded to ensure reliability. This initial analysis was followed by tracking strategy clusters and analysing them. After the process of analysis is explained, findings of think-aloud data are suggested as the quantitative findings and student profiles.

5.5.2 Analysis

In this section, the analysis procedure on the Think-aloud Protocols is explained in three steps. First identification of reading strategies and co-coding is illustrated, second the quantitative analysis on the Think-aloud Protocols is demonstrated and lastly the analysis of strategy clusters is defined.

5.5.2.1 Identification of Reading Strategies and Co-coding

In this section the initial analysis of the think-aloud data is presented together with the issues of identifying strategies in the data. The process of co-coding is explained.

The think-aloud data was transcribed and was loaded into Nvivo 8 for the initial analysis. Before application of any in-depth analysis was possible on the data, student protocols were read in order to identify reading strategies. The only strategy that was observed during the think-aloud protocols was persistence which is an affective strategy. However, it was not included in the analysis; it was rather reported as a positive quality. Summarisation, on the other hand, was added in the SBI cycle during the intervention, because it was needed. As the strategies were identified they were coded in the relevant categories. For example, a category that was created for monitoring allowed me to code data in it which showed deployment of monitoring strategy. A category for each strategy that was taught during the SBI was created to code relevant strategies. Strategies of intervention and control groups, and strategies of achievement levels (high, medium and low achievers) were coded separately in order to be able to compare them later. The figure below illustrates the categories that were created to code data in Nvivo 8 for the intervention group. The same categories were created separately for the control group.

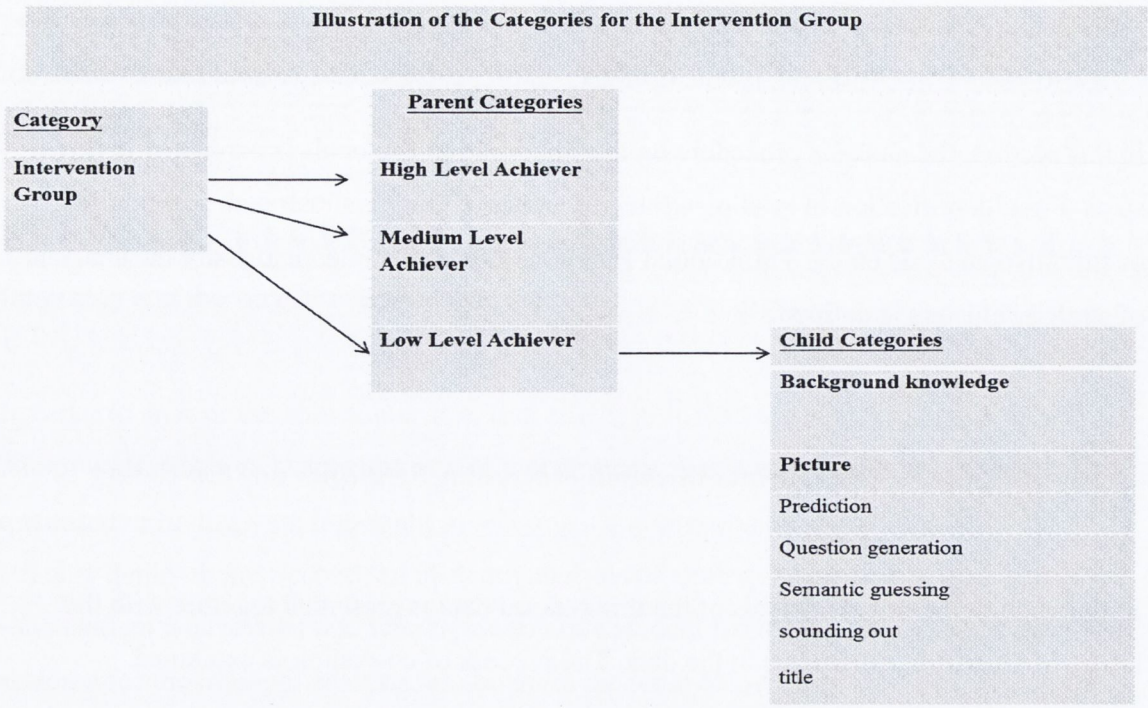


Figure 2: Illustration of the categories for the intervention group

The figure above suggests that there are three main categories that were formed in Nvivo 8 during the initial analysis. It shows that seven child categories were created for the low level achievers in the intervention group. Parent and child categories are names used to differentiate between categories and sub-categories. The following child categories were used during the analysis: 1)title, 2) picture, 3) sub-vocalisation, 4) semantic guessing, 5) elaboration, 6) prediction, 7) inference, 8) background knowledge, 9) question generation, 10) monitoring, and 11) summarization (see section 4.2.2 for the definitions).

At times, during the protocols, students were explicitly stating the strategy that they used. However, at other times, they were using strategies without explicitly referring to them. They were not constantly encouraged to name the reading strategies that they were deploying. Asking them to name the strategies would have been destructive for the intervention group and it would have been demanding for the control group. Examples of these explicitly stated and unstated strategy deployments are presented below. The first extract is an example of an instance where the student was explicitly stating the strategy she used.

Strategy deployment from Mary's protocol	
The cluster	**Strategies**
401 S: I asked a question emm I mean emm Why does not man want to bury the gold, for example. 402 This question is stack in my head, I am thinking about this. Why did the man choose that place? 403 This is what I am thinking teacher.	Question generation (In lines 401 and 402 she states explicitly that she is asking a question to herself.)

Table 23: Strategy deployment from Mary's protocol (extract 1)

Mary, referring to an earlier question, stated that she asked a question and she rephrased it. Such an explicitly stated strategy was easily coded. The extract below offers an example of a strategy which was not explicitly stated.

Strategy deployment from Mary's protocol	
The cluster	**Strategies**
123 S: Emm I mean /hæpi/ emm now /hæpi/ emm I mean emm it means happy but /ən/ I 124 mean it's 'un' there. This means that he is unhappy.	Semantic guessing (In line 123 she analysed the word 'unhappy' dividing it into its components) Sub-vocalisation (In lines 123 and 124, she uttered 'happy' and 'un' aloud repeatedly, trying to make sense of the word 'unhappy'.)

Table 24: Strategy deployment from Mary's protocol (extract 2)

In the extract above Mary clearly used semantic guessing strategy. Although she did not name the strategy, she expressed her thought process aloud. The word that she was analysing was 'unhappy'. She knew the meaning of 'happy' and she knew that 'un' was used to add a negative meaning. Depending on these two sources of information she was able to state the meaning of the word. It is suggested, in this example, that even when students did not name strategies explicitly strategy deployment could clearly be observed. The extract below shows that the researcher's inference based on the clues in student's utterance was also required.

Strategy deployment from Iona's protocol	
The cluster	Strategies
123 T: Ok, what else do you think about? 124 S: They could be two friends or two brothers	Picture Elaboration

Table 25: Strategy deployment from Iona's protocol (extract 3)

The extract above is from Iona's protocol. She did not state explicitly that she was using picture and elaboration strategies. However, based on the clue in her utterance these two strategies are observed. She used the pronoun 'they' to refer to the people in the picture. This was also made obvious through her facial gestures. She was not sure how the two people in the picture were related. She was not able to find a clue about their relationship in the text which is why she made an elaboration. In other words, she filled in the gaps through logical guesses. There were two possibilities in her mind they were either friends or brothers.

Justification of the diagnosed reading strategies was a challenge due to the amount of inference required from the analyser. This justification was ensured with a co-coder. I asked one of my friends, who was also doing her PhD in education, a former teacher with ten years of teaching experience. In order to prepare her for the task a list of reading strategies that were involved in the SBI was given to her with their definitions. Then, we discussed bout the definitions and coding data in Nvivo 8. She coded reading strategies of two students whose protocols I had already coded. In other words, the analyses of two students' Think-aloud Protocols were conducted independently by two PhD students and our coding compared to check the inter-rater reliability. It is impossible to make a valid statistical claim with the size of the sample used for the Think-aloud Protocols. There were 12 participants in the Think-aloud Protocols. Two students who obviously used a range of many strategies were selected for co-coding. The more strategies there were in the protocol the better it was for the purposes of co-coding. Claire's and Iona's protocols were used for this purpose. My friend and I coded the data independently and our coding was compared. For example, we both coded that semantic guessing and elaboration strategies were used in the following extract.

Strategy deployment from Claire's protocol	
The cluster	**Strategies**
126 S: Village, then went is to go, see is to see, I don't know the meaning of gold em every 127 day he would go somewhere, I think this man sees something. And one day 'workmen' 128 workman (in Turkish) a man wanted to do something, he lost something a man wanted to do something he lost something em	Semantic guessing Elaboration

Table 26: Strategy deployment from Claire's protocol (extract 4)

For the purposes of the comparison, each line of the student talk was underlined with coloured markers. I printed two copies of Claire's protocol. I first marked strategies according to my coding and then according to my friend's coding. Colour coding was useful in observing strategies that occurred together (see Appendix XIII). Strategies that occurred together are referred to as strategy clusters. Strategy clusters are analysed in detail later in this section. The extract above was marked in purple and orange, purple representing elaboration and orange representing semantic guessing. After colour coding was completed for both Claire's and Iona's protocols; comparing lines, separately for my coding and for the co-coder's coding was easier. Through colour coding, strategies were easily tracked at the first sight. I made a list of strategies that I coded for each student, stating the line number. The same procedure was applied for the co-coder's coding. The following table is an illustration of the strategy lists for the purpose of comparison.

Comparison of the researcher's and the co-coder's coding Claire's Think-aloud Protocol		
Line number	**Researcher**	**Co-coder**
112	Picture & Elaboration	Picture
114	Semantic guessing, picture, elaboration	Picture, title
116	Semantic guessing	Title
118	Title	Title
120	Title, elaboration	Title, picture, background knowledge
122	Elaboration	Title, picture, background knowledge
124	Picture, elaboration	Title, picture, background knowledge
130	Semantic guessing	Question generation
132	Picture, semantic guessing, elaboration	Question generation
134	Semantic guessing, elaboration	Question generation
135	Question generation	Question generation
136	Picture, semantic guessing, elaboration, monitoring	Question generation
138	Question generation	Question generation
156	Sub-vocalisation	Semantic guessing
158	Semantic guessing, elaboration	Semantic guessing
160	Semantic guessing, elaboration	Semantic guessing
164	Semantic guessing	Semantic guessing
166	Sub-vocalisation	Sub-vocalisation
167	Sub-vocalisation, question generation	Sub-vocalisation

170	Semantic guessing, elaboration	Semantic guessing
172	Semantic guessing, sub-vocalisation, elaboration	Semantic guessing
174	Semantic guessing, sub-vocalisation, elaboration	Semantic guessing
176	Sub-vocalisation	Semantic guessing
192-193	Picture, elaboration, semantic guessing, inference	Picture, semantic guessing, inference
196/199	Semantic guessing, picture, elaboration	Picture, semantic guessing, inference
220/221	Picture, elaboration	Question generation
223	Picture, semantic guessing, elaboration	Question generation

Table 27: Illustration of strategy lists for the purpose of comparison

The first column on the table above shows line numbers from Claire's think aloud protocol. The above table is presented here for illustration purposes and it does not cover all the strategies that were identified as part of the co-coding process. Each cell following the line number states the reading strategies which were attributed to those lines by the researcher and the co-coder. As shown on the table, the researcher and the co-coder agreed on some lines and disagreed on others. As illustrated below, the number of strategies that is agreed by the researcher and the co-coded is more than those that is not agreed.

After the listing was completed, reading strategies were categorised, according to the level of agreement, into four groups in order to better understand the similarities and differences between the coding. The groups and the number of strategies that fall into the groups are as follows: 1) reading strategies that we agreed on (26), 2) reading strategies that we disagreed on (3), 3) strategy clusters in which we agreed on, at least, one strategy (25), and 4) strategy versus strategy clusters (8).

1) Reading strategies that we agreed on (26). This group involves strategies which we both agree on; i.e., we both agreed that the student used 'picture' as a strategy in the following extract from Claire's think-aloud protocol:

162 S: Or a child, I understood this from the picture.

2) Reading strategies that we disagreed on (3). This group refers to lines which we coded with different strategies; i.e., I coded the following extract as picture and elaboration strategies and she coded it as semantic guessing only; as shown below in the extract from Claire's think-aloud protocol:

172 S: I think teacher, he wants to do something with a stone, this has put the stone
173 next to him the child wants to do something with the stone

The following extract is an example of strategy combinations which we both coded as strategy clusters, but we coded them with different strategies. For example, the co-coder suggested that the student in the extract below used the picture as a strategy, however according to me the student used semantic guessing, elaboration and inference as a strategy cluster. Referring to the word 'rich' and showing that she knew the meaning of the word, she used semantic guessing strategy. Then, she elaborated on what the rich man did; by adding the inference strategy she talked about the moral of the story (see the extract below):

159 S: I think, teacher, here with the rich man, the rich man goes to the poor man.
160 He would always visit him, he would help him.

3) Strategy clusters in which we agreed on, at least, one strategy (25). There were strategy clusters that we were both able to diagnose; however, one of us would miss out one strategy in the cluster. The extract below, from Iona, shows an example where we agreed on most strategies with one difference:

192 S: There are two children, I think that they are brothers. One of them, they are rich
193 but they are not happy.

The co-coder coded picture, semantic guessing and inference as strategies used in the extract above; and I coded picture, elaboration, semantic guessing and inference strategies. We agreed on most strategies, the only difference is in the elaboration strategy. The extract below, from Iona, is an example where we agreed on one strategy in a cluster:

120 S: Name I mean /pɛni/ and /pɪtʃər/

The extract above is an example of a strategy cluster from Iona's think-aloud protocol. The co-coder stated that the student used the title, picture and background knowledge. Use of pictures as a strategy was a possibility. However there was not a clear sign for it and there was not a sign for use of background knowledge either. I stated that the student used the title and elaboration, because the two words that are written in phonetics are from the title.

4) Strategy versus strategy clusters. There were lines from the student protocols which one of us coded as deployment of one strategy whereas the other coded as a strategy cluster (8). For example, the extract below is coded for 'picture' as a strategy by the researcher and it is coded as a strategy cluster involving semantic guessing, elaboration and inference by the co-coder.

148 S: I think, teacher, here with the rich man, the rich man goes to the poor man.
149 He would always visit him, he would help him.

The differences and similarities between the coding of the researcher and the co-coder were expected. The most important aspect to co-coding was the amount of them which would define reliability.

The two students' Think-aloud Protocols were equal to 78 lines in total. Out of 78 lines 62 were coded for strategy deployment by the researcher and the co-coder. There were 51 lines that we agreed on and 11 lines that we did not agree on as involving reading strategies. As a result, the calculation showed that the inter-rater reliability was 82.2%. A statistical valid claim is impossible to make with the size of the sample used for the Think-aloud Protocols.

Following the finding of high inter-rater reliability, Think-aloud Protocols of all twelve students were marked for strategies they used with coloured markers, as explained above. The colour coding was used to track strategy clusters and strategy chains which were counted to be able to compare them quantitatively. The next section explains the quantitative analysis on Think-aloud Protocols.

5.5.2.2 Quantitative Analysis

In order to conduct a quantitative analysis on Think-aloud Protocols, chunks, strategy chains and strategy clusters were counted manually. The findings are presented numerically under the quantitative findings section. In this section, the following key terminology is defined: 1) chunks; 2) strategy chains; 3) strategy clusters. Strategy or strategies are used to refer to single strategies which do not occur in a strategy cluster. These three terms are used to refer to significant sections of Think-aloud Protocols. The rest of the terminology which is used for the analysis of think-aloud data such as overlapping strategy clusters and group clusters are explained in the next section. Following on from the definition of each above mentioned terms, the way they were identified in Think-aloud Protocols are shown with examples.

Each student's think-aloud protocol was divided into chunks. A chunk consists of one meaningful unit of the text and verbally sharing thoughts on the meaningful unit of the text. The reading text was divided into chunks according to the number of times we stopped to talk about the text with each student. Of course, the number of times we stopped was determined by the student. The number of times a student stopped to reflect differed, so the number of strategy clusters that was used by each student was different. However, this was not a problem or a limitation of the study. This was only about student differences and knowledge of reading strategies. For example, Mary was keen on understanding the story so she stopped often at her own will, there were ten chunks in her protocol. On the other hand, Martin did not tend to reflect on the text while reading, although I stopped him to encourage reflection. There were only four chunks in his protocol. The following extract is one chunk from Iona's think-aloud protocol.

A chunk from Iona's think-aloud protocol	
The chunk	**Strategies in the chunk**
183 T: Ok, let's move on if there isn't anything on your mind.	
184 S: /æftər ðə rɪtʃ mæn wɛnt hom/	Semantic guessing
185 S: Then the rich man	Semantic guessing
Silence	Semantic guessing
186 S: Then, the rich man at home	Sub-vocalisation
187 T: Ok	
188 S: He goes to his house	Picture, elaboration,
189 S: /hi <u>faund</u> ðə gold ænd tʊk ɪt/ (11.03 mins)	semantic guessing, inference
190 S: Here <u>/faund/,</u> I don't know what this means	
191 T: Ok, is there anything on your mind? What do you think the story tells?	
192 S: There are two children, I think that they are brothers. One	Picture, semantic guessing,
193 of them, they are rich but they are not happy.	elaboration
194 T: hm	
Silence	
195 T: What made you think this way.	
196 S: Em here it says /hi wəz ənhæpi wɛn hi spɛnt məni/, and here /hi wɒntəd tu	
197 spɛnt <u>æt</u> lɪtəl məni æz hi kæn/	
198 As far as I understand, this is happy and this is not.	
199 T: I think you focused on the words you know.	
200 S: Yes	
201 T: hm hm	

Table 28: An example of a chunk from Iona's think-aloud protocol (extract 5)

The first column in the table above shows a chunk from Iona's think-aloud protocol. The column next to it lists strategies that occur on the underlined parts of the chunk. The chunk starts with teacher's prompt, in line 183, which indicated to the student to carry on reading. The student reads a sentence, in line 184, and analysed it; read another, in line 189, and reflected on it; and finally, starting from line 196, she read a sentence and further reflected on the sentence. There was not any teacher prompt suggesting to the student to carry on reading until the end of the chunk. The student decided herself whether she wanted to carry on reading, and sometimes combined reading and reflection on reading. A chunk does not necessarily contain strategies, strategy clusters and strategy chains. The number of them differed in each protocol depending on how often the student was willing to stop and reflect on the text.

A strategy cluster is explained as strategies that are deployed simultaneously (Cohen, 2007) by a student. For example, in table 25, the student uses picture, elaboration, semantic guessing and inference as a strategy cluster. Depending on the accounts of introspection, it can be argued that a strategy cluster consists of strategies that are deployed within 20 seconds of speech. In other words, it consists of strategies that occur closely together, a

strategy cluster is used to understand a sentence or a phrase. It is possible to divide strategy clusters into two genres: as 1) serial strategy clusters; and 2) overlapping strategy clusters; these two genres are defined later in this section. The following table shows an example of a strategy cluster:

A strategy cluster from Iona's think-aloud protocol	
The strategy cluster	**Strategies in the cluster**
192 S: There are two children, I think that they are brothers. 193 One of them, they are rich but they are not happy.	Picture, elaboration, semantic guessing, inference

Table 29: Strategy deployment from Iona's protocol (extract 6)

Lines 192 and 193 show one example of a strategy cluster. There are four strategies in this cluster: picture, elaboration, semantic guessing, and inference. The use of the picture was identified by student gestures during the Think-aloud Protocols. These strategies were combined by the student to address her needs as a reader. Her needs as a reader are triggered by her English proficiency level. With the condition of her English proficiency level, her needs were implicitly created by the demands of the reading text. She was able to combine the strategies that are listed in the second column on the table above, because she first had a recognition of these strategies individually.

Strategy chains are defined as single strategies or strategy clusters that are used sequentially (Cohen, 2007) within a chunk. In the same way that strategy clusters are used for reading comprehension, strategy chains are used to make sense of a part of the story. Different than strategy clusters, they occur wider apart from each other. Strategies and strategy clusters which are contained in a chunk form strategy chains. One of the most useful aspects of dividing a think-aloud protocol into its chunks was making identification of strategy chains easier. A strategy chain may contain single strategies and strategy clusters. An example of a strategy chain is shown in the table below.

A strategy cluster from Claire's think-aloud protocol	
The strategy chains	**Strategies in the chain**
103 /ðɛr wəz ə rɪtʃ mæn ɪn ə vɪlɪdʒ. hi wəz rɪtʃ bət hi dɪd dɪdnt lajk sɨpɛndɪŋ 104 məni. hi wəz ənhæpi wɛn hi sɨpɛnt məni./ Shall I go on? 105 T: What ɪs goɪng on ɪn your head? 106 S: There was a village. There was a rich man's village. Then, this rich man em but 107 happy /sɨpɛnt/ no I think not happy. He had a lot of money 108 but he was not at all happy. 109 T: How did you understand this? 110 S: Unhappy 'un' is negative 111 T: what is Happy? 112 S: Happy is happy 113 T: hm 114 S: He was not happy. He had money but he didn't have the 115 thing, he didn't have happiness. This is how I understood.	Semantic guessing, sub-vocalisation, question generation, elaboration Semantic guessing Semantic guessing, elaboration

Table 30: Strategy deployment from Claire's protocol (extract 7)

As shown in the table above, there are two strategy clusters, from line 106 to 108 and from line 114 to 115, and one strategy, from line 110 to 112. These strategies and strategy clusters occur in the same chunk which suggests that they are strategy chains. As stated earlier in the definition of a chunk, a strategy chain is used to comprehend one meaningful piece of a text. Chains are not limited to one chunk, but detailed account of chains is above the framework of this thesis. A strategy chain contains all strategies which occur sequentially in an effort to make sense of the text (see section 3.3.4 in chapter 3 for definitions of clusters and chains).

The analysis of strategies, strategy clusters, strategy chains and chunks was significant to the quantitative analysis of the data, as the number of them created the quantitative findings which are presented later in this section.

5.5.2.3 Analysis of Strategy Clusters

This section, building on the previous section on quantitative analysis, continues to present terminology with examples which are as follows: 1) overlapping strategy clusters, 2) serial strategy clusters, 3) genres, 4) group clusters, 5) successful strategy use, 6) unsuccessful strategy use, 7) simplicity, 8) complexity, 9) symbiotic relationship, and 10) sophistication. Some of the characteristics suggested by these terms are interdependent and cannot exist without others. Most of these key terms are coined by the researcher for the purposes of

analysis of the think-aloud data, due to lack of terminology offered in the literature for analysis purposes. The key terms are developed during the initial analysis on the data. The initial analysis involved identification of strategy clusters, as explained earlier. Following the identification, strategy clusters were studied closely and Think-aloud Protocols of different students were compared. As a result of this process of initial analysis, the above mentioned key terminology was developed. Definition of the terminology with examples is offered below. Definition of terms is followed by explanation of the analysis criterion which utilises the above mentioned terminology. The analysis criterion does not impose a structure on the process of cluster analysis, because it was derived from the data itself. The analysis criterion was rather developed so as to facilitate the analysis process in a hierarchical order for each strategy cluster.

Overlapping and serial strategy clusters are a sub-category to strategy clusters. Overlapping strategy cluster is a term used to refer to strategies that occur together. The following extract is an example of an overlapping strategy cluster.

Strategy deployment from Claire's protocol	
The cluster	**Strategies**
124 S: Teacher here village money, I think he must have wanted to help.	Semantic guessing Inference based on background knowledge

Table 31: Strategy deployment from Claire's protocol (extract 8)

Claire, in the extract above, uses semantic guessing, background knowledge and inference, all of which overlap. While such an overlap can occur throughout one strategy-cluster, it may also occur as part of a serial strategy-cluster. Serial strategy cluster is a sub-category of strategy clusters. The extract below illustrates a serial strategy cluster with a part of strategy overlap.

Strategy deployment from Mary's protocol	
The cluster	**Strategies**
424 S: Teacher here /vɪsət/ doesn't it mean to visit? /vɪsət/ look, to visit, every day 425 he visits, this is stuck in my head, I keep thinking about it over and over again	Semantic guessing Question generation Inference

Table 32: Strategy deployment from Mary's protocol (extract 9)

Mary, in the extract above, used semantic guessing and question generation when she said "Teacher here /vɪsət/ doesn't it mean to visit?"; these two strategies overlap. She monitored her comprehension process throughout lines 424 and 425, especially when she said "he visits, this is stuck in my head, I keep thinking about it over and over again" in line 425. Thus, this is a serial strategy cluster, because she first used semantic guessing with question generation, which is the part that is overlapping, and this was followed by the use of monitoring. Such an example is defined as a serial strategy cluster with an instance of overlap in the findings section. The next extract is an example of a serial strategy cluster without overlap.

Strategy deployment from Mary's protocol	
The cluster	**Strategies**
165 S: Now I am talking about the one on the ground. First the one who is standing, standing, 166 look first emm, emm to search, searched. The word search is in the text, I thought first 167 that it was this, but the man is here, and there is one more man. He is digging something 168 too, I think he is looking there, this one with the blue t-shirt	Picture Semantic guessing Inference

Table 33: Strategy deployment from Mary's protocol (extract 10)

Mary, in the extract above, used picture in line 165, semantic guessing in line 166, monitoring starting from the end of line 166 and in line 167 and picture again in line 168. There was not any overlap observed between strategies, she used each strategy, which is mentioned above, one after another. Although these strategies were used in an order it is a type of a strategy cluster rather than a strategy chain. These strategies are a couple of seconds away, they occurred in a tightly close sequence. Strategies in a strategy chain are approximately over 20 seconds apart from each other.

As mentioned earlier in this section, the analysis of strategy clusters was planned in detail during an initial analysis. The terminology that has been presented so far is based on notions developed during this initial analysis phase. This terminology was later used to create analysis criteria. Upon the development of the analysis criteria, the data was analysed a second time. Up to here in this section, I have explained overlapping strategies and serial strategy clusters. Next in this section, genres and group clusters are defined. Genre is a name that refers to a certain type of cluster; it consists of either a letter, i.e. B, or

a letter and a plus "B+"; plus indicates a use of a top level strategy. A genre has a set of sub-categories which have similar characteristics; these sub-categories are named as group clusters. A group cluster is indicated with a number preceding the genre code. An example of a group cluster with a genre code is 3B+, it refers to semantic guessing and inference strategies. Thus, a genre has a collective quality; it is a representative code for similar group genres. Genres and group clusters are listed below with an explanation:

Strategy clusters, which were identified during the initial phase of analysis, were divided into genres according to the number and nature of strategies found in strategy clusters. There are 7 types of genres whose codes are as follows: i)B, ii)B+, iii)C, iv)C+, v)C++, vi)D+, and vii)D++. The characteristic of each of these genres are listed in the table below:

Genre Characteristics	
Genre	**Characteristic** **The following refer to strategy clusters that involve:**
B	Two strategies all of which are bottom level
B+	Two strategies one of which is top level
C	Three strategies all of which are bottom level
C+	Three strategies one of which is top level
C++	Three strategies two of which are top level
D+	Four strategies one of which is top level
D++	Four strategies two of which are top level
E+	Five strategies one of which is top level

Table 34: Genre characteristics

The letter of each genre refers to the number of strategies involved in group clusters and pluses to the number of top level strategies. One plus (+) suggests that there is one top level strategy in a group cluster within the genre, and double pluses (++) mean that there are two top level strategies.

These genres are further divided into sub-categories named as group clusters. There are 38 group clusters as sub-categories of the 7 genres that were listed above. Each of these 38 group clusters refers to one specific strategy cluster. These group clusters are derived from 12 Think-aloud Protocols during the initial analysis. The group clusters are listed in the table below:

Group Cluster Characteristics			
Name of group clusters	**Strategies in group clusters**	**Name of group clusters**	**Strategies in group clusters**
1B	Picture & elaboration	20C	Semantic guessing & elaboration & sub-vocalisation
2B	Semantic guessing & picture	21C+	Semantic guessing & predicting the end of the story & elaboration
3B+	Semantic guessing & inference	22C+	Picture & monitoring & elaboration
4B+	Monitoring & elaboration	23C+	Picture & semantic guessing & monitoring
5B+	Picture & background knowledge	24C+	Semantic guessing & monitoring & elaboration
6B	Semantic guessing & elaboration	25C++	Elaboration & summarization & inference
7B+	Elaboration & question generation	26C++	Semantic guessing & question generation & monitoring
8B+	Semantic guessing & question generation	27C+	Semantic guessing & elaboration & question generation
9B+	Sub-vocalisation & question generation	28C	Picture & semantic guessing & elaboration
10B	Semantic guessing & sub-vocalisation	29C+	Semantic guessing & elaboration & background knowledge
11B+	Monitoring & semantic guessing	30D+	Semantic guessing & sub-vocalisation & question generation & elaboration
12B	Title & elaboration	31D+	Semantic guessing & picture & elaboration & inference
13B	Semantic guessing & sub-vocalisation	32D+	Semantic guessing & picture & elaboration & question generation
14B+	Semantic guessing & background knowledge	33 D++	Semantic guessing & elaboration & question generation & monitoring
15B+	Elaboration & background knowledge	34D++	Elaboration & monitoring & picture & background knowledge
16C+	Picture & elaboration & inference	35D+	Picture & semantic guessing & elaboration & summarization
17C+	Picture & elaboration & question generation	36E+	Semantic guessing & picture & elaboration & question generation & sub-vocalisation
18C	Semantic guessing & picture & elaboration	37D+	Picture & semantic guessing & elaboration & monitoring

19C++	Semantic guessing & background knowledge & inference	38C+	Picture & elaboration & background knowledge

Table 35: Group cluster characteristics

The codes which were used for genres and group clusters are useful in categorising strategy clusters. These categories were used to label strategy clusters used by students and understand which ones the intervention and control groups used the most. These categories were also used as a guiding principle in the selection of examples that are suggested in the section named as student profiles. The following six terms that are presented in the table below, are used to investigate qualities of each strategy cluster that is offered as an example in the findings section.

Terms indicating the quality of strategy clusters	
Term	**Definitions**
Successful versus unsuccessful strategy deployment	Successful strategy deployment contributes to successful comprehension
Simplicity versus complexity	A complex cluster would involve at least one top level strategy
Symbiotic relationship	Strategies are used tightly together as an aid for comprehension
sophistication	Successful comprehension, complex strategy cluster with symbiotic relationship is a sophisticated strategy cluster

Table 36: Terms indicating the quality of strategy clusters

These six terms, different than the ones above, are interdependent and some of them usually occur together. For example, as observed in the think-aloud data, successful strategy use, complexity, symbiotic relationship and sophistication could occur together in an interdependent manner in a strategy cluster; and when complexity and symbiotic relationship would occur together, the strategy cluster is stated to be a sophisticated strategy cluster. On the other hand, simplicity and unsuccessful strategy use may occur by themselves. Unsuccessful strategy use may combine good symbiotic relationships between strategies and complexity. However, such a strategy cluster is not labelled as sophisticated since student's comprehension did not completely depend on the text. This suggests that

positive qualities support each other and that a negative quality does not make room for a positive one. Monitoring is a significant part of symbiotic relationship and sophistication. It is reported when it is clearly observed in the students' input. However, it is not easy to observe and find a proof for its presence. Detailed discussions of these qualities are presented under student profiles. The above explanation can be summarised as follows:

Complex strategy cluster + symbiotic relationship = a sophisticated cluster
Simple cluster + unsuccessful comprehension (miscomprehension) = No sophistication
Miscomprehension + symbiotic relationship + complex strategy cluster = No sophistication

The above equation suggests that 1) strategy deployment does not suggest that the more strategies the better. It is better when they are combined wisely. 2) a complex strategy-cluster which has symbiotic relationships between strategies is better, because it shows that strategies are not randomly used. In addition, in this thesis, overlapping strategies are not presented as better combinations than serial strategies. It is very difficult to prescribe an explanation like this for something that is dynamic and changing. Although profound definitions are necessary, they are mostly problematic in LLS research.

Every strategy cluster that is analysed in detail was interpreted in terms of the six qualities. The extracts below offer examples of 1) a strategy cluster which involves positive qualities of successful strategy use, complexity, symbiotic relationship and sophistication, 2) simple strategy deployment, 3) unsuccessful strategy deployment. These qualities are expressed below along with examples. The first example below illustrates a strategy cluster which combines all the positive qualities listed above.

Strategy deployment from Claire's protocol	
The cluster	**Strategies**
159 S: I think, teacher, here, with the rich man, the rich man meets a poor man. 160 He used to see him all the time, he would help him.	Semantic guessing, elaboration, inference

Table 37: Strategy deployment from Claire's protocol (extract 11)

Claire, in the extract above, used semantic guessing, elaboration and inference strategies. It is usual for a strategy cluster to contain more than one strategy in two lines as in the example above. In these cases bottom level strategies are commonly used. Such bottom

level strategies do not take up processing space and they can occur closely together. The analysis of this strategy cluster, as with the others presented in the findings section, is based on the researcher's interpretation of the relationship between the strategies and how much the cluster contributed to reading comprehension, depending on whether or not the student's comprehension is releted to the text. The example above shows successful strategy use. It is said to be successful because it contributes to reading comprehension; the inference is in line with the text. She mostly, although not fully, understood the story line through semantic guessing. When the learner used an elaboration strategy, she developed notions that were slightly outside the text. The elaboration strategy deployment is evident in what she says: "he used to see him all the time". This is not expressed in the story (see Appendix XII). She comes up with this idea to make clarifications for herself. However, the aim of using the elaboration strategy is to take what is interpreted and fill in the gaps with ideas formed in the student's head. Elaboration helped her to fill in the unclear parts and encouraged her to continue reading. This is also a complex strategy cluster due to the use of inference strategy. The evidence of inference strategy use is when she says: "he would help him". It is inference because it is about the moral of the story. However, this is not explicitly stated in the story. Inference is one of the top level strategies and it was combined well with bottom level strategies. There is a strong symbiotic relationship between the strategies; the use of semantic guessing and elaboration strategies supported by the use of inference. The sophistication of this strategy cluster is hidden in the symbiotic relationship between the strategies and complexity of the cluster. The next extract illustrates simple strategy deployment.

In the findings section, most of the strategy clusters that involved at least one top level strategy are presented. Strategy clusters that involved all bottom level strategies illustrated simple strategy deployment so they are excluded, because they do not have characteristics that would lead to an interesting discussion. Below are some examples of strategy clusters that illustrate simple clusters. The intervention group students were taught to use a mixture of bottom and top-level strategies: such examples of intervention group students are compared to the examples of control group students where they used top level strategies too. The following extract is an example of simple strategy deployment.

Strategy deployment from Claire's protocol	
The cluster	**Strategies**
114 S: He wasn't happy. He had money but he didn't have the thing, he didn't have happiness. This is how I understood.	semantic guessing elaboration

Table 38: Strategy deployment from Claire's protocol (extract 12)

Claire used semantic guessing and elaboration in the extract above. They are both bottom level strategies. She successfully used the strategies and comprehended the relevant lines of the text; however there is not any complexity in the way the strategies were used, because both strategies are bottom-level strategies and they do not require high levels of cognitive processing capacity. The following extract illustrates unsuccessful strategy use.

Strategy deployment from Claire's protocol	
The cluster	**Strategies**
124 S: Teacher here, village, money! I think he wanted to help.	semantic guessing inference based on background knowledge

Table 39: Strategy deployment from Claire's protocol (extract 13)

Claire, in the above extract, used semantic guessing and inference based on background knowledge. There is a strong symbiotic relationship between the strategies, because all three strategies were used to extract meaning from one sentence, and they led her to make an inference about the moral of the story. The use of top level strategies, inference and background knowledge, made the cluster a complex one. However, this was unsuccessful strategy use, because her comprehension of the text changed to a direction which was not connected to the reading text. This is due to the limited number of words that she was familiar with. This triggered an activation of incorrect background knowledge.

The terminology that is exemplified above forms the criterion of analysis for the strategy clusters. The criterion was utilised as a checklist as well to ensure that each cluster was analysed based on all the characteristics referred to by each term. The criterion of analysis for the strategy clusters are listed below:

1) Genre and group clusters

2) Overlapping versus serial strategy clusters
3) Successful versus unsuccessful strategy deployment
4) Simplicity versus complexity
5) Symbiotic relationship
6) Sophistication

This section offered explanations on strategy identification, on co-coding and on the terminology that is used in the criterion of strategy cluster analysis. The next section suggests quantitative findings on chunks, strategy chains and strategy clusters. The quantitative findings are followed by student profiles where results of the interpretative analysis are presented.

5.5.3 Quantitative Findings

The tables below present quantitative findings of the Think-aloud Protocols. The first table shows results from six groups. There are 2 students in each group. Group names are coded as In.H, Co.H, referring to intervention and control group high level students, In.M, Co.M, intervention and control groups medium level students, In.L and Co.L, intervention and control group low level students. The following list shows the codes of the groups clearly:

In.H. = Intervention group High level student(s)
Co.H. = Control group High level student(s)
In.M. = Intervention group Medium level student(s)
Co.M. = Control group Medium level student(s)
In.L. = Intervention group Low level student(s)
Co.L. = Control group Medium level student(s)

In table 36 below, there are four columns which offer information about the total number of chunks, strategy-chains and strategy-clusters together with the total duration of the protocols. Information on the duration of the Think-aloud Protocols shows that each student spent a similar amount of time during the reading activity. Each student responded to the text differently and it was not possible to ensure that each student spends the same amount of time during the protocols. The number of chunks refer to the number of

meaningful pieces each group divided the text that they were given. Chunks of the text may have consisted of a sentence or a few lines. Each chunk may contain several strategy-chains and strategy-clusters. A strategy-cluster consists of a group of strategies that are used simultaneously or sequentially (almost simultaneously) together to make sense of a sentence or a couple of lines. A strategy-chain is formed of a group of strategy-clusters that are used closely together in a chunk. The number of chunks was different for each student. Chunks were determined by the number of lines that the student kept his/her focus on. For example, Claire divided the text into six chunks whereas Martin divided it into four chunks.

While duration of protocols, number of chunks and strategy chains are offered as general information on the table, the number of strategy-clusters is more central to this project.

Intergroup comparisons				
Name of the group	**Total duration of protocols**	**Total no. of chunks**	**Total no. of chains**	**Total no. of strategy-clusters**
Intervention group High level achievers (In.H)	23.05	12	9	26
Control group High level achievers (Co.H)	29.30	15	12	19
Intervention group Medium level achievers (In.M)	24.00	17	14	58
Control group Medium level achievers (Co.M)	21.45	9	3	6
Intervention group Low level achievers (In.L)	22.00	11	5	12
Control group Low level achievers (Co.L)	24.00	11	8	18

Table 40: Inter-group comparisons in terms of duration of protocols, strategy-chains and strategy-clusters

The table above shows information on the duration of protocols, chunks, strategy-chains and strategy-clusters for each group. Information on the duration of the protocols suggests

that each group's think aloud protocol with follow up interview lasted for an average of 24.04 minutes. The number of chunks shows how responsive the students were to the text in terms of being willing to think about the story out loud. The number of times students stopped to talk about the text determined how much each student talked about the text. Thus there is evidence of differences of students' responsiveness. The biggest difference in the use of chunks between the intervention and control groups is in the group of medium level students; intervention group students made use of 17 chunks whereas the control group students used 9.

The most salient matter of the comparison between the number of strategy chains (S-Chs) and strategy clusters (S-Cls) is that the number of S-Chs is always less than the number of S-Cls. However, this does not mean that one is better than the other. Among high level students, intervention group students used less (9) S-Chs than the control group students (12). However, intervention group students used more S-Cls (26) than the control group students (19). The biggest difference between intervention and control group students was observed in the group of medium level students. Intervention group students used more S-Chs (14) as compared to the control group students (3). Similarly, intervention group students used more S-Cls (58) than the control group students (6). Low level students generally used less S-Chs and S-Cls than high and medium level students. Low level intervention group students used less S-Chs (5) than control group students (8); intervention group students also used less S-Cls (12) than the control group students (18).

In the table above information on the number of strategy-clusters is presented. However, it does not provide information on the type of strategy clusters. The table below shows the number of S-Cls which involve top and bottom level strategies in combination, and of S-Cls which contain bottom level strategies only.

Strategy-cluster types		
Name of the group	**Total no. of strategy-clusters (top and bottom level strategies combined)**	**Total no. of strategy-clusters (only bottom level strategies combined)**
Intervention group High level students (In.H)	13	13
Control group High level students (Co.H)	5	14
Intervention group Medium level students (In.M)	27	31
Control group Medium level students (Co.M)	1	5
Intervention group Low level students (In.L)	5	7
Control group Low level students (Co.M)	1	15

Table 41: Strategy-cluster types

The table above shows that intervention group students used clusters of strategies consisting of both top and bottom level strategies whereas, control group students mostly used strategy-clusters of bottom level strategies. Similar to the findings presented in the previous table, the most salient outcomes came from the medium level students. Intervention group students used the most number of top and bottom level strategy combinations (27) and bottom level strategy combinations (31), control group students used the least number of top and bottom level strategy combinations (1) and bottom level strategy combinations (5).

These findings suggest that medium level students in both intervention and control groups showed the biggest difference as compared to the other groups. Intervention group students used most chunks, S-Chs and S-Cls, whereas control group students used the least of them. Similarly, the intervention group students used the highest number of top and bottom level strategy combinations, whereas control group students used the lowest number of both combinations. This finding indicates that medium level students in the intervention groups benefited most from the SBI and medium and low level students in the control groups needed SBI most. However, this conclusion has been made based on only the results of the Think-aloud Protocols in this section and it can only be confirmed when findings of Think-

aloud Protocols are triangulated with the findings of other data sets presented elsewhere in this chapter, such as the statistical findings.

The quantitative outcomes presented in this section provide a general overview of strategy-cluster deployment and related issues. The next section presents profiles of students which provide a more focused investigation into how students used strategy clusters.

5.5.4 Findings: Student Profiles

Results of quantitative and qualitative data were used to compare intervention group students to control group students and to triangulate the findings. The quantitative data offered statistical information on the pre- and post-test results; this indicated differences between the groups. Responses of students during the metacognitive-awareness interviews were categorised and the groups were compared based on these categories. The quantitative results of Think-aloud Protocols were calculated. The intervention and control groups were further divided into three groups among themselves as high, medium and low level achievers for the purposes of the comparison. The present section demonstrates individual profiles of six students. Each of the six students represents a group such as intervention group high level students (In.H) and control group high level students (Co.H). One representative student from each group is selected in order to avoid repetition. Each profile contains information on the findings from the Motivation Interview, the Metacognitive Awareness Interview, and the Think-aloud Protocols. The main focus of the profiles is on the reading strategy-cluster deployment. The notions of motivation and metacognitive awareness are offered as complementary information that provides extra information about the students and lets us learn about them before going into the technicalities of the strategy-clusters that they used. Parts of the Think-aloud Protocols are presented as examples in tables. While thinking-aloud, students did not form proper sentences, they usually used incomplete sentences. These are transcribed and translated into English as they were uttered by the students.

The quantitative and qualitative analysis processes of the Think-aloud Protocols were explained earlier in this chapter. Next in this section, six student profiles are presented. The

profiles are presented in the following order: 1) Claire: Intervention group high level student, 2) Kristina: Control group high level student, 3) Mary: Intervention group medium level student, 4) Martin: Control group medium level student, 5) Allen: Intervention group low level student, 6) Alfred: Control group low level student. After each two profiles, there is a summary section that compares them. There are three summary sections in total. The chapter is closed with a conclusion section where characteristics that are salient are discussed in conjunction with the quantitative outcomes.

5.5.4.1 Profile 1 – Claire: Intervention group successful student

Claire was rated as a successful learner by her classroom English language teacher. During the motivation interview (see record 1) she stated that she was interested in learning English, because she would need it in the future for occupational purposes. She stated that she liked speaking, doing puzzles and listening. She did not have confidence in herself about reading; "my reading is not really good". She reported playing English computer games and reading stories such as Tom and Jerry. She also said that she used strategies when she needed: "if there are unknown words in the story I try to guess, I look at the words around the unknown words". She further suggested that the SBI was useful for her: "when Sofia teacher gives us a text we now guess it from the title, I did and my friend did… she guessed and then we looked at the text, the sentences, to guess what it says about the story. What could the end of the story be like? Was the man dead, the man was dead or alive? Then, for example, there is an unknown word, I look at the root or the words around the word I don't know". Everything that she said about the usefulness of the SBI, which I referred to as our reading classes while I was talking to her, suggested that she was enthusiastic about learning everything that they did, and about using them in other teachers' classes too. The student was obviously doing this independently; I neither discussed the content of the SBI nor the way I taught it with other teachers at the school. So, there is not any sign that would suggest that the teacher encouraged them to use reading strategies in her class too.

During the Metacognitive Awareness Interview, she stated that she would look at unknown words to understand whether a text is easy or difficult. If there are many unknown words

she would find a reading text difficult to read. She was asked to evaluate her reading performance on the text, which she read during the think-aloud protocol. She stated that her performance was average, because of the unknown words. This response suggests that she was meta-cognitively aware. However, she was over criticizing herself, so her self-evaluation was inaccurate. She comprehended the plot of the text, and she was eager to make sense of it through use of reading strategies. She suggested that reading strategies were useful for her. She said that she mostly used guessing the end of the sentence, guessing the end of the story, looking at the picture and looking at the title. Claire had a strong positive attitude to learning English, she was willing to try new strategies and engage in activities that are designed to improve her English.

Strategy clusters in students' Think-aloud Protocols were identified and analysed to understand which strategies students actually used, when and how they used them while reading. In order to detect them properly each student's reading is divided into chunks. Claire used 6 chunks, 5 chains and 13 clusters. Out of 13 strategy clusters 6 of them are analysed in detail and presented below. The strategy clusters consist of both top and bottom-level strategies; 7 of them consist of lower strategies, which mean that they do not have any depth. Only one example from clusters of bottom-level strategies is presented. An account of all strategy-clusters is not possible due to word limitations and it is not necessary either, because sometimes the same characteristics are repeated.

Each of the following tables contain extracts from Claire's think-aloud protocol, and each extract is a chunk. The selection of chunks was based on whether they contain strategy clusters that are not too simple; strategy clusters that consist of only picture and semantic guessing or picture and elaboration. Each of the following chunks contain more than one strategy cluster. Each table is followed by an explanation of it.

Claire's think-aloud protocol	
Chunk 3	**Strategies**
103 /ðɛr wəz ə rɪtʃ mæn ɪn ə vɪlɪdʒ. hi wəz rɪtʃ bət hi dɪd dɪdnt lajk sɨpɛndɪŋ 104 məni. hi wəz ɨn ənhæpi wɛn hi sɨpɛnt məni./ Shall I continue? (06.08 mins) 105 T: What have you thought here?	
106 S: There was a village, a rich man's village. Then, this rich man but was happy	Semantic guessing
107 /sɨpɛnt/ was unhappy or happy? He had a lot of money but he was 108 not very happy	Sub-vocalisation
109 T: How did you understand this? 110 S: Unhappy 'un' is negative 111 T: What is happy? 112 S: Happy happy 113 T: hmm	
114 S: Wasn't happy? He had money but he didn't have a thing, he didn't have happiness. This is 115 how I understood.	Question generation Elaboration

Table 42: Claire's think-aloud protocol (chunk 3)

Claire, from lines 106 to 108 above used semantic guessing, sub-vocalisation, question generation and elaboration which is a genre 30D+ serial strategy cluster with two occasions of overlap. There is strong symbiotic relationship between the strategies. Each relate to one another. Her elaboration on the story was successful; question generation played a key role in reaching the correct comprehension in this cluster. This is a complex strategy cluster due to the use of successful question generation. The question generation was used at a critical point in the cluster and lead to elaboration. Thus, the student used the question as a building block of comprehension. The way she used the question generation was sophisticated which makes the whole strategy cluster sophisticated.

Claire's think-aloud protocol	
Chunk 4	**Strategies**
116 /hi want tu sipɛnt æz æ æ ɑz lajt məni æz hi kæn./ … 119 /nɛkst tu æn olt wɒl ɪn ðə vɪlidʒ/ (She did not read the first part of the sentence aloud, I assume she had a quick look at that part) 120 S: He wanted to help to village. 121 T: What did he want to do? 122 S: Help. 123 T: How did you understand this? 124 S: Teacher, here village, money, I think he must have wanted to help. 125 T: What is village? 126 S: Village. Then, went it to go, see is to see, because I don't know the meaning of gold emm her 127 I think this man would go somewhere every day and he would see something. 128 And one day 'workmen' workman, one man wanted to do something, he lost something emm (08.00 mins) 129 T: How did you understand this? 30 S: from /sɛw/ 131 T: What is it? 132 S: to get lost or to lose something, it means something like this. 133 T: Hmm hmm 134 /hi wəz nɛkst tu ðə old wɒl li lʊkɪŋ æt səmtɪnk./ 135 S: Here next to him, an old person or old thing, or he would sometimes look there. Then the rich man would go to his home. 136 I think the old man would call him, /fɑnt/ to fall. 137 /ðə ðə gold ænd tʊk./ (Overall in her reading: She did silent reading for some parts) 138 S: He would try to talk to the man. At other times, the rich man would go and 139 visit that man. 140 T: What do you do to understand these? To understand what you told me up to here. 141 In order to understand. 142 S: I would look at the rest of the sentence, or the words in front of it. For example, I know this 143 one, (showing a word) I look at the words around it or I look at the next sentence, to try to 144 understand …	Inference Semantic-guessing Background knowledge Inference Semantic guessing Elaboration Predicting the end of the story & Semantic guessing

Table 43: Claire's think-aloud protocol (chunk 4)

In line 120 she used semantic guessing and inference. This cluster is a genre 3B+ overlapping strategy cluster. There is a strong symbiotic relationship between the strategies. Although her inference is not in line with the story, it was successful in the sense that she was focusing on the moral of the story. This is a complex strategy cluster. Making an interpretation was not a strategy that was used by many students. The cluster was used after she read the first few sentences of the story. So, she has some understanding of the story but it was still too early to use inference. Inference was combined with semantic guessing and elaboration. However, the cluster did not contribute to the reading comprehension, because the student's inference was not reflected by any part of the

reading text. Early use of inference misled her; despite the complexity of the cluster, this is not a sophisticated strategy cluster.

In line 124 she used semantic guessing, background knowledge and inference. This was a genre 19C++ overlapping strategy cluster. There is a strong symbiotic relationship between the strategies. Although she did not successfully interpret the story, the two higher level strategies are well related to each other. Thus, this is a complex strategy cluster. However, it is not sophisticated. Despite its complexity it did not aid comprehension.

From lines 135 to 136 she used semantic guessing, elaboration and predicting the end of the story. This is a genre 21C+ serial strategy cluster. There is strong symbiotic relationship between the strategies. Her guesses about the end of the story were not the same as the text. Guessing the end of the story is hypothesising, thus later on the student could test her hypothesis. The use of this strategy while reading is useful, it keeps the reader engaged and interested, because the reader would be curious to explore whether her hypothesis was correct. This is a complex strategy cluster. The role that guessing the end of the story played in this protocol is a key to reading comprehension. It is also a sophisticated strategy cluster due to the role played by the cluster for the whole reading process.

Claire's think-aloud protocol	
Chunk 5	**Strategies**
152 T: Is there anything else that you would do? 153 S: I may also use a dictionary. 154 T: Apart from this? What is there that you do now? 155 S: To guess 156 T: Hmm what else? 157 S: I guessed the end of the story 158 T: hmm hmm	
159 S: I think, teacher, here, there is a rich man, The rich man meets a poor man, 160 He always sees him, and he would help him.	Semantic guessing & inference
161 T: Hmm	Elaboration
162 S: Or a child, I understand this from the picture	
163 T: hmm hmm	Picture
164 S: That's all	

Table 44: Claire's think-aloud protocol (chunk 5)

From lines 159 to 160 she used picture, semantic guessing, elaboration and inference. This is a 31D+ overlapping strategy cluster. There is strong symbiotic relationship between the

strategies. Her first sentence was in line with the story, and the second sentence was not. Generally, as this was a successful inference on the moral of the story it is a complex, sophisticated strategy cluster. The cluster plays an important role for the interpretation of the whole text. It forms a basic level of understanding for her and as she reads on she could confirm, reject, or change her interpretation. This is a complex strategy cluster due to the use of inference. She used inference in the middle of reading and she combined it with semantic guessing and elaboration. This cluster does not fully contribute to reading comprehension, but this is a sophisticated strategy cluster.

Claire's think-aloud protocol	
Chunk 6	**Semantic guessing**
171 T: Ok, what are you thinking? 172 S: I think teacher, he wants to do something with a stone, this child has put stones side by side, 173 here, he wanted to do something. 174 T: Hmm hmm 175 S: Emm 'hole' something like a circle. 176 T: Hmm hmm 177 S: 'Visit' He would go every day and try to complete it. He would meet with his friend. 178 T: Hmm hmm 179 S: Than, 'different' 180 T: Ok, how did you understand these? You used semantic 181 guessing ok, you looked around the words of an unknown word. 182 S: Yes 183 T: You looked at the root of the words, what else did you do apart from these? 184 S: Apart from these, I looked at the picture. 185 T: hmm, you guessed for example 186 S: Hmm hmm I guessed, I didn't understand much from the title, but it helped me a little. 187 from the tile too emm then Silence ... Silence 202 T: There are fine. What else do you think in relation to the text, in relation to what the story is 203 about. What do you think about the story? 204 S: Nice. They help each other. They meet somewhere and they talk. I understand this from the 205 picture. This is not done this way this is how you do it says one to the other and shows it. Silence 206 S: This is all	Inference Picture

Table 45: Claire's think-aloud protocol (chunk 6)

It was sometimes not possible to avoid using the names of the strategies as it is shown in lines 180 and 181. However, as stated in the methodology chapter, such instances should

be avoided and I tried to avoid them. However, the dynamic aspect of the think-aloud protocols made it impossible to avoid sometimes.

From lines 204 to 205 she used picture and inference. This is a genre 16C+ overlapping strategy cluster. There is a strong relationship between the strategies, each was used in support of the other. The inference was not fully successful in this third attempt either, however there was an improvement in the inference. She thought that, although it was not said in the text, the man who was standing was giving advice to the other man, which was what happened in the story. In this sense, this cluster was used successfully. This is a complex strategy cluster due to the use of inference in the cluster used at the end of the reading text in combination to picture and inference. Accumulation of knowledge on the story helped her to make the right inference which was why it was important to use the inference at the end of the story. For all these reasons mentioned above, this cluster is a sophisticated strategy cluster.

5.5.4.2 Profile 2 – Kristina: Control group successful student

Her classroom teacher rated her as a successful student. At the motivation interview (see Appendix XII – TAP-K2), she stated that she was interested in learning English and she liked all the activities that they did in the classroom. When she was asked to talk about an activity she really enjoyed doing in the classroom, she said that she liked them all. There was not any specific skill or activity that she would favour or she was not willing to state that there was. She said that she liked the teacher more this year which was why she liked English classes more. She mentioned that this year the teacher did not push them too hard and she was not strict. This suggested that the attitude of the classroom teacher influenced her a lot. In terms of studying English outside of the classroom, she suggested that she tried to do work every day. She looked through the topic that they would have covered at school, and her neighbour would sometimes help her. However, she was very much focused on exams. She thought that activities they did in the classroom prepared them for exams, "because the questions are from what we do in class and we answer them". She indicated that exam questions are similar to the classroom activities. Such an answer

indicates that she did not think that the main aim of going to school was to learn rather than passing exams.

During the Metacognitive Awareness Interview, she stated that she would be able to understand if a text was difficult, by looking at the unknown words. However, she did not say anything about a text being easy. When she was asked to evaluate her reading performance, she preferred to respond with a generalisation. She stated that "considering my age, if I am able to understand what I read, to me, it is good… If I can't understand, it is not about my reading, because I think, I mean, understanding is related to the vocabulary knowledge generally… I mean, if I can read the words I know…" (see Appendix XII – TAP-K2). These long sentences suggest that the number of unknown words would determine the level of difficulty of a text for her. When she was asked to talk about strategies or tactics that she usually used when working on English, she suggested that she used a dictionary and she wrote sentences with words that she had looked up. She also said that she would put scattered sentences in order which is an activity rather than a strategy. Dictionary use is a strategy that most students would use, especially because they are often reminded by their teachers to do so. Having said this, it is arguable that putting scattered sentences in order is an activity, not a strategy. Similarly, it can be argued that strategy use is an activity or skill rather than a strategy. This is a problem of definition of learner strategies (see section 3.3.1).

Two strategy chunks from her think-aloud protocol are illustrated in the following tables. These chunks were selected because there are examples of top and bottom level strategy combinations in strategy clusters and they are listed according to the order of occurrence during the Think-aloud Protocols. The other six chunks which she used involve bottom level strategies and strategy clusters consisting of only bottom level strategies. In total, Kristina used 8 chunks, 6 strategy chains and 10 strategy clusters. Out of 10 strategy clusters, 6 of them are analysed in detail below. As explained in Claire's profile, the text chunks are presented in the tables illustrating the strategy clusters (underlined) attached to them. Only those strategy clusters which are discussed in this chapter are marked in the tables.

The table below is chunk 4 of Kristina's think-aloud protocol.

Kristina's think-aloud protocol
Chunk 4
133 T: Hm hm (aproving) What's going on in your head? 134 S: It seems that they found a big piece of gold, piece 135 T: Hm hm, what did you do here by using the word gold? 136 S: By looking at them, I mean 137 T: What did you do? 138 S: By looking at the other words, there. They found a big piece, related to the thing, gold 139 T: Hm hm silence 140 S: And did they give it in exchange of money? 141 T: Do you think that they may have given it in exchange of money? 142 S: One day /dekidet/. /hi pæt hi pæt ɪt ɪn ə hʊl nɛkst tu æn old wʊl ɪn ðə vɪlɪdʒ/ 143 T: Hm hm silence 144 S: What was that there? There was something like a bank I think, in the village, to someone (She says these with hesitation) 145 they probably show silence 146 T: Hm hm what's going on in your mind at the moment? 147 S: Now in my mind? It seems that they are showing what they found to someone else. 148 T: Hm what did they find? 149 S: Gold 150 T: You think that they show the gold to someone else. What caused you to think this way? 151 How have you thought this way? 152 S: Next to hole next to then there was village it means village silence

Table 46: Kristina's think-aloud protocol (chunk 4)

From lines 138 to 140 she used semantic guessing and question generation. She first focused on the words that she knew such as find, gold and big. A few seconds later, she generated a question in the light of what she understood. Question generation was based on what further puzzled her about the story on the basis of her current comprehension. This strategy cluster is a genre 8B+ serial strategy cluster. A bottom level strategy, semantic guessing, was combined with a top level strategy, question generation. It is a serial strategy cluster because they were a few seconds apart from each other. Bottom and top level strategies are combined successfully in the strategy cluster. However, she was not able to find an answer to the question that she generated, which suggests that the use of the strategy did not support reading comprehension in this instance. However, question generation triggers thoughts which could be useful at a later stage of reading. So, the fact that it was not useful in the first instance does not mean that it would not be useful towards the end of the reading. Despite bottom and top level strategies being combined together, this was a simple strategy cluster. Semantic guessing strategy triggered thoughts in her mind; this caused confusion and confusion was followed by question generation. There was not any complexity observed in the way the cluster was formed which suggests that

there was not any sophistication in the way the strategies were clustered. There is a symbiotic relationship between semantic guessing and question generation, because semantic guessing triggered question generation. Such a conclusion could be objected by some LLS researchers. There is a bunch of strategies that could play a role in her strategy deployment. She showed persistence which was acknowledged as a positive quality, but not as an affective strategy (see Cohen and Macaro, 2007). The analysis was limited to the list of strategies that were defined in section 4.2.2.

From lines 144 to 145 she used question generation and elaboration. Use of elaboration required creative imagination from the student. Where there were sections in the text that the student partly understood, elaboration was used to fill in the gaps. Elaboration was followed on after the use of question generation to trigger thoughts. This is a genre 7B+ overlapping strategy cluster. The strategies were successfully combined together in the strategy cluster. However, it was not successful in terms of contribution to reading comprehension. Use of a top level strategy added an element of complexity to the cluster, but there was not any sign of complexity observed in the way the strategies were combined. These suggest there is not any dynamism of sophistication in the strategy cluster. There is a weak symbiotic relationship between the strategies, because the question generation did not necessarily encourage use of elaboration. It is not obvious, from what the student said, whether the two strategies were used in relation to each other.

Kristina's think-aloud protocol
Chunk 7
183 S: /ðə rajs mɛnz nəgbərt so hɪm hi wəz sɛt./ Sad what is he sad about 184 T: How did you understand that he was sad? 185 S: Here! /hi wəz sɛt./ 186 T: He was sad. Right 187 S: /nəgbərt/ ... 190 T: Is there anything on your mind? 191 S: They got it, I think someone got the gold (unsure voice) 192 T: You think that someone got the gold. What caused you to think this way? 193 S: Im He is sad.He found it this is why he is sad that someone else saw and took it. 194 I think he must have been sad that's why. /hɪz nəgbərt sɛd/ /dont bi so sɛd go ænd brɪnk ə 195 pis əv ston ænd pæt ɪt ɪn ðə hɒl/ 196 T: You read the sentence again 197 S: Hm hm 198 T: Why? 199 S: I was a bit nervous 200 T: Hm I think you were trying to understand 201 S: If I can read a few more times.

Table 47: Kristina's think-aloud protocol (chunk 7)

From lines 193 to 195 she used semantic guessing, elaboration and sub-vocalisation. She first used semantic guessing, which was picking a known word, sad, in this example. She then used elaboration to compensate for the unknown words in the sentence. Lastly, this was followed with sub-vocalisation. She re-read a phrase silently in an effort to understand it. This is a genre 20C serial strategy cluster with two instances of overlap. The overlaps occurred between semantic guessing and elaboration strategies, because they are used in harmony to support comprehension. Sub-vocalisation was used a few seconds later, to further think about a part which she did not understand previously. The strategies in the cluster are combined successfully and the cluster contributed to reading comprehension too. This strategy cluster is a simple strategy cluster because it only involves bottom level strategies, thus there is not any quality of sophistication in this strategy cluster. There is a strong symbiotic relationship between the strategies; they were used together to support one another.

5.5.4.3 Summary of Profiles 1 and 2

The profiles of Claire and Kristina are presented as representative examples of intervention and control groups. The tables below show quantitative differences in deployment of chunks, chains, and clusters between the two students.

Summary of Claire's think-aloud protocol				**Summary of Kristina's think-aloud protocol**			
Chunks	6			Chunks	8		
Strategy chains	5			Strategy chains	6		
Strategy clusters	13	Genre	Number	Strategy clusters	10	Genre	Number
		1B	2			1B	1
		30D+	1			6B	5
		6B	3			8B+	2
		3B+	1			7B+	1
		19C++	1			20	1
		21C+	1				
		18C	2				
		16C+	1				
		31D+	1				

Table 48: Comparison of Claire's and Kristina's think-aloud protocols

There is not a large difference between the intervention and the control groups regarding quantitative outcomes. The intervention group student, Claire, used 13 clusters whereas the control group student, Kristina, used 10. Although the fact that Claire used 3 clusters more than Kristina might seem to matter, it would be unrealistic to overanalyse such small differences. These differences may be a reflection of students' individual approaches to reading the text.

However, the in-depth analysis on the way strategies were orchestrated in strategy clusters suggests a considerable difference between the two students. Claire used strategy clusters that involved top level strategies. She combined them in an overlapping way in sophisticated clusters which contributed to reading comprehension with high levels of symbiotic relationships and complexity. The following table summarises a selection of strategy clusters that Claire used. The selection was based on the clusters that involved top level strategy clusters. Out of 13 clusters that Claire used, 6 of them involved top level strategies, all of which were selected for the summary presented in the table below.

Quantitative summary of Claire's selected strategy clusters			
Quality	**Number**	**Quality**	**Number**
Overlapping SCl	4	Serial SCl	2
Contribution to reading comprehension	4	No contribution to reading comprehension	2
Complexity	6	Simplicity	0
Symbiotic relationship	6	No symbiotic relationship	0
Sophistication	3	No sophistication	3

Table 49: Quantitative summary of Claire's selected strategy clusters

The example below is an illustration of a cluster she used:

159 S: I think, teacher, here, there is a rich man, The rich man meets a poor man,
160 He always sees him, and he would help him.

In the cluster above she used picture, semantic guessing, elaboration and inference which is named as a 31D+ overlapping strategy cluster. First of all, there are four strategies that she used, one of which is a top level strategy. This information suggests that Claire's

processing capacity could accommodate 3 bottom level and 1 top level strategy. Second, it is an overlapping strategy cluster, which indicates that there was almost no time interval between deployments of the strategies.

She did not pick strategies randomly without any purpose. This is evident in the strong symbiotic relationship between the strategies. In other words, the strategies were orchestrated in a way to address a specific part of the text. Generally, this was a successful inference on the moral of the story. The cluster plays an important role for the interpretation of the whole text. The inference strategy turned to be a reference point for confirmation or rejection of her interpretations. This is a complex strategy cluster due to use of inference. She used inference in the middle of reading and she combined it with semantic guessing and elaboration. This cluster does not fully contribute to reading comprehension, but this is a sophisticated strategy cluster due to the dynamics such as processing demands involved in it.

The following table summarises a selection of strategy clusters that Kristina used. All 3 strategy clusters that involved top level strategies were selected for the summary below.

Quantitative summary of Kristina's selected strategy clusters			
Quality	**Number**	**Quality**	**Number**
Overlapping SCl	1	Serial SCl	2
Contribution to reading comprehension	1	No contribution to reading comprehension	2
Complexity	0	Simplicity	3
Symbiotic relationship	2	No symbiotic relationship	1
Sophistication	0	No sophistication	3

Table 50: Quantitative summary of Kristina's selected strategy clusters

In the cluster below Kristina used question generation and elaboration which is a 7B+ overlapping strategy cluster. This suggests that Kristina was able to process two strategies. Although one of these strategies is question generation, it is based on elaboration strategy which involved students' imagination as well as text information. Where there were sections in the text that the student partly understood, elaboration was used to fill in the gaps.

144 S: What was that there? There was something like a bank I think, in the village, to
145 someone they probably show

The overlapping manner of use may suggest ability in terms of processing capacity. However, the elaboration strategy was based on her imagination, and for this reason it did not take much processing space. Elaboration is a strategy that is used when there is a picture or a familiar word that triggers imagination. When a student uses imagination s/he is self-involved and interacts less with the text. This lessened interaction lowers the level of challenge. Deployment of strategies would be demanding based on foreign language features and reading processes. Use of elaboration required creative imagination from the student; such elaboration was not always relevant to the text. The only strategy that occupied some processing space was question generation, because it was based on the information from the text. Elaboration was followed on after use of question generation to trigger thoughts, although it was not the answer to the question. Thus, there was a weak symbiotic relationship between the strategies. Such a cluster cannot be defined as complex or sophisticated despite the deployment of a top level strategy. This relates to the argument in the literature that less successful learners are not those who do not use strategies but they are those who cannot use strategies successfully. Difficulty level of the reading text would make a big difference. Students who find the task too challenging are not able to use strategies. Such a notion may reflect the issue of task difficulty. However, considering that both students were from the same achievement level, the task was supposed to be more or less at the same difficulty level for them. The argument from this view point indicates that the control group student, Kristina, did not have the knowledge of reading strategies in the first place to be able to use them. This suggests that SBI was useful for the intervention group high level achievers.

In the Metacognitive Awareness Interview, Claire reported that she depended on unknown words to understand whether a text was easy or difficult. She thought that strategies were useful in understanding the story and she showed awareness of strategies by listing the ones that she used as follows: title, picture, semantic guessing, prediction, predicting the end of the sentence or the story. She evaluated her performance as average due to the number of unknown words which refers to her perception of the text difficulty. Kristina too, depended on unknown words to understand whether a text was easy or difficult. The only strategy that she mentioned was dictionary use. This was a strategy which was

promoted as a school policy. All students including those who did not use strategies knew that it was useful in expanding their vocabulary knowledge. Kristina evaluated her reading performance as good because, as she reported, she understood words in the text.

The most interesting difference between these two students in terms of metacognitive awareness is how they evaluated themselves. While Claire said that she was average, Kristina said that she was good. Although they both put effort in comprehending the text, Claire downgraded her performance and Kristina thought that hers was good. This distinction between how they evaluated themselves may be the result of the amount of metacognitive awareness Claire developed as compared to Kristina. Also, considering the amount of processing demands that she had due to knowledge of strategies she got tired in the end and may have thought that she did not perform very well.

5.5.4.4 Profile 3 – Mary: Intervention group medium level student

She was rated as a medium level student by her classroom teacher. During the motivation interview she mentioned that she liked and enjoyed learning English. Upon my question on what specifically she liked to do in English classes, she stated that she liked the activities that they did all together. She especially gave an example in which she described an interactive classroom situation where a lively classroom discussion exists. From this example, it is obvious that she is a sociable person who enjoyed learning through discussion and cooperation. She also added that she usually revised lessons at home and she always completed homework. When she was asked to talk about the reading classes that we did together, she stated that she became able to understand unknown words. She would use compound words and word roots to be able to guess the meaning of the unknown word. For example, "if it is a simple word, I mean if it has a suffix of past simple, we first look at the root, and then we try to guess the rest". She continued to list some of the strategies that we used in the classroom, "in the lesson that we did with you, we used our ability to guess. We looked at the pictures, then we asked questions, then, em em, we made inference, to me it was very useful". In this comment, she reflected her positive thoughts about the SBI. She listed a few strategies that she usually used and stated

that she actually found the lessons useful. She further explained that she used semantic guessing in another reading class which did not have anything to do with SBI.

During the Metacognitive Awareness Interview, she stated that she would be able to differentiate between easy and difficult texts. She explained, "when a text is given, if there are four to five words in a sentence, but I only know one of them, em, it would be difficult. Then, if there is a sentence that I don't understand any of the words, it would be even more difficult". This explanation points at the importance of the number of unknown words that she would encounter in a text. The more unknown words there are the more difficult it gets for her to understand the text. She was one of the most eager students to read, to learn and to understand what the text was saying. She got engaged in the reading text and paid close attention to using strategies. She also managed to understand the general gist of the text. However, when she was asked to evaluate her reading performance, she stated that it was poor. Her reading performance was not as high as she expected. There were many unknown words, as she stated, which made her job even more difficult. Lastly, she was asked to reflect on the benefit of reading strategies. She listed most of the strategies that we practised using in the classroom, and then she stated that our lessons were "very different". She realised that although we worked on a skill which she was familiar with, the way we worked on it was different than any other classes that she had been. She mentioned again that she used the strategies in the other English teacher's class.

Three chunks are selected from Mary's think-aloud protocol as examples. These chunks illustrate deployment of various top and bottom level strategy combinations in strategy clusters. She used 10 chunks, 9 strategy chains and 41 strategy clusters. The rest of the 7 chunks which are not illustrated in this chapter also involved both top and bottom level strategy combinations. However, those were not as sophisticated examples as the chunks presented below. Each chunk is shown in a table; they are presented in order of occurrence in the reading text. As explained before, the text chunks are presented in the tables below together with the strategy clusters. Only those strategy clusters which are discussed in this chapter are marked in the tables. One of the most salient characteristics of Mary is that she was the most persistent of all students who took part in the think-aloud protocols.

Mary's think-aloud protocol
A Strategy Cluster from Chunk 4
130 S: /wɑnt/ to search, he is searching. Silence 131 S: Hm /sipint/ I don't know what that means but (08.02 mins) Silence 132 S: He is searching for something. Silence 133 T: How did you understand this? 134 S: Hm, I understood it from /wɒntəd/. 135 T: What other words do you know? 136 S: Hm /məni/ I don't know, then /lɪtəl/ means a few. 137 T: Hm hm 138 S: No, it doesn't mean a little, it means a few. 139 T: hm 140 S: Hm then, it is written as /sipint sipint/ I don't know this either. Some money. Silence

Table 51: Mary's think-aloud protocol (chunk 4)

Mary, in lines 136 and 138 use semantic guessing and monitoring strategies. Such a strategy cluster is named as a genre 11B+ serial strategy cluster with an instance of overlap. In line 136 she focused on the words that she knew and she was thinking of their meanings in Turkish. In her next utterance it was clear that she was monitoring her thinking process when she said "no this doesn't mean a few it means a little" in Turkish. The monitoring strategy helped her to oversee the use of semantic guessing and correct herself. The order of strategies tells us that she was able to support her comprehension process through the use of a top level strategy. This also shows metacognitive awareness on learning.

This strategy cluster has been used successfully as an aid to reading comprehension. This is a simple strategy cluster due to the number of strategies involved in it. Despite that there is an element of complexity in it with the use of monitoring which is a top level strategy. Unless she used the monitoring strategy in this cluster, she would not be able to realize her mistake. There is a strong symbiotic relationship between the strategies. These two strategies played an equally important role in reading comprehension. The use of the top level strategy made the strategy cluster a sophisticated one.

Mary's think-aloud protocol
A Strategy Cluster from Chunk 5
181 S: /wən de hi disidənt tu baj ə bɪg/ hm teacher, how do I read this? (11.03 mins) 182 T: Piece 183 S: /pis əf gold wɪd hɪz mə məni/ 184 S: Gold! Gold means gold, money gold, with his money, one day the man with his money 185 I mean with his gold /disidənt/ or I /disidənt/ I knew this. /bɪk/ big. He is digging a big hole 186 and puts them in. He puts them in. 187 T: This is how you understood. 188 S: Yes 189 T: Ok 190 S: No /baj/ to sell /baj/ to buy or to sell probably /baj/ /baj/ hm 191 T: You are not sure 192 S: Hm Silence 193 S: This takes something, takes something hm Silence 194 S: Hm is this to search? /disidənt/ is he trying to find something? To find his money 195 does he want to find? (12.16 mins) Silence 196 S: Money hm Silence 197 T: You are looking at the picture, you are thinking, you haven't recalled. 198 S: I haven't.

Table 52: Mary's think-aloud protocol (chunk 5)

From lines 184 to 186 she used picture, semantic guessing, elaboration, sub-vocalisation and question generation strategies. This is a genre 36E+ overlapping strategy cluster. She constantly used picture, semantic guessing and elaboration. These three strategies were usually deployed by all students; in addition to them, she used sub-vocalisation and question generation. The order of the strategies tells us that the student was able to use the strategies in a recursive pattern. The strategies in the cluster are used successfully in aid of comprehension. This is a complex strategy cluster due to the recursive nature of strategy deployment and the top level strategy involved in it. The strategies have a very strong symbiotic relationship. They are well harmonised and used with a purpose. For example, in order to understand what role "gold" and "money" play in this story, she extracted information from the text mostly through the use of picture, semantic guessing and elaboration. The use of question generation towards the end of the cluster helped her to reflect on the previous lines and make a successful elaboration on the story. This strategy cluster is one of the best examples of a sophisticated strategy deployment. Strong symbiotic relationship between the strategies and successful comprehension resulted by the strategy-cluster makes it a sophisticated strategy cluster.

In lines 194 and 195 she used picture, semantic guessing, elaboration, sub-vocalisation and question generation. This is a genre 36E+ overlapping strategy cluster. There is constant use of question generation and elaboration and occasional use of picture and semantic guessing. The most salient characteristic which is different compared to the previous example is the repeated use of question generation. The order of the strategies tells us that the student was reflecting back on her reading. This was very useful for controlling the comprehension process for the rest of the reading text.

There is a strong symbiotic relationship between question generation and elaboration strategies. The strategy cluster does not lead to a successful comprehension in itself, but it prepared the student for further reading comprehension. She reflected on the previous reading and prepared herself for further reading. There are five strategies in this strategy cluster, one of which is a top level strategy. Question generation and elaboration were used in a circular way, sub-vocalisation, semantic guessing and picture are used on a single occasion in the cluster. Due to the abovementioned characteristics and the role the cluster played in the reading comprehension in general, this is a complex strategy cluster with strong symbiotic relationships between strategies in the strategy cluster, especially between question generation and elaboration. She made elaborations as she was asking questions. Although the strategy cluster does not help her to reach comprehension instantly, it played a significant role for the overall reading comprehension. Question generation strategy provoked her thought process. Such a complex overlapping strategy cluster which illustrates examples of strong symbiotic relationships is a sophisticated strategy cluster.

Mary's think-aloud protocol
A Strategy Chain from Chunk 7
228 /wən de wən əv hɪz wərkmən sɛl hɪm/ man hm /wərkmən/ working, work 229/wərk/ 230 T: What is that? 231 S: /wərk/ is it to work? /wərk/ hm Silence 232 T: hm hm 233 S: The man probably 234 T: hm what can it be? 235 S: To love hm 236 T: What can it be, right, what can workmen be? 237 S: /wərkmən/ /mæn/ it means man /wərk/ it is either worker or Silence 238 S: I think it may be worker but (15.00 mins) 239 T: Hm if it means that, what could it mean here? 240 S: Man who works Silence 241 S: The man is working? No! Silence

Table 53: Mary's think-aloud protocol (chunk 7)

In line 231 she used semantic guessing, elaboration and question generation strategies. This is a genre 27C+ serial strategy cluster with an instance of overlap. She first focuses on a word, tries to recall its meaning. She does not clearly remember its meaning, so she generates a question to trigger her thought processes. This strategy cluster was not successful first, because she is still not sure of the meaning of the words. However, she gets clear about the meaning of the word later. This suggests that the question generation strategy kept her thinking about its meaning. This is a simple strategy cluster despite the use of the top level strategy. The ordering of the strategies does not involve any complexity. There is a strong symbiotic relationship between the strategies, they are tightly used together. Despite that this strategy cluster is not a sophisticated strategy cluster due to its simplicity.

In lines 240 and 241 she used semantic guessing, elaboration, question generation and monitoring. This is a genre 33D+ serial strategy cluster with an instance of overlap. She first focuses on a word. Then, she asks a question, and then without answering it aloud, she rejects it. This rejection shows that she used monitoring strategy. However, it is not clear in this cluster whether she used the monitoring strategy with awareness that she was using this particular strategy or not. Although monitoring strategy needs to be used with awareness, she did not give me clear clue that she used the strategy.

This strategy cluster is not successful in itself because she does not come to resolve her confusion. This is a simple strategy cluster with strong symbiotic relationship. The construction of the strategy cluster is not sophisticated.

Mary's think-aloud protocol
A Strategy Cluster from Chunk 8
257 S: Somewhere near, he looks at the old land near there. 258 T: Hm 259 S: May be from time to time he /səmtink/ /lʊkɪnk/ looks Silence 260 S: /lʊkɪnk/bakmak, /lʊkɪnk/ the man looks, where does he look? (17.04 mins) 261 S: Old or aged /wɒl/ /wɒl/ could it be the land? Land. 262 T: You looked at the picture too when you asked whether it could be the land too. 263 S: Yes 264 T: Why? 265 S: The man probably buries something there. He looks here. Look! There is something on the 266 land. 267 Like this, I think there is some soil like this, may be. If it was a land that was not being used, 268 grass may have grown, this could mean that it is not being used.

Table 54: Mary's think-aloud protocol (chunk 8)

From lines 257 to 261 she used picture, semantic guessing, elaboration, question generation and sub-vocalisation. This is genre a 36E+ serial strategy cluster with various instances of overlap. She constantly depends on semantic guessing and uses question generation strategies. The strategy cluster does not contribute to reading comprehension on its own. It is rather a point where the student tries to find an answer to unknown aspects of the story. There is only one top level strategy used in this cluster, so it is generally a simple strategy cluster. There is a strong symbiotic relationship between the strategies. This strategy cluster is sophisticated in the sense that it is the repeated deployment of question generation.

From lines 265 to 267 she used picture, elaboration, background knowledge and monitoring. This is a genre 34D++ serial strategy cluster which has two occasions of overlapping strategies. The strategies in this cluster are used in three stages: 1) monitoring and elaboration are used in an overlapping manner, 2) picture, elaboration and background knowledge are used in a serial way, and 3) elaboration and background knowledge are used in an overlapping style. The strategy cluster was partially successful in contributing to reading comprehension. Although her elaboration is not expressed in the text, it is logically based, and derived from the picture and the text. Deployment of two top level strategies and the elements of overlapping strategies in this serial strategy cluster make it a complex

cluster. Strategies are used in support of one another; there is a strong symbiotic relationship between the strategies in the cluster. The complexity and strong symbiotic relationship between the strategies indicate the sophistication of it.

Mary's think-aloud protocol
A Strategy Cluster from Chunk 9
283 S: Hm a mean wants to bury his money. He has money but I think this man is not happy. 284 He wants to get rid of his money now, it comes up with an idea. He thinks he may need to 285 bury this money. He may be thinking that, he could use this money later when he needs it.

Table 55: Mary's think-aloud protocol (chunk 9)

From lines 283 to 285 she uses elaboration, summarisation and inference. This is a genre 25C++ overlapping strategy cluster. She retells the story by summarising it and adding in her elaborations which also involves making inferences about the moral of the story.

This combination of strategies is successful in contributing to reading comprehension. The use of a top level strategy and the genre of the strategy cluster show that this is a complex strategy cluster. The overlapping nature of the strategy cluster referred to simultaneous occurrence. The strategies occurred together with a strong symbiotic relationship. The complexity of the cluster and the strong symbiotic relationship between the strategies that contribute to reading comprehension suggest that this is a sophisticated strategy cluster.

5.5.4.5 Profile 4 – Martin: Control group medium level student

Martin was rated as a medium level student by his classroom teacher. During the motivation interview, Martin stated that he was interested in learning English because it was the language of the world. He added that he liked to come up to the blackboard and write something during the lessons. This shows that he did not like to work sitting down, he preferred to be active. When he was asked to talk about the skill that he liked the most, he mentioned listening. "When I listen I try to understand something, I mean, for example, if I go to England I would understand more". Although listening to the teacher quietly in the classroom would not improve his listening skills as much as he thought it would, this is what he thought the benefit would be. He was also asked whether he studied after school. He stated that he worked daily, read texts with unknown words and used a dictionary to

find the unknown words. He also mentioned that the teacher would tell them the meaning of the unknown words. He suggested that reading classes were useful in providing the opportunities to learn new words.

During the Metacognitive Awareness Interview, he could not state clearly whether the text was easy or difficult for him. He focused more on being relaxed and reading on. "if we relax when we start to read, it is not difficult at all, yes there would be one or two unknown words, but we should be able to read them comfortably". When he was asked to evaluate his reading performance, he stated that he was average; "I wasn't very successful, because there were words I did not know". I explained him what I meant by strategy and asked him the benefit of them because previously he mentioned using a dictionary. He also mentioned about using pictures and trying to understand as much from the sentences as possible. He explained that looking at the picture made him think and come up with an idea about the plot of the story.

A chunk is selected from Martin's think-aloud protocol as an example. Chunk 3 is the only one which involves a strategy cluster. He used 4 chunks, 2 strategy chains and 2 strategy clusters.

Martin's think-aloud protocol
Strategy Clusters from Chunk 3
113 T: Ok, let's go on. (07.00 mins) 114 S: /vɪzət ɪt ɛvəri de, ɪt wɪl nɑt du mətʃ dɪfərənt tu ju.//ju dɪd nɑt jus jɔr gold fɔr ɛni gʊd wɛn ɪt 115 wəz ðɛr./ 116 T: Ok, what do you think about the text now? 117 S: The text here, the meaning is written. Here is a picture, we can understand the meaning by looking at the 118 pictures as well. 119 T: Hm is there anything that is going on your mind by looking at the picture. 120 S: There is a child on the ground. He dug a hole, there may be something inside. They are 121 looking at it. 122 T: hm right, does that text tell you what the story is about? 123 S: It must tell. The text is about the picture. 124 T: hm 125 S: There is a connection. 126 T: Right, do you understand what the text tells you? 127 S: I think there is something in the hole, I mean, as far as I understand from the text, the child standing says look there is something inside, 128 and the child sitting looks at the with surprise. 129 T: Hm hm you are telling me all this by looking at the picture. (08.02 mins) 130 S: Yes

Table 56: Martin's think-aloud protocol (chunk 3)

In lines 120 and 121 he used picture and elaboration. This is a genre 1B serial strategy cluster. Overreliance on the picture suggests that the learner lacked lexical knowledge. Elaboration strategy is used to create a story line depending on the picture. The strategy cluster is successfully used in terms of relevance of elaborations to the story. There is also a strong symbiotic relationship between the strategies, use of picture as a strategy supports his elaborations. However, this strategy cluster is a very simple one and its use does not carry any signs of sophistication.

Similar to the example above, in lines 127 and 128 he used picture and elaboration which is a genre 1B serial strategy cluster. Repeated use of such a strategy cluster shows that he did not understand anything from what he read. This underlines the fact that a certain level of English proficiency is required to have a basic understanding of a reading text.

5.5.4.6 Summary of Profiles 3 and 4

The profiles of Mary and Martin are presented as representative examples of the intervention and control groups. The tables below show quantitative differences in deployment of chunks, chains, and clusters between the two students.

Summary of Mary's think-aloud protocol				Summary of Martin's think-aloud protocol			
Chunks	10			Chunks	4		
Strategy chains	9			Strategy chains	2		
Strategy clusters	41	Genre	Number	Strategy clusters	2	Genre	Number
		7B+	3			1B	2
		6B	7				
		9B+	1				
		10B	3				
		11B+	2				
		18C	1				
		22C+	1				
		23C+	4				
		1B	5				
		36E+	2				
		32D+	1				
		20C	2				
		24C+	2				
		27C+	2				
		33D+	2				
		34D+	1				
		25C+	1				
		26C+	1				

Table 57: Comparison of Mary's and Martin's think-aloud protocols

There is a big difference between the number of strategy clusters used by Mary (n=41) and Martin (n=2). The other control group student, Hannah, used 4 strategy clusters. Although it is double the number of clusters Martin used, it is still very few and the quality of clusters that they used did not differ from each other. For this reason, Martin's profile was involved in this chapter rather than Hannah's as an example of a male student. What is more, detailed analysis of these strategy clusters suggest that the quality of clusters used by Mary is higher than Martin's and Hannah's. Mary used 23 clusters that involved at least one top level strategy in each, whereas the clusters Martin used did not involve any top level strategies and Hannah's involved only one top level strategy, which is presented as an example below.

The following table summarises a selection of strategy clusters that Mary used. The selection was based on the clusters that involved top level strategy clusters. Out of 41 clusters that Mary used, 8 of them which involved top level strategies were selected for the summary presented in the table below. Due to the high number of strategy clusters which involved at least one top level strategy (n= 23), 15 of them were exclude from the in-depth analysis, because they involved bottom-level strategies such as picture and semantic guessing. The results of the in-depth analysis for the rest 8 clusters are presented quantitatively in the table below.

Quantitative summary of Mary's selected strategy clusters			
Quality	**Number**	**Quality**	**Number**
Overlapping SCl	3	Serial SCl	5
Contribution to reading comprehension	4	No contribution to reading comprehension	4
Complexity	4	Simplicity	4
Symbiotic relationship	8	No symbiotic relationship	0
Sophistication	7	No sophistication	1

Table 58: Quantitative summary of Mary's selected strategy clusters

In the cluster below, she used picture, semantic guessing, elaboration, sub-vocalisation and question generation strategies, which is a 36E+ overlapping strategy cluster. This information indicates that Mary was able to process 5 strategies simultaneously, one of which was a top level strategy. She constantly used picture, semantic guessing and elaboration. In addition to them, she used sub-vocalisation and question generation. She was able to use the strategies in a recursive pattern. At least two strategies overlapped at each time and bottom level strategies were used repeatedly.

184 S: Gold! Gold means gold, money golden money, the man one day with his golden
185 money I mean with his gold /disidənt/ or I /disidənt/ I don't know this word. /bɪk/ big.
186 Do they bury it by digging a big hole? They put it in there.

The strategies in this cluster are used successfully in aid of comprehension. This is a complex strategy cluster due to the recursive nature of strategy deployment and the top level strategy involved in it. The strategies have a very strong symbiotic relationship. They

are well harmonised and used with a purpose. For example, in order to understand what role "gold" and "money" play in this story, she extracted information from the text mostly through the use of picture, semantic guessing and elaboration. The use of question generation towards the end of the cluster helped her to reflect on the content of the story and make a successful elaboration on the story. This strategy cluster is one of the best examples of a sophisticated strategy deployment. Strong symbiotic relationship between the strategies and successful comprehension resulted from the dynamic orchestration of strategies. Such a successful deployment of a cluster indicates that the text was not too challenging for her, she was able to deal with linguistic processes as well as deployment of strategies as aids to reading comprehension. She used overlapping strategies in sophisticated clusters which contributed to reading comprehension with high levels of symbiotic relationships and complexity better than both Martin and Hannah.

The following table summarise strategy clusters that Martin used.

Quantitative summary of Martin's strategy clusters			
Quality	**Number**	**Quality**	**Number**
Overlapping SCl	0	Serial SCl	2
Contribution to reading comprehension	1	No contribution to reading comprehension	1
Complexity	0	Simplicity	2
Symbiotic relationship	2	No symbiotic relationship	0
Sophistication	0	No sophistication	2

Table 59: Quantitative summary of Martin's strategy clusters

In the lines below Martin used picture and elaboration which is 1B serial strategy cluster. He was not able to use more than two strategies at the same time. There are three possible reasons for this, 1) he may not have knowledge of reading strategies, 2) deployment of more than two strategies may be demanding for him, and 3) although both Mary and Martin are expected to be at the same proficiency level, the language of the text may be more challenging for him to accommodate strategies successfully.

120 S: There is a child here. This child dug a hole. There is something in it. They is
121 probably looking at that.

He was not as successful as Mary in the deployment of reading strategies. Overreliance on picture suggests that he lacked lexical knowledge. Elaboration strategy is used to create a story line depending on the picture. Elaboration in this cluster compensates for what he did not understand from the text. The strategy cluster is successfully used in terms of relevance of elaborations to the story. There is also a strong symbiotic relationship between the strategies because of the use of picture as a strategy supported his elaborations positively. However, this strategy cluster is simple and it does not carry any signs of sophistication at all. The fact that picture strategy supported his elaborations and that they were in line with the text may be considered to be chance as well. There is no guarantee that a picture would make every reader have thoughts that are consistent with the text. The comparison of these two students' strategy deployment suggest that the intervention group medium level students benefited from the SBI more than the same level control group students.

In the Metacognitive Awareness Interview, Mary stated that she differentiated between easy and difficult texts by looking at unknown words. She stated that she used strategies in other classes too and she listed the ones that she used as follows: predicting the meaning of a sentence or end of the story, semantic guessing, and pictures. She evaluated her reading performance as poor. Martin, on the other hand, talked about being comfortable when reading and he differentiated between easy and difficult texts by looking at unknown words. He said that he looked for easy sentences and the pictures as strategies that he used. He evaluated his reading performance as average. While Mary rated her performance as poor, Martin rated his as average. His statement could be interpreted based on the attribution theory. However, such an interpretation would be outside the scope of this thesis. Similarly, an argument on the issue of gender differences is beyond the framework of this study.

Martin's evaluation resembles those made by the high achievers. While the intervention group students thought that they did not perform well, the control group students thought that their performances were generally fine. This resemblance supports the previous argument on increased metacognitive awareness influencing their perception of achievement in a negative way. Although in the present examples they did not think that they achieved well, it gave them an understanding of their weaknesses. The control group students on the other hand, did not have an awareness of their weakness. Since such

awareness is significant for achievement, the intervention group students were in a better position to improve themselves.

5.5.4.7 Profile 5 – Allen: Intervention group low level student

Allen was rated as a low student by his classroom teacher. He stated that he was interested in learning English, but that he was not able to learn languages well. He was also taking Greek classes and he sounded convinced that he did not have the ability to learn language. He stated that his preferred skill was speaking in the classroom, because he believed that he learned better through speaking. He was asked whether he studied after school, he stated that because he cannot understand much he was not able to study on his own. His sister would have helped him before, but now that she was away at college she could not. He thought that reading classes were useful to improve reading and to learn new vocabulary. This general answer suggests that he did not understand the core of the SBI lessons.

During the Metacognitive Awareness Interview, he stated that the reading text was difficult for him because there were many unknown words. When he was asked to evaluate his reading performance, he was at first reluctant to evaluate himself. Then, he said that he was "not exactly good", he said it was "between average and weak". He was lastly asked to talk about the benefit of strategy use. He was not able to talk about usefulness of strategies, but he mentioned a few strategies that he tried to use such as title and picture.

The following two tables are examples of chunks from Allen's think-aloud protocol. He used 6 chunks, 3 strategy chains and 6 strategy clusters.

Allen's think-aloud protocol
Strategy Clusters from Chunk 1
82 T: What are you doing now? You looked through the text, what did you look at?
83 S: Teacher, I looked at the picture and the title first.
84 T: Ok, what are you thinking about these?
85 S: Teacher, these are names right?
86 T: What are you thinking? If there are names what made you think that they are names?
87 S: I don't know teacher, they look like names.
88 T: What made you think that they are names?
89 S: Hm I don't know.
90 T: You are not sure.
91 E: Yes teacher.

92 T: What else is on your mind? 93 S: The pictures teacher. 94 T: What are you thinking about the picture? 95 S: Teacher, a child looks at another, and the one on the ground digs a hole. The one who is 96 standing is either telling him that it is wrong or he is trying to join him. (05.06 mins) 97 T: or they will do it together, is there anything else on your mind. 98 S: No teacher.

Table 60: Allen's think-aloud protocol (chunk 1)

In line 87 Allen used title and elaboration strategies. This is a genre 12B overlapping strategy cluster. He is not able to make any sense of the title but he still tries by adding elaborations; in this case his elaboration was based on his imagination rather than the text. Thus, the use of the strategy cluster is not successful in contributing to comprehension. It is a simple strategy cluster with weak symbiotic relationship between the strategies. Use of title as a strategy is not related to elaboration strategy.

In lines 95 and 96 he used picture, elaboration and inference. This is a genre 16C+ overlapping strategy cluster. He depended on the picture to make elaborations, he then made an inference depending on his elaborations. His inference is not in line with what is written in the text. Thus, the strategy cluster does not contribute to successful reading comprehension. The use of top level strategy in the strategy cluster and the use of strategies in an overlapping manner make it a complex cluster. Although he does not use the strategies successfully, bringing in the inference strategy shows that he was trying to use what he learned in the SBI classes. There is a strong symbiotic relationship between the strategies; they are used in support of each other. However, overreliance on the picture led to misunderstandings, for this reason this is not a sophisticated strategy cluster.

Allen's think-aloud protocol
Strategy Clusters from Chunk 4
145 T: Read a bit more, have a look through to find whether there are words that you know. 146 /hi wəz ənhæpi wɛn hi sipit mɛni/ 147 S: Teacher /hæpi/ there /ənhæpi/ I don't know what it means. /hæpi/ happy, something like 148 this. 149 T: is there anything that you are thinking? What could it be? (09.00 mins) 150 S: I don't know teacher. Silence 151 S: Teacher, looking at the picture but a little. 152 T: What did you get by looking at the picture? 153 S: /hæpi/ happy, it is normally said in birthdays. 154 T: It is said at birthdays 155 S: Yes 156 T: Yes there is a song as well

157 S: Yes teacher, like that, it was a child's birthday and they brought him out with his brother 158 while they were out they saw a hole and they were looking at it. 159 T: Do you know what money means? 160 S: I don't teacher.

Table 61: Allen's think-aloud protocol (chunk 4)

In lines 147 and 148 he used sub-vocalisation and semantic guessing. This is a genre 13B serial strategy cluster. There is a strong symbiotic relationship between the strategies. He read 'unhappy' and thought on it for a while. He knew what happy meant. He used his linguistic knowledge to work out what the word meant. Although he does not manage to do so in the end, the attempt to do so shows that he is able to use semantic guessing strategy and bring in his linguistic knowledge. If he continues to use semantic guessing strategies, he can make use of semantic guessing strategies successfully. Although this strategy cluster is a simple one, it is one of the rare examples in the data set which shows potential for future success in learner strategy deployment.

In line 153 he uses semantic guessing with background knowledge. This is a genre 14B+ serial strategy cluster. Depending on the word 'happy' he brought in his background knowledge and suggested that this word was usually uttered at birthday parties. Although there is symbiotic relationship between the strategies, this symbiotic relationship led to an unsuccessful interpretation. Despite the use of the top level strategy, this is a simple strategy cluster which caused an incorrect interpretation.

5.5.4.8 Profile 6 – Alfred: Control group low level student

Alfred was rated as a low level student by his classroom teacher. He stated that he was interested in learning English, because he would need it when he travels abroad in the future. He said that he liked doing puzzles and talking about unknown words with the teacher in the classroom. He stated that he liked reading at home. He would read a story that he found on the internet, but he didn't do this very often. He suggested that reading was useful for learning vocabulary and improving speaking.

During the Metacognitive Awareness Interview, he stated that when there are too many strange words he wouldn't understand the text: "if I am able to understand, I find it easy, if I can't understand, I find it difficult". When I asked him to evaluate his reading performance, he suggested that it was bad. According to him he did not pay attention to punctuation which was a problem during reading. He used a dictionary and asked a friend as reading strategies. He emphasised again that he would learn vocabulary during reading and this would help him with his speaking skill.

The following table is an example of a chunk from Albert's think-aloud protocol. He used six chunks, 4 strategy chains and eight strategy clusters.

Alfred's think-aloud protocol
Strategy Clusters from Chunk 4
114 S: /golt/ gold. /hi/ man /mæn/ yes man. (Silence) /ðə rɪtʃ mænz nəjbər sɛv hɪm hi wəz sæd.
115 hɪz nəjbər sejt dont bi so sət go ənt brink ə pis əf ston ənt pɛt ɪn ɪt ɪn ðə hol vɪzət ɪt ɛvəri de.
116 ɪt wɪl nɑt du mətʃ ss dɪfərəns tu ju. ju dɪd nɑt jus jɔr golt fɔr ɛni gʊd
117 wɛn ɪt wəz ðəjr./ (09.25 mins)
118 T: What do you generally think about the story in the text?
119 S: They are looking for a piece gold and money
120 T: What else?
121 S: They asked their neighbour
122 T: hm
123 S: Like this
124 T: How did you understand these?
125 S: Hm it first talked about money here hm /wɛntəd tu spɛnt æz lɪtəl məni fɔr/
(He re-read)
126 S: Like this (silence) hm then here /golt/ it talks about something like gold, I are looking for
127 gold as well, I think they thought that they would find gold as well. (10.04 mins)
128 T: hm hm

Table 62: Alfred's think-aloud protocol (chunk 4)

In line 119 Alfred uses semantic guessing and elaboration. This is a genre 6B overlapping strategy cluster. He uses the strategy cluster partially successfully. He knows that there is something related to gold, but he does not understand the details. This is a simple strategy cluster with a strong symbiotic relationship between the strategies. In line 125 he uses semantic guessing and sub-vocalisation. The cluster is partially successful, it is simple and there is not any symbiotic relationship between strategies. In lines 126 and 127 he used picture, semantic guessing and elaboration. There is a strong symbiotic relationship between the strategies, but the cluster is simple and did not contribute to successful comprehension.

5.5.4.9 Summary of Profiles 5 and 6

The profiles of Allen and Alfred are presented as representative examples of intervention and control groups. The tables below show quantitative differences in deployment of chunks, chains, and clusters between the two students.

Summary of Allen's think-aloud protocol				**Summary of Alfred's think-aloud protocol**			
Chunks	6			Chunks	6		
Strategy chains	3			Strategy chains	4		
Strategy clusters	6	Genre	Number	Strategy clusters	8	Genre	Number
		12B	1			1B	2
		16C+	1			18C	1
		10B	2			6B	1
		14B+	1			10B	1
		1B	1			28C	1
						29C+	1
						20C	1

Table 63: Comparison of Allen's and Alfred's think-aloud protocols

There is a small difference between the intervention and control group students in this achievement level in the number of strategy clusters used. The intervention group student, Allen, used 6 clusters, and the control group student, Alfred, used 8. An in-depth analysis of these strategy clusters suggests that there is not a big difference in the quality of clusters used by Allen and Alfred either. Although Allen used more overlapping strategy clusters, only one cluster contributed to reading comprehension. Alfred, on the other hand, used 2 strategy clusters that contributed to reading comprehension. However, none of Allen's or Alfred's clusters were sophisticated.

The table below shows Allen's strategy deployment.

Quantitative summary of Allen's selected strategy clusters			
Quality	**Number**	**Quality**	**Number**
Overlapping SCI	2	Serial SCI	2
Contribution to reading comprehension	1	No contribution to reading comprehension	3
Complexity	1	Simplicity	3
Symbiotic relationship	3	No symbiotic relationship	1
Sophistication	0	No sophistication	4

Table 64: Quantitative summary of Allen's selected strategy clusters

In the cluster below Allen used picture, elaboration and inference which is a 16C+ overlapping strategy cluster. The number of strategies involved in this cluster suggests that there were a limited number of strategies that Allen could use along with other challenges such as the text difficulty involved. Picture and elaboration did not take up any processing space, this is because there is very little that depends on the text. Inference, too, is based on how much he comprehended based on the picture. Thus, it did not require any processing space either.

95 S: Teacher, there is a child who is looking at another child. The child on the ground is
96 digging a hole. The one who is standing tells him that it was wrong or he is trying to join

His inference is not in line with what is written in the text. Thus, the strategy cluster does not contribute to successful reading comprehension. The use of top level strategy in the strategy cluster and the use of strategies in an overlapping manner make it a complex cluster. Although he did not use the strategies successfully, bringing in the inference strategy shows that he was trying to use what he learned in the SBI classes. Although there is a strong symbiotic relationship between the strategies, this is not a sophisticated strategy cluster. Overreliance on the picture led to misunderstandings.

The following table summarises two of Alfred's strategy clusters: one that involves a top level strategy and one that does not.

Quantitative summary of Alfred's selected strategy clusters			
Quality	**Number**	**Quality**	**Number**
Overlapping SCl	1	Serial SCl	2
Contribution to reading comprehension	2	No contribution to reading comprehension	1
Complexity	0	Simplicity	3
Symbiotic relationship	2	No symbiotic relationship	1
Sophistication	0	No sophistication	3

Table 65: Quantitative summary of Alfred's selected strategy clusters

In the cluster below, Alfred used semantic guessing, background knowledge and elaboration which is a 29C+ overlapping strategy cluster. Although the number of strategies that Alfred used in the example below is more than those Allen used, Alfred's success in comprehending the story was no different than Allen's.

138 S: Hm the children go out to hunt a treasure or they try to find gold.

Although there is a symbiotic relationship between the strategies, the cluster did not contribute to reading comprehension. His background knowledge on treasure hunting does not depend on the text; it is possibly from a different story. This relates to what Macaro (2001) stated about deployment of background knowledge, when background knowledge is used without topic knowledge it leads to wild guesses. In the same way as Macaro (2001) stated, Alfred used his background knowledge in a way that his comprehension drifted away from what the text expressed. This comparison seems to suggest that the reading text that they read for the Think-aloud Protocols was too challenging for the low level students. The outcome of the comparison may also suggest that the low level students found the teaching materials used in the classroom too challenging. This may be due to difficulties that they had based on reading processes involved and the challenge of a foreign language.

In the Metacognitive Awareness Interview, Allen stated that he looked at unknown words to differentiate between easy and difficult texts. He stated that strategies were useful and he used title and picture. He rated himself between average and weak. Alfred stated that he would look at unknown words too, but he could not decide whether the text was easy or difficult. This may suggest possible lack of metacognitive awareness. He listed the

following strategies as useful in learning new words: re-reading, asking a friend and using a dictionary. He rated his reading performance as bad due to pronunciation problems. The students in the low achievement level were more realistic with their performances than the control group students and the intervention group high and medium achievers. Allen realised that his reading performance was between average and weak and Alfred that his was bad. This is possibly because they had difficulties in decoding words (see section 3.2.1) which is a basic skill in reading comprehension and it is easily observable.

The following argument is based on a comparison of the above three achievement levels and possible theoretical explanations regarding their strategy deployment performances along with issues of metacognitive awareness.

5.6 Chapter Conclusions

This section presents conclusions of this chapter on findings. First, a brief summary of findings from the quantitative and, second, from the Qualitative Data Banks are presented. Third, findings from these two data banks are discussed with a triangulation approach showing whether findings from these distinct data banks support each other.

The descriptive statistics offered in this chapter provide us with information about the students. They suggest that there were not any statistically significant differences between the groups in terms of 1) help they received from adults outside school; 2) the distribution of gender across groups; and 3) parents' educational and social backgrounds. The open ended questions showed that parents' occupation and family holiday destinations had similarities. This information suggested that the groups were similar to each other and that they could be compared.

The statistical findings of the post-tests on the Reading Comprehension Test and the Reading Strategy Questionnaire show that there are significant differences between the intervention and control groups. The effect sizes for both of the tests were between small and medium which are high compared to the effect sizes of the control group. Indeed there is a difference between the effect sizes of the two groups. The difference in the effect sizes

suggests that the SBI was effective in improving students' reading comprehension and reading strategy deployment. Although not statistically significant, attitudinal improvement is also observed in the intervention group students. When the findings of the Reading Comprehension Test, the Reading Strategy Questionnaire and the Attitudes Questionnaire are triangulated, it can be interpreted that SBI is an effective way of teaching reading in English.

The Metacognitive Awareness Interview involved three questions. The first question was on the difficulty level of the reading text. High and medium level students from both groups could make comments, but not the low level students. The aim with the second question was to encourage students to evaluate their reading performances. Almost all students were able to evaluate their reading performances. The last question was concerned with the benefit of strategy deployment. The intervention group had awareness of strategies due to the SBI; the control group students, too, used some strategies such as using pictures and a dictionary and asking friends. The control group students were not able to talk about the benefits of strategy deployment. However, the intervention group students of all achievement levels were able to talk about the usefulness of strategies. This shows that they improved metacognitive awareness about strategy deployment.

The student profiles provided us with individual accounts on students' motivation, metacognitive awareness, and reading strategy deployment.

There is a clear distinction between the intervention and the control groups in terms of strategy-cluster deployment. The intervention group students used more complex and sophisticated strategy-clusters with high levels of symbiotic relationships between strategies which contributed to reading comprehension. The highest level of improvement is observed in high and medium level achievers. The low achievers' language barrier was an obstacle for learning and using strategies. The most salient improvement was observed in medium level achievers. This suggests that their language proficiency level was right for the SBI.

The next chapter offers a discussion of the outcomes presented here.

CHAPTER VI – DISCUSSION

6.1 Introduction

This study was with secondary school students, aged between 12 and 13 who were learning English as a foreign language in Northern Cyprus. The intervention lasted for 4 months. Strategies that were taught during the intervention are as follows: using title, using picture, sub-vocalisation, semantic guessing (using known words, compound words, word roots), elaboration, predicting the end of the story, inference, background knowledge, question generation, monitoring, summarization. The outcomes of the study are presented in the previous chapter. In this chapter issues emerging from the outcomes of this study are discussed in relation to other studies.

The body of this discussion is divided into three sections. This first section of the discussion deals with issues emerging from the outcomes of the Reading Comprehension Test in conjunction with the SBI cycle. The discussion in the second section is based on the outcomes of the Think-aloud Protocols, the Reading Strategy Questionnaire and Metacognitive Awareness Interviews. The third section deals with a discussion on the outcomes of the Attitudes Questionnaire. Although I present them in the order of the data collection methodology, the discussion is organised and presented around various issues that need attention in the LLS research.

The next section is significant is providing support for the existing research on the effectiveness of SBI, showing that SBI is effective in the Cypriot context and presenting issues.

6.2 The Impact of the SBI on Reading Comprehension

This section is on the issues that have emerged upon the completion of data analysis. They are centred on the SBI and reading comprehension. The discussion in this section relates to the following research question:

Is there any difference in reading comprehension ability between the groups in the pre- and post-tests?

The above research question was used as a guide in this research. There are various issues of LLS research that have emerged through the attempt of answering this question. The issues that are addressed below are as follows: 1) design and the procedure of SBI cycle, 2) Length of SBI, 3) type and number of strategies, 4) strategy choice, 5) learning context, 6) Cypriot context (SBI versus traditional way of teaching), and 7) other issues which make comparison between studies almost impossible.

The SBI cycle was designed to help learners gain automaticity in the use of reading strategies through a two-phase three-stage teaching programme. The three stages of the SBI cycle was adapted from four publications in the literature (Cohen, 1998; Chamot, 2005; Chamot et al., 1999; Grenfell & Harris, 1999). The two-phase aspect of the SBI cycle that was developed for the present study was not observed in the previous examples. The idea of building two phases into the SBI cycle was motivated by the procedure followed by Macaro and Erler (2008). The SBI cycle that they followed consisted of 9 stages that are explained in Macaro (2001). The procedure that they followed for the implementation of this cycle was a low input/high scaffolding procedure. They planned it as low input because it was agreed to do the intervention only for 10 minutes at the beginning of every lesson. Contradictory to their SBI cycle, in the present study, the first phase was planned as high input and the second phase as high scaffolding. It was planned this way to give learners more practice opportunities when they could try to use clusters of strategies. It is evident from the outcomes of the Reading Comprehension Test that the SBI cycle which was followed in the present study is the cause for the rapid increase in reading comprehension scores of intervention group students.

There are various issues that come out of a comparison of Macaro and Erler's (2008) longitudinal study, which uses "single sample over extended period of time" (L. Cohen, 2011, p. 272), and the present study. A comparison between the two studies is possible depending on the similarities of the two projects, such as the number of participants, foreign language context, quasi-experimental in nature, school context, the same age group; without ignoring the differences such as the foreign language being French in their study and English in the present study, and strategy instruction procedures. One of the

issues is the duration of intervention, more specifically, whether beginner learners need a longer period of SI than more advanced learners (see Hassan et al., 2005). Because both studies resulted in increased reading comprehension with small to medium effect size, I claim that the required length of SBI depends on the strategy instruction procedures and that it is not necessary to do longitudinal interventions in order to increase foreign language reading achievement in all cases. Effect size is a significant measure which shows how big an effect the SBI made on reading comprehension of students. Such a comparison can be useful in making sense of the accumulated information in the field and in deciding on the direction of the future research. The effect of Macaro and Erler's study was reported as 0.27 and it is found as 0.33 in the present study. The effect size of Macaro and Erler's study being smaller, both effect sizes indicate that the effect of SBI on reading comprehension was between small to medium. It seems that the longitudinal nature of Macaro and Erler's study did not have a large effect. Similar to the present study and Macaro and Erler's study, Pappa et al. (2003), in their project on semantic mapping training, reported an effect of small to medium (d=.46). Plonsky (2011) reviewed previous studies on learner strategy intervention in all four skill areas. Although the effect sizes were not reported in most of the papers, he collected required numerical information for the calculation; sometimes by contacting the researchers themselves. He then calculated an average effect size of SBI studies, which he reported as small to medium (d=.49). There are SBI studies that range from a one 50-minute session to over a one-year period. Despite this wide variety, the scope of effect size stays between small and medium. A logical expectation of a longitudinal SBI would be having a large effect, and an average length SBI having a medium effect. However, such a result could only exist in a perfect world. The reality is that there are various variables (i.e., student attitudes, proficiency levels and external factors) involved in a SBI procedure, which may influence results dramatically. There is limited number of experimental studies in medium to longitudinal in length to let us accumulate information on various variables in relation to effect sizes. Plonsky (2011) reported some of the variables that moderated the effectiveness of SBI studies. The length of intervention, which is introduced above, is one of these variables.

Despite the difference on the length of interventions, the impact of both of the intervention studies were similar. I would argue that there are two reasons for this result: 1) the intensity of the SBI, and 2) the low versus high input aspect of the studies. As was explained in their paper, "... it was agreed that it would only take an average of 10 minutes

per week from normal class time. Teachers generally preferred to block these 10 minute periods into longer units every 2 to 3 weeks" (Macaro and Erler, 2008, p. 106). Although their study "spanned parts of two consecutive academic years", the amount of SBI provided for learners was limited. For example, they only covered five reading texts for SI. This means that, in terms of intensity, the SBI did not last for an extended period of time. Such a procedure suggests that the SBI was not completely integrated into learners' everyday classes as part of the lesson. In the present study, on the other hand, learners were exposed to SBI for 40 to 80 minutes per week as part of their everyday classes. The class teachers agreed to focus on the skill areas. On the one hand, the present study was planned as an intensive programme regarding frequency of exposure to SI and the outcome showed that the effect of it was medium. On the other hand, Macaro and Erler's study was designed as low input/high scaffolding SBI programme spread over an extended period of time, and the outcome showed that the effect of it was medium too. This comparison suggests that a longitudinal study is not required for a study to have a better impact as it suggested in Hassan et al. (2005). However, if the present study design is implemented as a longitudinal study the effect size could be large. What we do not know at the moment is how long should the 'high input', and how long the 'low input' process should last; or whether these two processes should be implemented consecutively.

One could argue that providing low input, SBI over an extended period of time would give learners time to work out how to use strategies. However, the low input aspect of the SBI suggests that learners are introduced to a limited number of strategies. Presenting a set programme for strategy development could be perceived as drifting away from the aim of SBI. The aim of SBI is to give learners freedom to choose from strategies, to base their decisions on task requirements, and to apply the strategies as tools to cope with the challenges of reading according to their needs. However, before proposing such an argument, one has to remember that the core aim of SBI is to teach strategies of successful learners to less successful learners. Thus, less successful learners have to be taught these strategies first to be able to choose between them. What is more, some less successful learners who are aware of strategies that are used by successful learners do not use them effectively. As a result, they drop these strategies. Even in this case, students have to be reminded of these strategies, and teacher modelling is significant in this process. Because, the modelling stage is not only used to present strategies, but it is also used to demonstrate that the strategies at stake do actually work (see Cohen, 1998; Chamot et al, 1999; Grenfell

& Harris, 1999; Chamot, 2005). In both cases, SBI must involve a high input stage; not to impose anything on students, but to let them know available strategies and to show them that they work.

The other variables that will be discussed in this chapter shortly are type and number of strategies, choice of strategies, learning context (second vs. foreign language), the context of Cyprus and the issue of comparability.

As referred to in the discussion on the length of SBI, the notion of low input seems to suggest that learners are given freedom to choose strategies for themselves. However, how could learners choose from strategies that they do not know about? As pointed out by every SBI cycle published in the literature, the first stage of SI is modelling. The modelling stage indicates that students need to be introduced to learner strategies first, and later on in the cycle they are given the freedom to choose from strategies available to them. This discussion would lead LLS researchers and teachers to another question: how do we choose the right strategies to teach students? One of the significant aspects to take into consideration is the age of learners. However, we do not exactly know which types of strategies are more suitable for beginners and which are more suitable for advanced level learners yet. The previous research can shed some light into this issue. Research indicates that strategies used by beginners are different from those used by advanced learners (see Macaro, 2001, p. 267). He states that memorization strategies are the suitable starting point for beginner language learners. Chesterfield and Chesterfield (1985) talked about a possible order of strategies that emerge over time: first receptive and mechanical strategies are acquired; these are followed by those that permit interaction and those that indicate metacognitive awareness. This problem of differentiating strategies that are more suitable for beginners from strategies that are more suitable for advanced learners is further complicated by an old issue of LLS research; classification of strategies. Hsiao and Oxford (2002) underlined the fact that there is still not a single agreed taxonomy of strategies. In the available taxonomies there are various levels of specificity and abstractness. For example, although Macaro (2001, p. 267) made a distinction between strategies that are more accessible to beginners and those that are more accessible to advanced level learners, the strategies that he talks about are general and abstract. In order to make strategies more accessible to beginners they are broken down to sub-strategies, which complicates the whole classification issue. It is also significant to know that there is a limit to how many

strategies beginner level learners can cope with. Chamot and Küpper (1989) and O'Malley and Chamot (1990) noted that students get confused when they are introduced to too many strategies. Due to lack of empirical information on the type of strategies that could be taught to beginner level learners, research projects involve various types and number of strategies. In order to arrive at a conclusive discussion, a comparison between reading strategy groups involved in intervention studies with adolescents (Harris, 2007; Grenfell et al., 2008; Macaro and Erler, 2008; Pappa et al., 2003; Kusiak, 2001) which reported improved comprehension and the present study is carried out. Although Chularut and Debacker's (2004) study involved adolescents, their study involved adults as well and they placed them in mixed groups making it impossible to observe possible differences between the two age groups.

Pappa et al. (2003) taught semantic guessing strategy as an aid for reading comprehension. Considering that their study lasted only for 2 weeks it is reasonable that they experimented with only one strategy. This study has two weaknesses: 1) the study is too short, they do not provide students with a good amount of time to practice, 2) focussing on one strategy in a study discards the possibility of combining strategies. There are other studies in the literature that tested the impact of one or two strategies. However, such studies are not considered comparable to the present study, because it is impossible to make a statement on strategy clusters. Kusiak's study involved 7 strategies taught in four weeks. Four of these strategies that she chose to teach were on text structure awareness and the other 3 were concentrating on key words, guessing word meaning and identifying purpose of reading. The only bottom level strategy among these was guessing word meaning. Unfortunately, Kusiak did not mention the proficiency level of her students. Harris (2007) and Grenfell et al.'s (2008) study was 9 months long and they involved 16 strategies of both bottom and top level. Macaro and Erler's (2008) study was 15 months long and they involved 6 strategies of mostly bottom level. It is also clearly stated that their studies were with beginner level learners. Similar strategies that are observed in Harris (2007) and Grenfell et al.'s (2008) study such as 'prediction', 'familiar words', 'possibilities', 'common sense' and 'say' are observed in Macaro and Erler's study as well. The present study was 4 months long and there were 12 strategies involved at both bottom and top levels. Two of these strategies (familiar words and break the words) were groups under semantic guessing for the teaching and analysis purposes. The following bottom level strategies are the common with those listed in the literature: 'title', 'picture', and 'break the

words' are with Harris and Grenfell et al.; 'sub-vocalisation' and 'familiar words' are with Harris (2007) and Grenfell et al. (2008) and Macaro and Erler (2008); 'elaboration' is with Macaro and Erler. Two of the top level strategies involved in this study were observed in other research papers. One of them is background knowledge observed in Chularut and Debacker (2004) who mixed adults and adolescents; and the other is question generation observed in Bimmel et al. who investigated transfer of strategies with adolescents.

Studies which are conducted on adults involve different types of strategies ranging from semantic mapping (El-Koumy, 1999) and syntactic level (Kitajima, 1997) to discourse analysis (Kern, 1989) and recognition of text types (Raymond, 1993).

Although there is only a few experimental research on reading strategies with school children (many more with adults), there is evidence from previous research that SBI results show improved comprehension, and there are some research that report mixed results. Harris et al. (2001) argue that learners have greater control over the use of reading strategies, which is determined by their proficiency level, because learners have time to go back to a difficult word. Thus, reading strategies may be more accessible than listening strategies, because reading skill is easier to start teaching. There could not be a counter argument for such a claim since it is logically correct. However, the skill area within which strategies is more accessible cannot be the issue for LLS research. Regardless of their proficiency level, learners have to practise all four skill areas, at least this is the case in Northern Cyprus. This means a "criteria for the selection of a skill area" (Harris, 2007, p. 191) is not a concern for LLS research field. On the contrary, one of the research issues would be, which strategies can be taught successfully to learners at a particular level and in a specific skill area? From the discussion above, it has become clear that mostly bottom level strategies with some top level strategies are chosen to teach to beginner level learners. Top level strategies which require the learner to have reached a basic level of comprehension are taught to more advanced and adult learners. Thus, the selection is based on the proficiency level of learners. This is the logical decision since the type of strategies that learners are able to utilise depends on their proficiency levels. However, when research is designed to teach strategies to boost comprehension, the selection of strategies should not only be based on the proficiency level of learners. Such a decision must be theoretically based in the target skill area. For the purposes of the current study, the model which illustrated the theoretical distribution of reading factors developed by Bernhardt

(1993, p. 169) was used. The model explains the significant factors which have an impact on research comprehension. These factors are phono-graphemic features, word recognition, perception, background knowledge and syntax. Reading strategies that are possibly corresponding to the listed factors, and also considering their level of English, are chosen for the present intervention study. Bernhardt's theoretical distribution of reading factors controlled the type of reading strategies that were included in this research. It provided a ground on which reading strategies were related.

Learning context is one of the factors that may influence strategy selection. The types of strategies that students would need depend on the context in which they are learning the target language. This context could be a multilingual (i.e. Belgium), bilingual (i.e. Canada) or monolingual (i.e. Northern Cyprus). The instruction is planned as a second or foreign language depending on the role that language plays in the country. The amount of linguistic knowledge a bilingual and a monolingual learner has is completely different. They are also different in the amount of linguistic awareness that they would have developed. Harris (2007) and Grenfell et al.'s (2008) project involved both bilingual and monolingual students and they investigated the impact of SI on students' success in reading comprehension. This study contributes to our understanding of the difference between bilingual and monolingual students learning a foreign language. They found that, bilingual students "improve more than the monolingual students" in reading comprehension (Grenfell et al., 2008, p. 15). The outcome of this research project suggests that monolingual learners benefit from SBI, however bilingual learners benefit more than monolingual learners. Cyprus was a country which was moving towards a multilingualism policy in 1960s. However, due to the complicated political situation this was never possible. Now, the situation seems to be changing. The borders between the south and north have been open since 2004 and there is contact between the Greek and Turkish Cypriots. There are also a large number of British citizens living on both sides of the island. Thus, what was made impossible in the 60s by political complications is becoming the real need of the people living on the island. Harris and Grenfell et al.'s study on the positive impact of SBI on bilingual students suggests that once learners are able to use more than one language well, they become more effective and successful in learning other languages too. Also, as Cyprus is a country which is moving towards a multilingual policy SBI is a necessary means of language instruction to make an easy shift from a monolingual country to a multilingual one.

The present study provides further proof that, even in a monolingual setting, SBI is more effective in improving reading comprehension than traditional ways of teaching in Northern Cyprus. The outcomes of the control group show that the traditional way of teaching was ineffective (see Appendix I). On average, the control group students who were exposed to the traditional way of reading instruction at the school improved their grades least. The traditional way of instruction involved reading a passage in the textbook and answering comprehension check questions about the passage. Time that students were given to talk about the text was limited. The discussion about reading texts was not organised in a way to improve the learners' thinking processes. Students would sometimes read the text silently, read one line aloud each, or listened to the tape recorder. They would first answer the questions individually and then share their answer with the class under the guidance of the teacher. Such an approach to teaching does not involve discussion about students' cognitive processes. On the contrary, the intervention classes were asked to think about the text. They talked about the reading strategies that they used and knew why they used them. They found the chance to discuss what worked for them and what did not work.

The issue of comparability remains one of the biggest issues in LLS research. Due to the wide variety of variables involved in previous studies, deductions made from comparison of them can be unproductive. For example, Chularut and Debacker (2004) conducted their study in a language centre rather than a school setting. High school students and university students were mixed together and assigned to experimental and control groups randomly. We cannot know how much the high school students influenced the results. For this reason, this study must be considered separate from studies which were done with adolescents in school settings. Pappa et al.'s (2003) study, like Chularut and Debacker's (2004) study, was conducted in a language centre. Semantic mapping strategy was taught through a classroom discussion. Learners were encouraged to draw a semantic map about the reading in hand, and strategy deployment was encouraged through homework. At the end of two weeks, learners were given a reading text and asked to draw a semantic map. The researchers evaluated whether students' semantic maps supported their reading comprehension, and the strategy was found to be contributing to reading comprehension. However, this study did not follow a SBI cycle that is suggested in LLS literature and it was not conducted in a school setting. What is more, their study involves only one strategy, whereas LLS researchers are now investigating the dynamic of strategy clusters. Kusiak's (2001) study is different than Pappa et al's (2003) and Chularut and Debacker's (2004)

studies in terms of setting, as she conducted her study in a secondary school. However, the weakness of her study is that the experimental group students were exposed to extra hours of English classes. Although she specifies that the teachers did not focus on reading in order not to interfere with the study, the extra hours may be the reason for improved reading comprehension. The extra classes might have improved learners' language proficiency and motivation. What is more, she did not explain the procedure of strategy instruction clearly. This lack of information makes it difficult to interpret the success of her study regarding to the strategy instruction.

Other studies such as Walters (2006), El-Koumy (1999), Carrell (1985), Raymond (1993), Kitajima (1997), Kern (1989), Gladwin and Greany (2008), and Zhicheng (1992) are all SBI projects, however, they all involved adults. Although there is still a lot to learn from these studies, considering them comparable to studies which involved adolescents may be misleading.

The discussion above suggests that: 1) the SBI had a positive impact on foreign language reading comprehension of the secondary school students; 2) the length of the SBI in the present study seem to be right in effectively teaching students reading strategies; 3) the type and number of strategies were suitable for the age group; 4) the selection of strategies was based on a theoretical ground from the reading research; 5) the SBI is necessary for the present language situation of Cyprus; 6) the SBI was effective in the Cypriot context; 7) although it is difficult to make comparisons between studies in the literature at the moment there is a steady growth in the learner strategy research field. The fact that SBI was successful in increasing students' reading comprehension is generalizable to the Turkish Cypriot state secondary school context and to other similar foreign language contexts. In order to better understand the strategy deployment Think-aloud Protocols were used. I am taking the discussion further in the next section to show the differences between strategy deployments of students who took part in the intervention study as compared to the control group.

6.3 Strategy-cluster Deployment and Metacognitive Awareness

The discussion in this section is on the strategy-cluster deployment by three different achievement levels as: high, medium and low. This discussion is related to the level of their metacognitive awareness. There is also an account of the frequency of strategy deployment pre- and post-intervention. The following research questions are addressed in this section:

- What is the difference between the intervention and control groups in terms of frequency and the way strategy-clusters are used?
- What is the difference between pre- and post-tests in terms of frequency of strategy use for the intervention and control groups?
- Is metacognitive awareness of intervention group students different than the control group students after the SBI?

A deeper understanding of the dynamics involved in strategy deployment is presented through the analysis of strategy clusters observed in Think-aloud Protocols. This part of the research addresses the call for projects on strategy clusters (see Hassan et al., 2005; Griffiths, 2008). The students were divided into three achievement levels as high, medium and low. The outcomes suggest that these 3 achievement levels benefited from the SBI to various extents, relative to their achievement levels. First, a discussion on each achievement level is presented; then these achievement levels are compared to each other with an overall discussion on the sources of differences and issues behind these differences. Outcomes obtained from the Think-aloud Protocols can be generalised to a context which displays the same characteristics that were explained in this thesis: Northern Cyprus, Turkish as the first language, English as a foreign language, Turkish medium state secondary schools, 12 to 13 year-olds.

The outcomes indicate that the high and low level achievers responded to SBI completely differently. It is evident from the examples presented in the analysis and findings chapter that the intervention group high level achievers improved in the deployment of strategies. The selection of the text was suitable for them to trigger their thoughts towards the strategies that were taught during SBI. They managed to deal with reading processes such

as phono-graphemic features, word recognition and syntax which are cognitively demanding processes for a beginner level learner. Improvement in metacognitive awareness was observed too. Although increased metacognitive awareness was impeding the perception of their achievement in a negative way at the beginning, in the long run, they can highly benefit from it. The increased awareness would help the learners be aware of their weaknesses and work towards improving them. The finding that high level achievers benefited from the SBI supports the finding of Chularut and Debaker (2004). They stated that, in their study, self-efficacy of the high level intervention group students was increased after the strategy instruction. They also stated that there was greater gain in this group over time as compared to other achievement levels. Low achievers, on the contrary, did not benefit much from the SBI. This may be attributed to the large amount of language difficulties that they had. In the present study, the reading text was too challenging for the low achievers to be able to use strategies. The reading processes involved made comprehension almost impossible. Text difficulty is a key factor in strategy deployment. When the text is completely above learners' current language proficiency level, they cannot use any strategies. However, the outcome of low achievers also implies that even with beginner level learners a certain level of proficiency is required for successful strategy deployment. This is the case for, at least, top level strategies. Mostly low achievers and sometimes other achievement levels too could not orchestrate strategies well. This is explained by Harris (2007) as follows: "not only was further practice needed but also further guidelines were needed to develop the metacognitive knowledge necessary for selecting the most appropriate strategies for the task in hand" (p. 198), because students were getting confused about when to use which strategies due to the large number of options of strategies available to them. These achievement levels differed from each other enormously in terms of their ability to deal with the text difficulty and manage to address reading processes while reading in a foreign language. The only similarity between the groups was the number of strategy clusters used between the Int.H and Cont.H groups. A somewhat similar pattern was observed between Int.L and Cont.L groups. In other words, the high level students in the intervention group deployed a similar number of strategy clusters to those high level achievers in the control group; likewise intervention group low level students used similar number of strategies to control group low level students. However, there were differences in the quality of strategy clusters, some of which will be discussed shortly. The intervention group of high and low achievement levels differed from each other in terms of metacognitive awareness too. While the high achievers

demonstrated a good level of metacognitive awareness by naming strategies and talking about their usefulness, the low level students were very weak in metacognitive awareness. There were differences between the control-group high and low achievement levels as well. While the high achievers were able to use some strategies successfully, low achievers were not able to use strategies at all. However, control groups high and medium achievers were clearly worse than intervention group high and medium achievers. High achievers might have thought that they had already used many strategies. In other words, high achievers thought that they did not need to learn new strategies, because they did not need them (see Harris et al., 2001). The statistical outcomes that were obtained through the analysis of the strategy deployment questionnaire suggest that students did not improve much in deployment of metacognitive strategies. The post-test results show that although the intervention group students improved in word level and cognitive strategies significantly, they did not improve in the deployment of metacognitive strategies. In a similar way the Think-aloud Protocols showed that the students did not always make good use of metacognitive strategies for strategy orchestration. There are two inferences that can be made out of these findings. Either the SBI did not support metacognitive strategy training very well, or that a longer intervention was required for the uptake of metacognitive strategies. The latter is a more possible reason because as stated in the literature metacognitive strategies take longer to be learned and used. The former is less likely, because the statistical results suggest that there was some improvement in the metacognitive strategies of the intervention students as compared to the control group students ($p=.10$). One of the other reasons for the slow improvement of metacognitive strategies could be students' proficiency levels or the text difficulty. The low level students struggled to understand the text simply because their English was weak. The text was simplified to be suitable to the students proficiency level, however while it was suitable for the high and medium achievers it was not suitable for the low achievers. The text was suitable for using the strategies that were involved in the SBI, however, when the students find it too challenging it is still not possible to use the required reading strategies.

Intervention group medium level achievers demonstrated significant differences as compared to both intervention group high and low achievers; and they also performed differently as compared to control group medium achievers. The intervention group student, Mary, differed significantly from both control group students, Martin and Hannah, in terms of strategy cluster deployment, both in quantity and quality. This outcome

indicates that the text difficulty was at the right level for Mary to use the maximum number of strategies that she knew. The reading processes involved and the foreign language factor influenced her too in terms of processing demand. However, she managed to deal with them well. Similar to Claire, the intervention group high achiever, SBI seemed to influence Mary's metacognitive awareness in a negative way. When students were asked to evaluate their reading performances, both Claire and Mary rated their performances lower than they actually performed. This can be attributed to the increased level of metacognitive awareness that they had. Although this improved awareness may seem to influence their perception of performance in a negative way, such awareness would help them to further improve themselves.

Strategy cluster deployment is one of the profound parts of this research. Students' strategy deployment was analysed based on the analysis criterion that has been developed as part of this thesis. As mentioned earlier, the Int.H and Int.M group students were able to use strategy clusters significantly more compared to the other groups. Similarly, in terms of the sophistication of strategy clusters, Mary, Int.M group student, and Claire, Int.H group student, showed significant differences as compared to students from Cont.H, Cont.M, Int.L and Cont.L groups. Mary and Claire used various different combinations of strategy clusters most of which were complex. Complexity of a strategy cluster suggests that the student orchestrated a set of bottom and top level strategies. Ability to orchestrate such strategies requires instruction or extensive practice on the part of the student. The fact that the intervention group low achievers were not able to orchestrate strategies in such combinations suggests that neither the amount of instruction nor practice they have had was enough to form such strategy combinations. Thus, there may be a correlation between proficiency level and the amount of SBI that students need. This outcome provides support for the existence of the threshold level, below which students are slow in understanding the function of strategies (see section 4.2.2 for information on how reading strategies were developed).

Complexity of a strategy cluster is not enough to ensure sophistication. One of the significant attributes that a strategy cluster must have is a strong symbiotic relationship between strategies. In other words, strategies cannot be put together as memorised chunks, but they should be used together for practical reasons. They are combined in a way to address the need of the student for the specific part of the particular text. In order to ensure

a strong symbiotic relationship between strategies, the student must be able to understand the 'what' and 'why' of their needs; what strategies they need to use and why they need to use them. Such an understanding was observed during Mary and Claire's protocols more than others. When students understand 'what' and 'why' of their needs it is likely that the strategy cluster aids the students for successful comprehension of what the text conveys. When such attributes come together in a positive way, the strategy cluster is labelled as a sophisticated cluster.

Successful strategy deployment is the aim of the SBI. It is evident in the data that SBI provides students with opportunities to try and learn various strategies that they may use, drop and re-try in time, and utilize those strategies that address their needs. As students' language proficiency changes and as they are exposed to texts at different levels of difficulty they will need various strategies with altered ways of combinations. Thus, strategy deployment is not static and it cannot be presented in formulaic ways (see Grabe, 2009, p. 231). Rather it is dynamic, so students should be taught to be autonomous and confident about trying different combinations. Such autonomy and confidence was observed in Mary and Claire's protocols which suggest that the SBI has been successful in achieving its goal. Although, Grabe stated that strategies cannot be taught in formulaic chunks, interpretation of this statement should not be overgeneralised. They still can be taught in chunks when students are introduced with strategies for the first time. In the later stages use of them in formulaic chunks should be discouraged. Students should be encouraged to use them in various combinations.

To the best of my knowledge, there are only a few research projects in the literature of LLS which report a detailed analysis of strategy clusters. One of them is Talbot's study which focused on metacognitive strategy training for reading. Talbot (2005) observed that, higher level students progressed most and that both higher and low level students in the intervention groups had strategic gains. Overall, the outcome of his study suggested that the intervention group demonstrated awareness of text structure whereas the control group showed little awareness. The outcomes of the present study both support and contradict Talbot's findings. Both studies indicate that intervention group students have higher gains in terms of strategy awareness and deployment. However, while Talbot reported that low level students benefited from the SBI, according to the outcomes of the present study, there is little evidence to show that low level students benefited. On the other hand, high and

medium level students found the SBI useful and they were able to use the strategies that they learned in the classroom. The higher level learners, in his study, could talk more about the text whereas low level learners had difficulties due to their proficiency level, although they had knowledge of strategies. Similar patterns were observed in the present study too. The outcomes of these two studies indicate that proficiency level may play a significant role in the deployment of reading strategies. Low level students in both studies had difficulties due to vocabulary weakness.

One of the other studies which focused on the investigation of strategy-clusters is that of Graham et al.'s (2010) study. Although their study was inspirational for the development of the analysis criterion that was followed for the analysis of the reading strategy-clusters, their study involved listening strategies and the focus of the study was on the sources of knowledge as well as strategy clusters. Their argument is twofold and somewhat contradictory. They stated that linguistic knowledge sometimes explains why students are not able to use strategies and it sometimes is not associated with strategy deployment. They argued that students whose linguistic knowledge was low were less likely to use strategy clusters effectively. This argument supports the finding of the present study on the lack of ability of low level learners for the deployment of strategy clusters. On the other hand, Graham et al. (2010) also stated that high levels of linguistic knowledge were not always associated with effective strategy deployment. This argument supports the outcome that is reported in the present study that high level learners were not more able to use strategy-clusters than the medium achievers. In the present study, the medium level achievers, along with the high level achievers, were, among all the achievement levels, the most successful group in effectively orchestrating strategy-clusters.

In terms of metacognitive awareness, the most salient difference between the intervention group high achiever, Claire, and the control group high achiever, Kristina, groups is regarding how they evaluated themselves. While Claire said that she was average, Kristina said that she was good. Similar to intervention group high achiever, Claire, intervention group medium achiever, Mary, downgraded her performance. The control group medium achiever, Martin, on the contrary, stated that his performance was fine. Although all students from both achievement levels put effort in to comprehending the text, the intervention group students did not think that they performed well. Although they did not think that they achieved well, it also gave them an understanding of their weaknesses. The

control group students, on the other hand, did not have an awareness of their weakness. Since such awareness is significant for achievement, the intervention group students were in a better position of improving themselves. Despite that intervention group high and medium achievers did better than the control group high and medium achievers, in their evaluations, the intervention group downgraded their performances and the control group overstated their performances. This shows that the intervention group students were aware of their weaknesses which would help them to improve themselves in the future. Although low achievers from both groups thought that they did poorly, this was not related to their metacognitive awareness. It was mainly because they could only use the picture and that they did not understand anything from the text. The fact that due to increased metacognitive awareness students seemed to decline in their perception of performance is explainable through restructuring. The notion of restructuring in the Cognitive Theory suggests that learning process is not always explained as building up of knowledge, when new knowledge is added to the existing system of knowledge backslidings occur. Backsliding may seem like a decrease from the outside, but it is the process when the whole system of knowledge is restructured. Thus, the participants in the present study may be in the process of restructuring their knowledge about reading processes causing them to think that they were achieving worse than their actual performances. It is evident in the previous research findings that metacognitive awareness is improved through SBI. Kusiak (2001) asked students to evaluate themselves in order to assess their ability to evaluate their own performances on the reading comprehension test. "The results indicated that the training enhanced the students' self-evaluation skills. In the control group no significant changes were observed" (p. 266). Kusiak's study supports the outcome of the present study that some improvement in the metacognitive awareness is possible through SBI.

Employing Think-aloud Protocols in investigating strategy clusters is a fruitful process. It provides information on the wide range of strategy clusters deployed by learners. It also helps us to understand that strategy use does not involve deployment of one strategy, but it involves deployment of a group of strategies. However, strategy use is not a simple straight forward phenomenon. There are various issues involved in it. One of the issues is the selection of text as is mentioned above. One of the other issues involved in strategy use is the processing demands for verbalisation of strategies. Verbalisation requires metacognitive awareness. The student should know that something is going on in his/her mind, pay attention to what is going on in his/her mind and verbalise it (Macaro, 2001).

The metacognitive awareness required for verbalisation of strategies develops as children grow older. However, I could not be sure of how developed the metacognitive awareness of my students were; the intervention group students possibly had different levels of metacognitive awareness by the end of the SBI as compared to control. In order to cater for lack of metacognitive awareness I provided think-aloud training. However, this may or may not be enough for the students to realise and tell me everything that was going on in their minds. This was the case for both intervention and control groups. This issue of strategy verbalisation makes identification of strategies in Think-aloud Protocols difficult. For example, they did not always name the strategies that they used. They sometimes explained them to me and at other times I looked for clues of strategy deployment. There might be instances where I did not realise that they used a certain strategy and it went unnoticed. However, I had to work with whatever I could get from the students. Such a dilemma projects criticisms on the reliability of Think-aloud Protocols. However, another method of data collection has not been developed that would allow us to get closer to students' thought processes. Takeuchi et al. (2011) has been working on an infrared brain scanning method to measure brain activity. For example, for a research project, they compared brain activity of a learner while completing a cloze test versus a multiple choice test. They reported that brain activity was higher when the learner was completing the cloze test, suggesting that close tests encourage learners to think more. Although, such a research has implications for teaching, it is not developed enough yet to be used for identification of strategy clusters.

In the present study, students of the intervention groups, especially high and medium level achievers, could list various reading strategies which they learned during SBI and they used in other classes as well. Iona stated that she did not know about strategies before, and that now she knows what she can do to comprehend the text. "They are very useful... we did not used to use strategies we just read the text...". On the other hand, control group students talked mostly about dictionary use and that reading was significant for learning vocabulary. For example, Hannah suggested that reading was useful because "...we increase our vocabulary knowledge". Kusiak (2001) also asked learners what made a reading task difficult. Similar to the present study, she reported that the number and type of comments between control and experimental groups changed after the experiment. The experimental group students commented less on vocabulary, silent reading and reading aloud. They made more comments on reading and understanding. On the other hand, the

control group students talk about vocabulary, silent reading and reading aloud both before and after the intervention. The programme was effective in shifting students' attention from the role of vocabulary to understanding the text (Kusiak, 2001, p. 264). The similarity in learners' responses between the present study and Kusiak's study suggests that SBI changes students' perceptions of reading. SBI directs students' attention to the importance of getting the message across. Most of them do not see reading in L2 the same as reading in L1; study outcomes show that those who have not had SBI perceive L2 reading as an opportunity to expand vocabulary knowledge.

The above finding that the intervention group students found reading strategies useful and started to use them is also justifiable through the statistical analysis on the frequency of strategy use. The outcomes of the Reading Strategy Questionnaire suggest that intervention group students started to use word level ($p= 0.006$) and cognitive ($p= 0.003$) reading strategies significantly more than the control group students. The overall reading strategy deployment of the intervention group students is higher ($p= 0.006$) than the control group students. Furthermore, Cohen's d of the intervention group is much higher ($d=0.31$) than the control group ($d= -0.01$). The intervention group effect size of the Reading Strategy Questionnaire, similar to the effect size of the Reading Comprehension Test, is between small and medium. The outcome indicates that while the SBI was effective in increasing the amount of time that students used strategies, the traditional way of instruction did not have much impact in terms of teaching students reading strategies. Thus, based on this outcome we can conclude that SBI was effective in encouraging students to use reading strategies more often.

There are studies which used reading questionnaires as part of their intervention studies and reported positive results. However, these studies did not report that they used such instruments as a source of triangulation with strategy-cluster analysis as it was used in the present study. Responses to questionnaires reflect students' declarative knowledge or their beliefs of what they do rather than their procedural knowledge, so they are not ideal in identifying strategy-clusters. Macaro and Erler (2008) employed a reading strategy use and general approaches to reading questionnaire as part of their intervention study. The instrument was more like a checklist and their aim was to see patterns of change rather than increase in use. They conducted a statistical analysis for each item prior to the intervention. There was one item, 'invent a meaning' whose use was significantly high.

When the same analysis was run after the intervention, there were four items showing statistical significance ($p<.005$). Two of these items show significant effect for the control group (a- wait for the teacher to explain the text and b- wait and see if the teacher says what it means) and the other two showed significant effect for the experimental group (a- scan for words that look familiar and try to guess the meaning of the text from them and b- look up many words in the dictionary or glossary). The researchers concluded that the students started to use text-engagement strategies which suggest growth of independent and confident learners. On the other hand, the strategies used by the control group students showed that they depended on others. Although such a finding is also useful, the questionnaire in the present study was used to provide a basis for triangulation for the Think-aloud Protocols. It is clear from the results of both the Reading Strategy Questionnaire and the Think-aloud Protocols in the present study that a clear improvement in the strategy deployment can be achieved through SBI. This clear improvement is also justified through the high effect size of the intervention group ($d=.31$).

There are some intervention studies in which other retrospective methods of data collection were used. Questionnaires, on their own, are not considered as effective methods of data collection in LLS research any more. For this reason, researchers searched for new forms of questionnaires. For example, Kern (1989) used a reading task interview in order to collect information on the use of inference strategy. A statistically significant difference between experimental and control groups was reported. The researcher concluded that strategy instruction had an overall positive effect on subjects' ability to infer the meaning of unfamiliar words from the context. Bimmel et al. (2001) used strategy specific tests to measure strategy use of learners. However, their study was conducted in the learners' first language, thus the strategy specific tests were in the learners' first language too. They reported mixed results; significant improvement was reported in key fragments, hinge words and semantic guessing whereas no significance was found on the use of questioning. Although these findings are useful, they should be interpreted with caution since these strategies had an impact on L1 reading comprehension. Bimmel et al.'s (2001) study was conducted to investigate transferability effects. The post-test results showed that significant change happened in the deployment of key fragments, semantic mapping and hinge words and minor improvement in the use of questioning with no statistical significance. Although the questionnaires were adapted in various ways to collect accurate information about the strategy deployment of students, they could not be as effective as the Think-aloud

Protocols. Instruments like reading task interviews or strategy specific tests can provide some information on strategy deployment, however they do not provide information on how strategies are orchestrated by students. Investigation into strategy-cluster deployment can help us to reach to a better understanding of the benefits of strategy deployment.

In conclusion, the outcome of the Think-aloud Protocols is consistent with the outcome of the Reading Strategy Questionnaire. The intervention group students used more reading strategies than the control group students. The Think-aloud Protocols provided us with an opportunity to further investigate the way students used reading strategies. The outcomes of this investigation suggest that students at different achievement levels have their own differences in the way they combine strategies.

Next in this chapter, the attitude of students towards reading in English is discussed.

6.4 Student Attitudes towards Reading

In this section, student attitudes in relation to strategy deployment are discussed.

In the motivation interview, most students stated that they were interested in learning English. Students were willing to learn English as a foreign language, because they showed awareness of the position of English as lingua franca. Despite this, the outcome of the Attitudes Questionnaire shows very little improvement in students' attitudes to learning English. The Attitudes Questionnaire that was administered as a pre- and post-test measure addressed the following research question: Has the SBI intervention had any impact on students' attitudes to reading in English? The outcomes suggest that there was not much improvement in students' attitudes towards reading in English. There was some improvement in the intervention group in liking to read in English, and learning to read in English, and they felt more comfortable when confronted with a difficult text. In the control group students, on the other hand, there was either a minor improvement or no improvement at all. One of the reasons for a slow improvement in attitudes, in the intervention group, could be various processing demands that were referred to above. One of the possible reasons for a slow improvement in attitudes is the increased level of

metacognitive awareness. The increased level of metacognitive awareness allowed the intervention group students to realise their weaknesses more which may have influenced the growth in their attitudes. There are various outcomes regarding attitudes in the literature. Harris (2007) uses a quotation that may explain slow improvement of attitudes in students. She reported that a student's response challenged the time of movement from scaffolded support to independent strategy use: "it's ok when the teacher shows us new strategies but when I am on my own I do not know which ones to use" (p. 198). A similar response regarding to inference strategy was received from Bridget in the present study. She stated that "when you explained teacher, then I knew but now I am reading it by myself I am not sure whether my guesses were correct". The similarity between the student responses is remarkable. It is clear that students feel much more confident when there is teacher support, however as soon as the teacher support is removed they become insecure about their abilities of coping with a reading task. The implications of these outcomes are twofold. First, it highlights the importance of student-centred teaching and second, it shows that SBI programmes must have a long period slowly withdrawing scaffolding. The length of an SBI need to be determined by considering variables such as: students' proficiency level, intensity of input, students' age, and scaffolding. Nonetheless, it is crucial to recognise that a steady improvement of attitudes was observed in the intervention group. This outcome supports the findings of Grenfell et al. (2008). They reported that the attitudes of all students towards their language learning declined. However, those of the experimental classes declined less than those of the control classes.

Macaro and Erler (2008) found significant improvement in learners' attitudes towards French after the intervention study. However, unlike the present study, they asked the students about their feelings towards the other three language skill areas as well as reading, their spelling, their French textbook and their homework task. This may be one of the reasons why the students' attitudes did not change significantly in the present study, whereas it did in Macaro and Erler's (2008) study. The attitudes questions in the present study were specific to reading whereas their study involved a wide range of general questions about learning English. Some students may have positive attitudes towards speaking, others may have positive attitudes towards writing or the textbook. This suggests that the results pertaining to students' attitudes in Macaro and Erler's (2008) study are general and do not reflect students' attitudes towards reading. In other words, the attitudes outcome in their study reflects students' attitudes towards English in general. The type of

questions may have caused an increase in the outcomes in attitudes. On the contrary, the reason for the significant improvement may also be due to the length of the study. Thus, the cause of improvement in student attitudes in their study is vague.

Although the abovementioned studies offer contradictory data on student attitudes, it is safe to say that SBI improves student attitudes slowly. Observations also show that improvement in metacognitive awareness may slow down the increase in attitudes. The more students are challenged and faced with difficulties the slower they develop positive attitudes. However, it is significant to say that students' awareness of their weaknesses increase in time. This awareness helps them to pay attention to specific areas of their language development, which in turn increase their metacognition and attitudes.

6.5 Summary

In summary, the discussion of outcomes of this project pointed out a wide range of key issues in LLS research, some of which are reported in the literature and some of which emerged from this project. First of all the design and the procedure of SBI cycle is significant to pay attention to. Although there are various SBI cycles that are widely accepted in the literature, they do not incorporate phases of high input and high scaffolding to low scaffolding. The issue here is not emphasising on a gradually withdrawing the scaffolding, it is starting with high input. One of the major themes emerging from this thesis is that there must be a phase of high scaffolding at the beginning of the SBI. If this first stage involves high scaffolding as well in it, it could be useful for the students. However, eventually, teacher support should be withdrawn. These should be done linearly, over the course of intervention rather than horizontally during one lesson or within a week.

The length of SBI makes a big difference in the outcomes. A study that is two weeks long may not create significant results whereas an intervention of a few months could. However, planning an intervention over an extended period of time is not the only solution to the problem of effectiveness of SBI. The way the SBI is approached makes a huge difference. For this reason, the importance of high scaffolding and high input is significant. For example, a two-year study whose interventions are scattered over an extended period

of time may not produce significant results. Thus, what the LLS research needs is a longitudinal study during which there are frequent and regular interventions, providing strategic input to students but then allowing them to make their own decisions.

It can also be useful to know the exact type and number of strategies that can be suitable for particular age groups and for specific proficiency levels. Such detailed information can make the teachers' job a lot easier and strategies more manageable. At this moment, there are various different taxonomies of strategies which are difficult for teachers to choose from. The learning context in such a decision plays a key role, so teachers would need specific information on the correlation between learning context and strategy groups. The present study provides proof that SBI in the Cypriot context is effective. A research project of a wider scale which would also involve teachers is needed to understand the possible ways of incorporating SBI into students' regular classes in Northern Cyprus.

Categorisation of strategies, which was discussed in the literature review chapter, remains as a problem in this research field. A skills based approach to the categorisation of strategies can be useful for the future research attempts. Strategy choice for studies must be based on a relevant theoretical model in the particular skill area.

There are a group of issues that emerged from the analysis of the strategy-clusters. The reading text is, for example, a major issue. Selection of a reading text influences the ability of students to bring in strategies and use them. The text must be appropriate to use certain strategies, for instance, to use 'graphic organisers' as a strategy there must be some visual stimuli in the text. If the text is too challenging and students do not understand anything, or if it is too easy and they understand everything, students will not be able to or will not need to use any strategies. Thus, the selection of a text should be done wisely by the teacher or the researcher.

Verbalisation is an issue which places extra load on students' working memory. The fact that students are both trying to use strategies that they have recently learned during a task and that they are trying to name or explain these strategies makes students' job difficult. However, this must be accepted as a drawback of this method and worked with.

Use of questionnaires does not provide detailed information about strategy deployment and for this reason the researcher developed alternatives to questionnaires such as a task based questionnaire. However, such instruments are still incapable of producing information for strategy-clusters. The questionnaire in the present study was used as a source of triangulation for the Think-aloud Protocols and it worked well in supporting the outcomes.

SBI improves metacognitive awareness too. Students with improved metacognitive awareness manage the text well and are able to talk about the strategies that they use. However, it has become obvious in this study that metacognitive awareness develops slowly and that it may slow the development of positive attitudes in students. The more metacognitively aware the students become, the more they realize their weakness. Thus it becomes difficult for them to develop positive attitudes in learning English. Nonetheless, there is still improvement in the attitudes of students.

The next chapter is the last chapter of this thesis and it offers a brief conclusion.

CHAPTER VII – CONCLUSION

This thesis aimed to investigate the effectiveness of Strategy Based Instruction on secondary school students who are learning English as a foreign language in the Cypriot context. As part of the SBI a set of strategies were selected depending on a theoretical framework of foreign language reading to help the students cope with the difficulties of reading in English. Reading comprehension scores were taken as main measurement to show whether SBI has an effect on reading comprehension. In other words, students were presented with reading strategies which are appropriate to their English proficiency levels, and they are taught to use them to cope with the challenges of foreign language reading. Thus, if the intervention group students would gain increased scores in the post-test, it could be concluded that the SBI was effective in increasing students' reading comprehension. However, the Reading Comprehension Test scores were not enough to use as the only source of data to confirm that students' improvement in reading comprehension was actually caused by the SBI. In order to investigate whether students improved in strategy deployment, various other quantitative and qualitative data were collected and analysed. These qualitative and quantitative data were also used to triangulate the outcomes.

The outcomes of the study suggest that the SBI was effective in significantly improving the intervention group students' Reading Comprehension Test scores. This finding is supported by other significant findings in the literature as discussed in the discussion chapter. The justification that the increased reading comprehension scores were caused by the SBI was ensured by an investigation into students' reading strategy deployment. Students' reading strategy deployment was measured in terms of the frequency of reading strategies and of the strategy-clusters. The statistical analysis showed that the intervention group students used reading strategies more frequently after the SBI. The analysis of strategy clusters showed that the intervention group students used more strategy-clusters, more successfully than the control group students. The frequency of strategy use is triangulated with strategy-cluster deployment, both of which support each other to show that the intervention group students increased use of appropriate reading strategies; this outcome supports the claim that the reading comprehension scores of students were increased due to the SBI.

The data on students' metacognitive awareness suggests that the intervention group students were more aware and vocal about strategies and the benefit of strategies whereas the control group students had limited ideas on strategies and their usefulness. Although it is obvious that intervention group students would talk more about strategies, the fact that they were able to evaluate them is the significant point here. So, the quality of their talk about strategies is the key point rather than being able to list strategies. The intervention group high and medium level students could differentiate between easy and difficult texts. The intervention group students of all achievement levels were able to talk about the usefulness of strategies. This shows that the intervention group students improved metacognitive awareness about strategy deployment. Students' improvement in terms of attitudes, on the other hand, was slow. This suggests that SBI is not immediately effective in increasing students' attitudes.

7.1 Contribution to Knowledge

The present study is original in two aspects. It shows that SBI is effective in the Turkish Cypriot context; and it offers a new analysis criterion of strategy clusters to the Language Learner Strategies field.

SBI is effective in improving students' reading comprehension in the Turkish Cypriot context. This outcome suggests that SBI could be integrated into the students' regular English classes. This may require a change in the use of resources at the schools. At the moment, teachers are dependent on the textbook and they follow it page by page. Their responsibility is to cover the textbook to make sure that students in all state secondary schools are exposed to the same material. However, this creates a drawback for the students. The most important issue is that although the English Curriculum states that students should be taught strategies and their metacognitive awareness must be improved, it is clear from the pilot study that the actual teaching at the schools does not ensure that this aim of the curriculum is covered. Thus action needs to be taken to increase the standards of teaching. This can best be done through organising teacher training programmes in order to explain the long term benefits of SBI.

The main originality claim of this thesis which will benefit future researchers in Language Learner Strategy Research field is the analysis criterion of the strategy-clusters and the results obtained through this analysis. Analysis of strategy-clusters is one of the recent areas of interest of research in LLS field. However, to the best of my knowledge, there are not any criteria or procedures that are proposed by the literature which would show how to approach the analysis of strategy clusters. Due to this lack of information on the strategy-cluster analysis, I developed a criterion to follow for the analysis of each strategy cluster. This criterion has been developed after thorough evaluation of the strategy clusters which showed me what kinds of information I could obtain from each of them. Following this evaluation the criterion was developed to ensure equally thorough analysis on each strategy-cluster. This analysis criterion was followed for each strategy cluster. This procedure provided detailed information on strategy clusters and showed the differences between various strategy-clusters. It helped me to compare and contrast strategy-clusters of intervention and control groups.

The outcomes suggested that there were differences in the way strategy clusters were deployed by the intervention and control groups. The outcomes confirmed that the increased scores of students in the Reading Comprehension Test can be attributed to the SBI. Furthermore, the outcomes show how much difference SBI can cause to students' ability to elaborate on the text and use strategies as tools of comprehension which prevente them from giving up before trying; and help them to comprehend the text to some extent. The effect of the SBI was extensive on the intervention group high and medium level students.

7.2 Implications

This section presents implications of this study as bullet points.

- This study shows that SBI is effective and can be incorporated into the everyday classes in the Northern Cypriot context. The current way of teaching reading at the secondary schools is not nearly as affective as a SBI programme. Although teachers are allowed to bring in extra materials to their classes, they have to teach the

textbook that is selected by the committee in the Ministry of Education. To be able to cover all the topic areas, teachers are usually not able to use extra teaching materials in their classes. Although the English Curriculum was updated in 2005 to be in full conformity with the Common European Framework of Reference (2001), there seems to be no difference in the way teaching is carried out in the classrooms. For these reasons, actions has to be taken by the authorities in the Ministry of Education to improve instruction and, possibly, to allow teachers more time for using extra materials for SBI. Lack of teacher independence keeps teachers from trying now approaches to teaching and focus on learning to learn in the classroom. Tight control on teaching materials has to be removed to give some control to the teachers.

- When the present study is compared to Macaro and Erler's (2008) longitudinal study, it becomes clear that regardless of the length, SBI is effective. This conclusion has significant effects for classroom practice. As observed during the pilot study, classroom teachers do not take the time to focus on learner strategies. They would not easily accept the notion that teaching learner strategies is more helpful for learners than teaching language as a subject. They always have concerns covering the curriculum, and this holds them back from trying SBI in their classrooms. One of the disadvantages of SBI in a classroom setting is that it takes time to observe change (see Hassan et al. 2005). However, from the above conclusion, it is clear that teachers can bring change in their classroom within a semester if SBI is integrated as a core into the curriculum. On the other hand, when SBI is presented in a low input/high scaffolding manner, as in Macaro and Erler's (2008) study, the change would take over a year to take effect. Such a procedure would discourage teachers and policy makers since it does not produce immediate results. To clarify above argument, I would argue that a systematic approach which is focussed on high input and scaffolding will most likely benefit students; such an approach in a longitudinal design would leave positive impacts on students in the long term.

- The impact of the SBI is reported as being between small and medium in the present study as well as in Macaro and Erler's (2008) and Pappa et al's (2003) studies. Plonsky (2011) presented a meta-analysis of SBI studies in general. S/he

reported the effect size as small to medium too. Macaro and Erler's (2008) study was longitudinal, but SBI was not conducted intensively. It produced an effect of small to medium. On the other hand, the present study was not longitudinal, but SBI was conducted intensively. It also produced an effect of small to medium. Thus, if the characteristics of these two studies are combined a large effect may be obtained through a longitudinal study that follows a high input – high scaffolding approach. In other words, the present study, when some characteristics of Macaro and Erler's (2008) study are incorporated, could produce a large effect.

7.3 Limitations

This section presents limitations of this study as bullet points.

- The teaching materials used during the SBI were children's stories and they were not part of their textbooks. This part of the SBI is both strength and limitation of this study. It is strength, because the children's stories that were used in the classroom were interesting and exciting for the students. It was limitation, because the control group students read a different set of reading texts from their textbooks. I tried to overcome this limitation by making an agreement with the intervention group teachers that they would teach writing, speaking and listening and I would teach reading. So that the intervention group students would not do extra hours of reading.

- The duration of SBI has been one of the issues (see Hassan et al., 2005) in this research field. The longer the intervention the better and the longer its effects persist. In this respect, one of the limitations of the present study may be the duration of it. While the present study was conducted within four months, Macaro and Erler's (2008) study lasted for 15 months. However, their study was designed as low input high scaffolding programme and the strategy instruction carried out as a small part of the everyday classes. On the other hand, the present study was planned as a fairly intensive programme and strategy instruction was carried out for 80 minutes every week as part of students' regular classes. Thus, the length of the

SBI programme is not a disadvantage for the present study. The results of the Reading Comprehension Tests from the two studies show that they were both successful in improving the reading comprehension of the students. It is not possible, however, to make a clear statement that the effects of the SBI, in the present study, are long lasting.

- The metacognitive awareness required for verbalisation of strategies develops as children grow older. However, I could not be sure of how developed the metacognitive awareness of my students were. What is more, the intervention and control group students possibly had different levels of metacognitive awareness by the end of the SBI. In order to cater for lack of metacognitive awareness I provided think-aloud training. However, this may or may not be enough for the students to realise and tell me everything that was going on in their minds. This was the case for both the intervention and control groups. For example, they did not always name the strategies that they used. They sometimes explained them to me and at other times I looked for clues of strategy deployment. There might be instances where I did not realise that they used a certain strategy and it went unnoticed. This fact is one of the limitations of the study.

7.4 Suggestions for Further Research

In this section suggestions for further research are offered as bullet points.

- The present study followed a high input high scaffolding manner of SBI. This approach is opposite to Macaro and Erler's (2008) approach as low input – high scaffolding. Since the effect sizes of these two studies are similar, despite the difference in length, it would be useful to find out whether the effect size is increased when the present study is conducted in a longitudinal design.

- Research which focuses on training teachers in conducting SBI and implications on how to deliver such a teacher training programme could be valuable.

- Research that theoretically supports strategy selection for SBI is also needed. In the present study, for example, the selection of reading strategies was based on a theoretical framework in reading. Thus, LLS researchers have to work with two main theories; a theory which explains LLS and a theory which explains the skill area that the researcher would like to work in.

- Despite the fact that classification is an old issue, it still complicates LLS research (see Hsiao and Oxford, 2002). There are categories that overlap, some categories have sub-categories and some others are general. Strategies are questioned on whether they exist as psychological constructs (see Dörnyei 2005 and 2006). For this reason, strategy taxonomies for specific domains need to be theoretically justified.

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Appendix I – Report of the Pilot Study

An Exploratory Case Study on the Reading Processes and Strategies of State Secondary School Students

1. Introduction

This paper is a report on the pilot study done in North Cyprus prior to the intervention study. There were three motives for the pilot study. First is to explore the secondary school context in TRNC. This involves collecting information about the secondary school students, the English classes and the school. Second, to investigate whether the perspectives presented in the Secondary School English Curriculum are implemented in practice. Lastly and most importantly, the aim was to pilot data collection methods that were going to be used in the future study.

As stated, the overall purpose of the pilot study was to shape the further study which aimed to investigate the impact of strategy instruction (SI) in a state secondary school in TRNC. One of the aims of the pilot study, as noted above, was to collect information about the context. Thus, the pilot study was planned as an exploratory care study. The instruments that were going to be used in the future study were piloted as part of this exploratory case study.

The study was conducted after the secondary school English curriculum was examined. As suggested in chapter two, the secondary school English curriculum was rewritten to be in full conformity with the Common European Framework (2001). Thus, some key terminology such as 'metacognitive skills' are used in the curriculum. However, having these terms involved in the curriculum does not necessarily mean that actions for implementation are taken. What is more, I conducted an interview with a staff member at the Ministry of Education prior to the pilot study. The person, whom I name as Jane for confidentiality reasons, stated that attendance to teacher training programmes is on a voluntary base which meant that changes in teaching/learning perspectives could not be communicated to all interested parties.

The pilot study as suggested earlier was developed as an exploratory case study to meet the purposes. The aims of the study are outlined below:

a. To explore the secondary school context in TRNC
    i. English proficiency level of students
    ii. teachers' thoughts on language learner strategies (LLS)
    iii. actions teachers took to introduce LLS
    iv. to explore use of LLS by students

b. To investigate the extent to which the curriculum perspectives are implemented at schools
    i. teachers' understanding of 'learning to learn', language learner strategies and their role in promoting learner autonomy
    ii. teachers' actions in facilitating learning to learn
    iii. students' awareness of language learner strategies in general
    iv. frequency of language learner strategies use by students
    v. the role of extra teaching materials and textbooks

c. To pilot data collection methods for the future study
    i. teacher interviews
    ii. think-aloud protocols
    iii. reading strategy questionnaire
    iv. reading comprehension test

To meet these purposes, the following data collection methods were used:

1) Observations

The field notes obtained through observations were collected in order to identify various issues and find hints to language learner strategies taught or discussed in the classroom. Observations were not used in the intervention study. They were used to collect information about the school and classroom contexts.

2) Teacher Interviews

Two teachers were interviewed and interviews were audio recorded. Classroom observations would not provide any information about the teachers' perspectives about the issues observed in the classroom. This is why teacher interviews were necessary. I was not sure at that time whether teacher interviews were going to be a part of the intervention study.

3) Think-aloud Protocols

Think-aloud data have been recorded both on an audio tape and a video tape in order to compare these two data collection methods and find out about their usefulness. Some researchers such as Gu. (2005) claim that video record is useful, because it makes it possible to capture visual clues such as nodding or a worried look on the face. Both audio and video recordings would be useful in catching the pauses and hesitations that may have a meaning for the data analysis process.

4) Reading Strategies Questionnaire

The questionnaires were adapted from Mokhtari and Reichard (2002), Oxford (1990), Grenfell and Harris (1999), Duncan and McKeachie (2005), Phakiti (2003) and Erler (2007). The reading strategies questionnaire focused on reading strategies. It had five sections including word level, cognitive, metacognitive strategies, attitudes towards reading in English and attitudes towards reading in Turkish. Students were asked to make comments and suggestions on the questions. Their comments were used to improve the instruments. The questionnaire was translated into Turkish otherwise language would be a barrier for comprehension.

5) The Reading Comprehension Test

Two standard reading comprehension tests, KET and PET, were piloted. These are English tests written by the Cambridge University. The aim was to understand students' ability to cope with these reading tests.

6) Participants and Duration of the Study

The procedures to get permission for the pilot study lasted for a week. The first phase of the permission procedure involved communicating the aims of the pilot study to the

Ministry of Education. An application was made with a portfolio which involved a letter and the data collection instruments a week prior to data collection in April 2009.

The data collection lasted for approximately two weeks. The questionnaires and the tests were administered, some think-aloud protocols were done, and classroom observations were started in the first week. In the second week classroom observations, think-aloud protocols and teacher interviews were completed.

The pilot study was conducted in the same school where the intervention study would have done. The participant-students were attending grade 7 at that time, aged 12/13. Although they were attending the same school and the same grade, some of the participants were following a different curriculum. For around four years, until the end of the 2009-2010 academic year, the state secondary schools had two curriculums running within the same school. They were mainly the same, but one of the curriculums had more courses in English, like immersion programmes but not exactly the same and the other was the regular Turkish curriculum which offered English as a foreign language. Former was named as the College class and the latter as the Turkish class. The College class students were expected to perform better than the Turkish class students, because College class was a selected group, whereas the Turkish class was a mixed ability group. However, there was not a big gap between the groups. Especially the poor learners had the same problems, for example they all had decoding problems.

Students at the school were coming from mainly two different backgrounds. They were all Turkish, but some children were Turkish Cypriots and some others were Turkish students who moved from Turkey. Thus, in this report, the former group is referred to as Turkish Cypriot students and the latter as Turkish students.

The next section presents the findings of the study.

Findings

Findings from each data collection method are presented below in separate sections. The structure of the sections is as follows: first, findings of the think-aloud protocols are presented. They showed language learner strategies, reading speed and decoding ability of students. Second, teacher interviews and classroom observations are presented. These data sources aimed to answer the same questions, thus the data sources are triangulated

in the presentation. Third, the findings from the questionnaire are presented. Fourth, the English reading comprehension test, and lastly the textbook are discussed.

Think-Aloud Protocols

In this section the findings of the think-aloud protocols are presented. They were used to collect data on LLS strategies of students and their ability to read in English. Seven students attended the think-aloud protocols individually. Each student read three short reading text. Findings from each student are presented separately below, because students' responses differed from each other. Names of the students were replaced with codes for anonymity. Codes consist of two letters. The first letter refers to the learner and the second letter refers to the class, college or Turkish, that the learners attended. College class was coded as A and Turkish class was coded as 'B'. For example, 'AA' means the first student from the college class.

Generally students had the following problems:

- Decoding problems
- Pronunciation problems
- Reading slowly
- Difficulty understanding a new text, because of their proficiency level
- Lack of learner strategies

The learner strategies that the College class students used were:

- Think about the word
- Try to guess the meaning of the word
- Use a dictionary
- Ask an adult
- Underline unknown words
- Write them in a notebook
- Take short notes on pages in Turkish

- Write about what happened
- At the end, try to translate them into English
- Looking through the text
- Using pictures
- Using imagination
- Used a dictionary
- Thought or tried to understand
- Tried to find the words that she knew in the sentences
- Used the known words to understand
- Used pictures to understand

The learner strategies that the Turkish class students used were:

- Looked at the pictures
- Sometimes used a dictionary
- Wrote the Turkish meaning of the words on the book
- Made guesses
- Looking at an unknown word carefully after he read the sentence
- Thinking about how to read
- Guessing how the words are read
- Looking at pictures
- Breaking words into smaller parts to figure out the meaning

As it is shown above, College class students used more learner strategies than the Turkish class students. However, they are not necessarily more useful than the strategies used by the Turkish class students.

Think-aloud protocols were used to understand the English reading proficiency of the students and the reading strategies that they used. Teacher interviews were required to understand the teachers' point of views and the classroom observations were required to understand the classroom context. The following section presents the findings on the teacher interviews and classroom observations.

Teacher Interviews and Classroom Observations

This section presents the findings of the teacher interviews and the classroom observations. There are also notes from my analysis of the textbook that the teachers were using at that time. Teacher interviews and the classroom observations were analysed together for two reasons. First, these methods were used to collect information on the various attributes of the learners, both from the teachers' perspective and the researcher's perspective. Second, the methods provided information about teachers' perspectives and their practice. Therefore, data in this section consists of teachers' answers to the researcher's questions during the interviews and the observations notes of the researcher. The findings show issues that need to be considered for the future study.

The issues are as follows:

- English Proficiency Level
- Socio-economic Status
- Motivation
- Textbook
- Reading Strategies
- Vocabulary Learning Strategies
- Private Tutoring
- Reading
- Pronunciation
- Grapheme-Phoneme (G-P) Correspondence
- Dictionary Use

These issues are dealt with in turn in the following paragraphs:

❖ Some of the above issues are controversial. Judging the English proficiency level of students, for example, is not an easy task. Thus, I listened to students' input for specific purposes such as listening to students when they spoke and read aloud, listening for language structure and vocabulary that they used. The College class students and the Turkish class students were compared on the basis of the above guideline. Generally, the College class students had a better level of proficiency in English than the Turkish class students. Teacher B suggested in the interview that, the English proficiency level of the students were related to their socio-economic backgrounds. It depended on where their families were coming from, the level of education of the parents. Teacher A stated that Turkish Cypriot students were better off than Turkish students. Teacher B stated that students' socio-economic backgrounds may be related to their proficiency level in English. Some Turkish students register in the middle of the semester, so they can not catch up with the lessons.

❖ Motivation is an important part of learning; it usually has a big impact on success. Teacher A said that students in the College classes were more motivated, because they had a purpose. However, students in the Turkish class did not have a purpose allied to English. This is why, she said, teaching in a College class was easier and the flow of the lesson was smoother. According to teacher B, there were a handful of interested and motivated learners in her class, the Turkish class. She related this aspect to the learners' proficiency level. She suggested that motivation should be inside the student. Class observations showed that students in college classes were more willing to work, whereas students in Turkish classes were more easily distracted.

❖ The importance of materials was stated in the English curriculum. The textbook 'Energy' was being used at the school. Teachers at the school did not use any extra materials; they suggested that they did not have time for extra materials. Teacher A described it as a colourful and enjoyable book. Upon my question about the type of reading activities in the textbook, teacher B stated that there were mainly dialogues rather than reading texts. My brief analysis of the textbook showed that, each unit was formed of dialogues. Same characters were involved in the dialogues, but the theme in each one was different. The dialogues also related to the topic of the grammar in the

units. The textbook suggested some strategy teaching as well. For example, 'EGG', examine - guess from the context - go to a dictionary, was one of them. However, these suggestions did not impact on how they were taught and did not ensure consistency in teaching them. One of the disadvantages of the textbook is that it does not involve any reading texts. Reading was done through dialogues presented throughout. The textbook that grade 7s used presents memory games frequently which show that the focus of the textbook is on memory when it comes to strategy teaching. It has good small sections called study skills where it teaches strategies such as taking notes, predicting answers to help with the listening skill; telling a story, listing opinions, thinking useful adjectives, thinking of language needed, giving opinion to help with speaking skill; skimming to help with the reading skill.

❖ Reading strategies were the main issue that was explored during the pilot study. Both classroom observations and the teacher interviews were useful in collecting data on reading strategies, although the think-aloud protocols provided more information on this issue. Teachers were asked to talk about strategies that they taught in their classrooms. Teacher A and C used picture(s) as a pre-reading activity. They showed pictures to get students think and prepare them to the new activity. Although using pictures to derive meaning was not taught as a strategy, the learners may have learned that implicitly.

❖ In one of the classroom observations in a College class, Teacher A wrote some unknown words and 'EGG' on the board, and the students knew what they were supposed to do. This showed that it was a frequently used strategy cluster. She also encouraged learners to use bilingual dictionaries in the classroom and used Turkish as a resource in the classroom. She sometimes asked the students to read quietly and underline unknown words. Another classroom observation, in a Turkish class, teacher B asked the students to underline unknown word. Then, she told students, who had their dictionaries with them, to try to guess the meaning of the words. Meanwhile, one of the students looked at the picture in the book (a related picture). The teacher warned the students that they were not supposed to look at the picture; they were supposed to 'look' at the sentence. These two distinct examples showed teaching or even mentioning the learner strategies was not consistent. The classroom observations of three different classes showed that, teachers focused mainly on vocabulary teaching. Using new words

in sentences was quite often used by all three teachers. They included the following strategies in their lessons:

- 'EGG'
- prediction
- synonyms
- antonyms
- dividing words
- finding the root
- Turkish as a resource/ translation
- parts of the speech
- underlining unknown words

❖ Reading was one of the other important focuses of the pilot study. The results showed that students did not read much in English. Teacher B stated that a few students read newspapers and magazines to improve their vocabulary, but these students formed the minority. Sometimes reading activities were done as part of other activities. For example, as a part of a grammar lesson, learners needed to read a shot text with blanks and fill in the blanks with a correct verb. They matched pictures to texts. The activity involved reading, understanding short texts and guessing which picture they match to They were asked to create a conversation as a part of an activity in their textbook and then read it.

❖ Correct pronunciation and grapheme-phoneme awareness were important, because these were first steps in comprehension. Both College class and Turkish class observations showed that students used their decoding skill in Turkish to read English words. Teacher A usually asked students to repeat after her or after the tape when learning new word. Sometimes she read a conversation and the students repeated after her, she used repetition drills often. Teacher B stated that she did not focus on pronunciation; she only provided corrective feedback when learners mispronounced words. She also stated that she thought students did not want to focus on pronunciation either. Even after they were corrected they did not repeat the corrected pronunciation and they never ask for the correct pronunciation themselves. She said that she focused

on pronunciation sometimes when students read aloud. The students in the College class sometimes read with some pronunciation mistakes. Perhaps, the College class put more effort in correct pronunciation than Turkish class students did. Decoding skill of the College class students' was better. However, even in the College class there were students who read slowly and had more pronunciation problems compared to some other students in the same class.

❖ There was not much done to improve students'' grapheme-phoneme awareness during lessons. Teacher A stated that she wrote words on the board for students, and that she told them to follow the shape of the lips as she pronounced the words. Students practised all these in front of a mirror at home. She usually wrote words on the board and asked students to repeat after her.

❖ Dictionary use was one of the common strategies used during lessons. All three teachers encouraged dictionary use in the classroom. However, in both College and Turkish classes, most of the students did not have dictionaries, the teachers reminded them all the time that they needed them. It looked like there was a school policy on dictionary use encouragement. Teacher B stated that students used dictionaries each time they did reading activities. After they looked up the meaning of words, they shared what they found. Sometimes students shared the meaning of the words that they already knew, just to participate. Teacher B often asked the students to write sentences in their notebooks about the new words that they learned. They used bilingual dictionaries; the drawback of this was that it encouraged dependence on translation. When students did not have any dictionaries the teacher had to tell them the Turkish translation of words.

The classroom observations and the teacher interviews were used to learn about the context, understand the teachers' perspectives and investigate the implementation of the curriculum. Many issues such as motivation, reading ability and strategy use were raised during the observations. They were not all in control of the teachers.

The Questionnaire

SPSS was used to analyse the questionnaire. The Mann Whitney test was run in order to compare the college class to the Turkish class in terms of reading strategy use. Spearman's correlational coefficient was run in order to find out the correlation between the questions.

The section below is the analysis of the Mann Whitney test that was run to compare the college class to Turkish class.

Comparison between Two Groups

The aim of piloting the reading strategies questionnaire was twofold: first, to collect feedback from the students about the clarity of questions; second, to collect information about students' strategy use.

Student-feedbacks are listed below:

1. They needed a detailed explanation about how to fill in the questionnaire.

2. In section A, question 2 the options were 'yes' and 'no. But, some students wanted to state that they sometimes received help.

3. In section C, question 'a' was not clear. Students asked for clarification. In the same section, question 'e' was not clear either.

4. In sections E and F, students asked if they could choose more than one answer. They were allowed to choose more than one answer. This would have made the SPSS analysis impossible for the future study, so this was the first issue to be solved. Secondly, observation showed that pictures used in these sections were not necessary. Students, being 12/13 years old, were mature enough to understand the adjectives used without pictures. Also, removing pictures would not cause any misunderstanding, because the questionnaire was given in Turkish.

As noted above, the questionnaire was used to collect information about students' strategy use. The questionnaire was given to both Turkish class and college class students. One of the major questions I had about the population was which group should be involved in the intervention study. In order to understand the differences and similarities between the groups in terms of reading strategy use, a MannWhitney U test was run on the data collected through the reading strategies questionnaire. It consisted of three parts on reading strategy use: word level, cognitive and metacognitive strategy use. There were two parts on attitudes to reading in English and Turkish.

In the tables below, the question codes refer the questions in the questionnaire. The first letter refers to the section and the second the question. For example, 'B' refers to section B, and 'a' refers to the first question.

As shown in the table below, there is not any statistical significance between the groups for the first part which is the word level strategy use. This shows that the groups are not different from each other in terms of word level strategy use.

Mann Whitney Test Results – Word Level Strategies				
Question code	**College and Turkish classes**	**N**	**Mean rank**	**Mann Whitney U Asymp. Sig. (2-tailed)**
Ba	Turkish class	24	25.38	309.000
	College class	30	29.20	.348
	Total	54		
Bb	Turkish class	24	26.23	
	College class	30	28.52	329.500
	Total	54		.580
Bc	Turkish class	24	26.19	
	College class	30	28.55	328.500
	Total	54		.569
Bd	Turkish class	24	29.25	
	College class	30	26.10	318.000
	Total	54		.454
Be	Turkish class	24	25.02	
	College class	30	29.48	300.500
	Total	54		.248

Table 1. Comparison between the College class and the Turkish class students in terms of Word Level Strategies

As shown in the table below, in terms of cognitive strategies, there is not any difference between the groups except one question, question Cg,: 'when text becomes difficult I reread to increase my understanding'. College group tends to reread text more to increase their understanding compared to the Turkish class.

MannWhitney Test Results – Cognitive Strategies				
Question code	**College and Turkish classes**	**N**	**Mean rank**	**Mann Whitney U Asymp. Sig. (2-tailed)**
Ca	Turkish class	24	26.73	
	College class	30	28.12	341.500
	Total	54		.742
Cb	Turkish class	24	25.48	
	College class	30	29.12	311.500
	Total	54		.388
Cc	Turkish class	24	25.27	
	College class	30	29.28	306.500
	Total	54		.323
Cd	Turkish class	24	26.63	
	College class	30	28.20	339.000
	Total	54		.678
Ce	Turkish class	24	30.31	
	College class	30	25.25	292.500
	Total	54		.229
Cf	Turkish class	24	25.71	317.000
	College class	30	28.93	.439
	Total	54		
Cg	Turkish class	24	23.04	
	College class	30	31.07	253.000
	Total	54		.044
Ch	Turkish class	24	25.71	
	College class	30	28.93	317.000
	Total	54		.440
Ci	Turkish class	24	25.44	
	College class	30	29.15	310.500
	Total	54		.377
Cj	Turkish class	24	24.63	
	College class	30	29.80	291.000
	Total	54		.216
Ck	Turkish class	24	24.63	298.500
	College class	30	29.80	.258
	Total	54		

Table 2. Comparison between the College class and the Turkish class students in terms of Cognitive Strategies

The table below shows that, in terms of metacognitive strategy use, college class students tend to use item 'Di', 'check to see if their guesses about the text are right or wrong' and item 'Dn', 'plan how to answer the comprehension check questions before they start reading' more compared to Turkish class students.

MannWhitney Test Results – Metacognitve Strategies				
Question code	**College and Turkish classes**	**N**	**Mean rank**	**Mann Whitney U Asymp. Sig. (2-tailed)**
Da	Turkish class	24	25.02	300.500
	College class	30	29.48	.283
	Total	54		
Db	Turkish class	24	27.83	352.000
	College class	30	27.23	.883
	Total	54		
Dc	Turkish class	24	25.96	323.000
	College class	30	28.73	.508
	Total	54		
Dd	Turkish class	24	26.85	344.500
	College class	30	28.02	.777
	Total	54		
De	Turkish class	24	30.08	298.000
	College class	30	25.43	.270
	Total	54		
Df	Turkish class	24	27.27	354.500
	College class	30	27.68	922
	Total	54		
Dg	Turkish class	24	25.98	323.500
	College class	30	28.72	.455
	Total	54		
Dh	Turkish class	24	26.23	329.500
	College class	30	28.52	.574
	Total	54		
Di	Turkish class	24	22.92	250.000
	College class	30	31.17	.043
	Total	54		
Dj	Turkish class	24	25.90	321.500
	College class	30	28.78	.491
	Total	54		
Dk	Turkish class	24	24.17	280.000
	College class	30	30.17	.149
	Total	54		
Dl	Turkish class	24	27.90	350.500
	College class	30	27.18	.866
	Total	54		
Dm	Turkish class	24	26.17	328.000
	College class	30	28.57	.564
	Total	54		
Dn	Turkish class	24	22.40	237.500
	College class	30	31.58	
	Total	54		.028
Do	Turkish class	24	26.52	336.500
	College class	30	28.28	
	Total	54		.671

Table 3. Comparison between the College class and the Turkish class students in terms of Metacognitive Strategies

MannWhitney Test Results – Reading in Turkish				
Question code	**College and Turkish classes**	**N**	**Mean rank**	**Mann Whitney U Asymp. Sig. (2-tailed)**
Fa	Turkish class	24	26.75	342.000
	College class	30	28.10	.736
	Total	54		
Fb	Turkish class	24	29.69	307.500
	College class	30	25.75	.256
	Total	54		

Table 4. Comparison between the College class and the Turkish class students it terms of attitudes towards reading in Turkish

The table above shows that, in terms of reading in Turkish, there is not any statistically significant difference between Turkish class students and college class students.

The section on the attitudes was not analysed in SPSS, because students were allowed to choose more than one item. Some students, who chose more than one alternative per item, offered some explanation.

This section showed that, there was not a big difference in terms of strategy use between the College class and Turkish class students. Thus, conducting the intervention study either in the College class or the Turkish class would not cause a big difference in the results. It would not be a source of an advantage or a disadvantage for the study either.

The section below is on the analysis of the Spearman's correlational coefficient run to find out about the correlation between the items.

Correlation between the Items

In this item correlations are presented. Item correlations tell us the correlation between two items. This means that if, for example, item A and item B correlates, the response that would be given to item A can be predicted by the response given to item B, or vice versa. Thus one of these items can be deleted from the questionnaire. The reading strategies questionnaire was tested for correlation at the 0.01 level (2-tailed). As a result, the items listed below are some examples of questions merged or deleted. Section and item codes are referred in the list can be found in the questionnaire or in the table presented in this section.

In section B:

- item Bb was deleted to remove correlation. Bc was rewritten.

In section C:

- item Ca correlated with Cc, Cf and Cj. All these three items were deleted and was rewritten. Cc. also correlated with a bunch of other items as showed in the table. This showed clearly that it was a vague item and not necessary.
- Cb was deleted.
- Cd was deleted.
- Although Ch and Ci correlated, they were not deleted, because they were written for different purposes and both were relevant to the intervention study. Thus, they were rewritten to clarify meaning. There were some more similar cases to these which were rewritten.

In section D:

- Dl correlated with Da, Dl was deleted because it was vague.
- Dj correlated with Db, and it was deleted.
- Dk and Dc correlated, and Dk was deleted.
- Dd and Di correlated. They had the same purposed, so they were combined.

There were many similar cases to above examples, so they were combined or deleted. This was useful in shortening the questionnaire and saving students' time when it is administered to a bigger population.

The table below shows items that correlated at this level. The item codes are presented with the item. Quotation marks in the table suggest that the item above that box correlates to the one next to it.

Section B: Word level strategy	
Bb. Look at the word and guess from the familiar bits in it	Bc. guess what the word means from the words you know around it
Section C: Cognitive Strategies	
Ca. I think about what I know to help me understand what I read	Cc. I read slowly but carefully to be sure I understand what I am reading
"	Cf. I check my understanding when I come across conflicting information
"	Cj. I stop and think about what I have understood from the text
Cb. When text becomes difficult I read aloud to help me understand what I read	Ch. I try to understand main idea of the text while I am reading
Cc. I read slowly but carefully to be sure I understand what I am reading	Ca. I think about what I know to help me understand what I read
"	Cg. when text becomes difficult I reread to increase my understanding
"	Ch. I try to understand main idea of the text while I am reading
"	Ca. I try to relate the material to what I have known
"	Cj. I stop and think about what I have understood from the text
Cd. When text becomes difficult I pay closer attention to what I am reading	Ch. I try to understand main idea of the text while I am reading
Cf. I check my understanding when I come across conflicting information	Ca. I think about what I know to help me understand what I read
"	Cj. I stop and think about what I have understood from the text
Cg. when text becomes difficult i reread to increase my understanding	Cc. I read slowly but carefully to be sure I understand what I am reading
"	Ck. I know how to pick out specific info from the text
Ch. I try to understand main idea of the text while I am reading	Cb. when text becomes difficult i read aloud to help me understand what I read
"	Cc. I read slowly but carefully to be sure I understand what I am reading
"	Cd. when text becomes difficult I pay closer attention to what I am reading

"	Ci. I try to relate the material to what I have known
"	Cj. I stop and think about what I have understood from the text
Ci. I try to relate the material to what I have known	Cc. I read slowly but carefully to be sure I understand what I am reading
"	Ch. I try to understand main idea of the text while I am reading
Cj. I stop and think about what I have understood from the text	Ca. I think about what I know to help me understand what I read
"	Cc. I read slowly but carefully to be sure I understand what I am reading
"	Cf. I check my understanding when I come across conflicting information
"	Ch. I try to understand main idea of the text while I am reading
Ck. I know how to pick out specific info from the text	Cg. when text becomes difficult i reread to increase my understanding
Section D: Metacognitive strategies	
Da. I have a purpose in mind when I read	Dh. I try to guess what the text is about when I read
"	Dl. I think about new language I have learnt in English
Db. I preview the text to see what it is about before reading it	De. I decide what to read closely and what to ignore
"	Dj. I have a plan to follow to complete the reading task
Dc. I look through the text first by noting characteristics like length and organisation	Dk. I understand well why I do well or not after the task is completed
Dd. As I read, I think about what I understand from the text	Di. I check to see if my guesses about the text are right or wrong
"	Dl. I think about how I have approached the text
"	Dm. I think about new language I have learnt in English
De. I decide what to read closely and what to ignore	Db. I preview the text to see what it is about before reading it
"	Dh. I try to guess what the text is about when I read

"	Di. I check to see if my guesses about the text are right or wrong
Dg. I pay attention to boldface and italics to identify key information	Dh. I try to guess what the text is about when I read
"	Di. I check to see if my guesses about the text are right or wrong
Dh. I try to guess what the text is about when I read	Da. I have a purpose in mind when I read
"	De. I decide what to read closely and what to ignore
"	Dg. I pay attention to boldface and italics to identify key information
Di. I check to see if my guesses about the text are right or wrong	Db. I preview the text to see what it is about before reading it
"	Dd. As I read, I think about what I understand from the text
"	De. I decide what to read closely and what to ignore
"	Dg. I pay attention to boldface and italics to identify key information
"	Dm. I think about how much new language I have learnt
Dj. I have a plan to follow to complete the reading task	Db. I preview the text to see what it is about before reading it
Dk. I understand well why I do well or not after the task is completed	Dc. I look through the text first by noting characteristics like length and organisation
Dl. I think about how I have approached the text	Dd. As I read, I think about what I understand from the text
Dm. I think about how much new language I have learnt.	Da. I have a purpose in mind when I read
"	Dm. I think about how much new language I have learnt
"	Di. I check to see if my guesses about the text are right or wrong

Table 5. Correlations between the items in the Reading Strategies Questionnaire

Lastly the section below presents the finding from the textbook evaluation that aimed to find out how the textbook used by the English teachers presented language learning strategies.

The Achievement test

In order to measure students' ability in reading in English, a standardised achievement test was required. Two standardized achievement tests published by Cambridge University, KET and PET, were piloted. KET stands for Key English Test and PET stands for Preliminary English Test. This pilot provided information about proficiency level of students and showed which test was more appropriate for their level. The test was administered on a voluntary basis. Students who were willing to experience the challenge completed the test in their free time. The results showed that both tests were difficult for the students. So, I decided to give them Flyers which is the last level is the Young Learners English (YLS) level in Cambridge exams.

Conclusion

The conclusions of the pilot study are listed below:

1) Findings about the secondary school context in TRNC and the extent to which the curriculum perspectives are implemented at schools:

- Students' English proficiency level was not good enough to deal with KET or PET exams, so Flayers which is a Cambridge Young English Learner Exam would be used for the intervention study.
- Teachers knew little on LLS, so students were not expected to know and use reading strategies.
- Since teachers did not know much about LLS, they did not take any systematic actions to teach them. The textbook had sections on some strategies, but the sections were preliminarily designed to give students study skills.
- Students used some random strategies, but there was not any systematicity observed during the think-aloud protocols.

Thus, the findings showed that the teaching learning perspectives in the curriculum were not implemented well.

2) To pilot data collection methods for the future study

The following data collection methods were tested in this pilot study: teacher interviews, think-aloud protocols, reading strategy questionnaire and reading comprehension test. Briefly, the teacher interviews went well. Think-aloud interviews rather than think-aloud protocols are possible with children, because they need a lot of prompting to share what is on their mind. Even when they do so, what they say may be coming from their long-term memory rather than the short-term memory. The pilot on the reading comprehension test show that students would cope better with Flayer, the Cambridge YEL test. Lastly, there was a lot of feedback from the students about the questionnaire, so there were many questions to be deleted or rewritten. This led to the second pilot study on the questionnaire. The second pilot study was required since there were major changes in the items. After the second pilot study, the questionnaire was used in the intervention study.

Appendix II – The formal permission letter

TURKISH REPUBLIC OF NORTHERN CYPRUS
MINISTRY OF ECUCATION YOUTH AND SPORTS MINISTY
GENERAL SECONDARY SCHOOL EDUCATION DIVISION

NO.: GOÖ.0.00.35-A/09/10-9396 **30.12.2009**

Miss Özge Razı,

Re: Application dated 22.12.2009

Your application has been examined and the implementation of the study, which involves an intervention, English reading strategies questionnaire, CAT achievement test and interviews with students and teachers, in the schools attached to our division is found appropriate.

However, working with the principal of schools where the study is to be implemented and arranging dates and times of implementation in cooperation is required.

After the implementation, the results must be reported to the Education and Training Division.

Granting the information respectfully,

Mehmet S. Kortay
Manager

HAT/PC

Tel (90)(392)228 3136 – 228 8187
Fax (90) (392) 227 8639
E-mail mab@mebnet.net Lefkoşa-
KIBRIS

KUZEY KIBRIS TÜRK CUMHURİYETİ
MİLLİ EĞİTİM GENÇLİK VE SPOR BAKANLIĞI
GENEL ORTAÖĞRETİM DAİRESİ MÜDÜRLÜĞÜ

Sayı: GOÖ.0.00.35-A/09/10-9396 **30.12.2009**

Sayın Özge Razı,

İlgi: 22.12.2009 tarihli başvurunuz.

Başvurunuz incelenmiş olup Müdürlüğümüze bağlı okullarda uygulanmak üzere hazırlanan "Okuma Yöntemleri (İngilizce)" konulu anketin uygulanması ve CAT Başarı testi ile 2 sınıfta öğretmenler ve öğrencilere uygulama ve röportaj yapması Müdürlüğümüzce uygun görülmüştür.

Ancak anketi uygulamadan önce anketin uygulanacağı okulların bağlı bulunduğu Müdürlükle istişarede bulunulup, anketin hangi okulda ne zaman uygulanacağı birlikte saptanmalıdır.

Anketi uyguladıktan sonra sonuçlarının Talim ve Terbiye Dairesi Müdürlüğü'ne ulaştırılması gerekmektedir.

Bilgilerinize saygı ile rica ederim.

Mehmet S. Kortay
Müdür

HAT/PC

Tel (90) (392) 228 3136 - 228 8187
Fax (90) (392) 227 8639
E-mail meb@mebnet.net
Lefkoşa-KIBRIS

Appendix III – Ethical Approval

UNIVERSITY OF DUBLIN, TRINITY COLLEGE
SCHOOL OF EDUCATION

Ethics Review Checklist

This checklist should be completed by the researcher (with the advice of the research supervisor if relevant), for every research project which involves human participants.

Project title:
A Quasi-Experimental Intervention Study: The Impact of Reading Strategies Instruction on Children Learning English as EFL in Cypriot Context

Researcher(s)/student:
Ozge RAZI

Supervisor (where relevant):
Prof. Michael GRENFELL

Programme of study (where relevant):
MPhil/PhD

Part One

	Yes	No
1. Does the study involve participants who are particularly vulnerable or unable to give informed consent (for example, children with special educational needs)?		X
2. Will the study require the co-operation of an advocate for initial access to the groups or individuals (for example, children with disabilities; adults with a dementia)?		X
3. Could the research induce psychological stress or anxiety, cause harm or have negative consequences for the participants (beyond the risks encountered in their normal lifestyles?)		X
4. Will deception of participants be necessary during the study (for example, covert observation of people)?		X
5. Will the study involve discussion of topics which the participants would find sensitive (for example, sexual activity, drug use)?		X
6. Will the study involve prolonged or repetitive testing or physical testing (for example, the use of sports equipment such as a treadmill), and will a health questionnaire be needed?		X
7. Will the research involve medical procedures (for example, are drugs, placebos or other substances such as foods, vitamins to be administered to the participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind)?		X
8. Will financial inducements (other than reasonable expenses or compensation for time) be offered to participants?		X
9. Will you be able to obtain permission from the school and parents to involve children under sixteen in the study? Please also seek children's permission.	X	
10. Are there problems with participants' right to remain anonymous or to have the information they give not identifiable as theirs?		X
11. Is the right to freely withdraw from the study at any time made explicit?	X	

If you have answered NO to all of the above questions, please forward this completed form to the Chair of the Ethics Committee, Dr. Andrew Loxley (loxleya@tcd.ie).

If you have answered YES to any of the questions, please complete Part Two of this form below, and send the form to Dr. Loxley.

Part Two

For each item answered YES, please give a summary of the issue and action to be taken to address it.

The participants are aged between 12 - 13. In Cyprus, the permission to do a study with this age group is taken from the Ministry of Education and Culture. The procedure involves writing the details of the study in a formal letter and submitting it to the ministry. An educational specialist examines the appropriateness of the study. If the researcher is given the permission to do the study, she needs to talk to the headmaster. It is up to the headmaster to decide if it is appropriate to do the study in his/her school. After permission is taken from the headmaster, it is the researcher's responsibility to talk to the classroom teachers and ask permission to conduct the study in their classroom. A formal permission is taken from parents for particular activities, for example when doing video recording in the classroom. Permission for video recording will be taken from the parents. A very brief explanation is also done to the students, but because of the limitations brought in by the culture, the students would not be able to understand the importance of a research. This is why permission is not taken direct from the students.

Signed: Ö. R.
(Researcher/Student)

Date: 08/02/2010

To be completed by the supervisor (in the case of a student application)
(PLEASE TICK ONE)

Appropriate action taken to maintain ethical standards – no further action necessary. ☒

The issues require the guidance of the School of Education's Ethics Committee. ☐

Comments:

Signed (supervisor): M. J. Grenfell

Date: 08/02/2010

Appendix IV – A sample lesson plan

Lesson Plan 4:

Time: 40 minutes

Focus: Prediction and question generation

Explanation:

Prediction will keep learners engaged in the reading. Learners will be encouraged to make predictions about the reading text and later check if their predictions are right. Prediction can be used when learners do not understand much about a part of the reading material. They can make predictions based on what they have already known.

Objectives:

- To encourage prediction by using
    - Making guesses about the story-line as one reads
    - Guessing the end of the story
- To encourage question generation while reading the story

Materials:

1. Rapunzel (the end of the story will be missing)

Activities:

Warm-up

Pictures from the story will be shown to the learners. They will be encouraged to make predictions about the people in the pictures.

T: Who are these people?

What is their relation to each other?

Where do they live? Etc.

These questions will lead to generation of a story. (5 mins)

Modelling

The story, Rapunzel, is distributed in two sections with gaps in between. At the end of each section before the next is distributed learners are encouraged to predict the story. At the beginning, when the first section is distributed the teacher reads the story, generates

questions about the section, and writes them on the board. She then, depending on the questions she generated, makes predictions about the next parts of the story. She names and writes the 'strategies' on the board: Question generation and prediction.

When the first section is distributed:

T.: Look at the title, what do you think about the title? How is it related to the story?

Then, T. reads the story to the learners.

T.: Who does the garden belong to? (Question generating)

It may belong to a rich person. (Prediction)

The names of the 'strategies' are written on the board. (8 mins)

Practice

The work of question generation and prediction are done by the learners for the later sections. Each section is read by the teacher. Then, the learners are given some time to work in pairs, generate questions and make prediction.

T: Now please work with your neighbour and write some questions about the story. Then try to make predictions about the next part of the story. You can try to answer your questions through your predictions.

There will be a whole class discussion after each pair work. Some examples of questions and predictions will be put on the board by the teacher. (19 mins)

Self-evaluation

Learners are asked to evaluate these two 'strategis', to state whether they were useful or not. (8 mins)

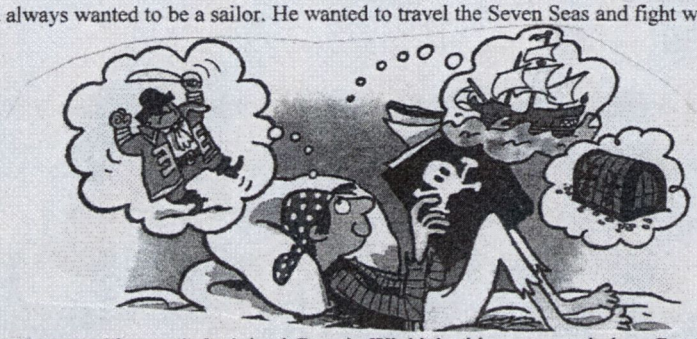
Time Filler

A short story with a missing ending.

Appendix V – Sample teaching materials

The Masked Pirate

Sam had always wanted to be a sailor. He wanted to travel the Seven Seas and fight with pirates.



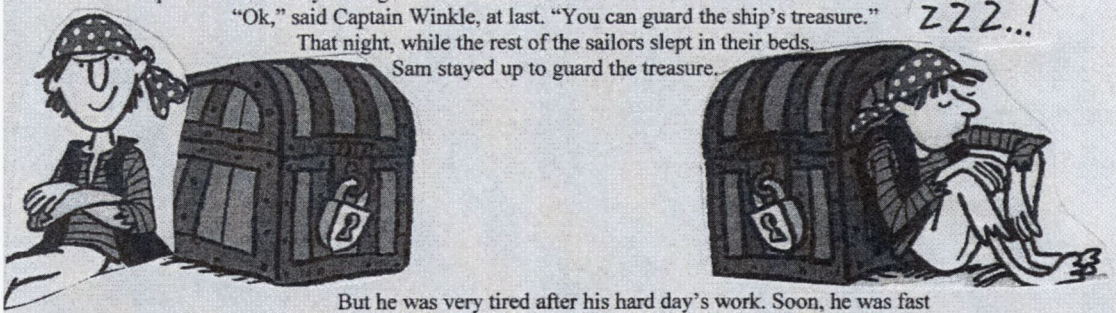
As soon as he was old enough, he joined Captain Winkle's ship as a captain boy. But Sam soon found that life on ship was not as exciting as he thought. He spent all day mopping the floor, peeling potatoes, and washing the sailors' smelly socks.



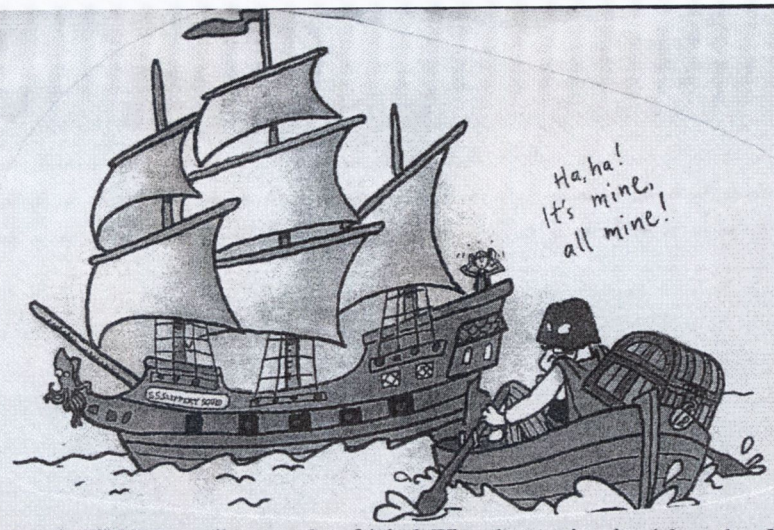
Finally, he decided he had enough. He went to the captain and asked for a proper sailor's job. Captain Winkle thought Sam was rude, but he decided to put him to test. "All right," he said. "Let's see you sail the ship into port!" Sam felt proud of himself. He took the wheel, but sailing a ship was not as easy as it looked. Unfortunately, he crushed the ship. But luckily, the ship wasn't too badly damaged. Sam asked for one more chance.

"Ok," said Captain Winkle, at last. "You can guard the ship's treasure."

That night, while the rest of the sailors slept in their beds, Sam stayed up to guard the treasure.



But he was very tired after his hard day's work. Soon, he was fast asleep as well. Hours later, he heard someone laughing. He woke up. He realised that someone stole the treasure and was going away on a small boat.



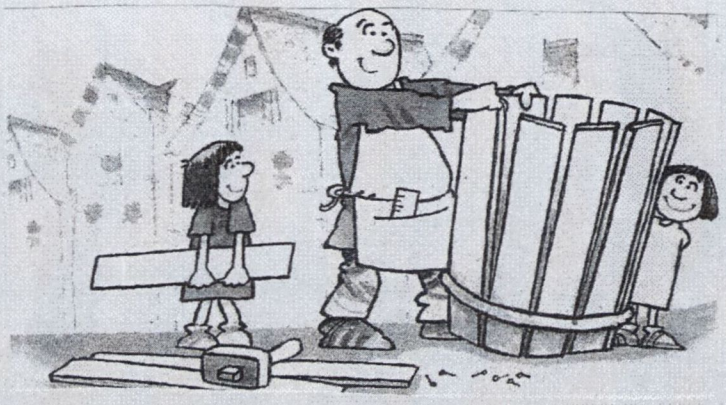
Captain Winkle got really angry. Sam felt bad. When the captain calmed down, he offered reward to whoever could bring the thief or the treasure. But, as the pirate always wore a mask, no one knew what he looked like. Suddenly, Sam had an idea. "I will find the pirate and your treasure," he said. Captain Winkle, didn't believe his cabin boy, but no one else had a plan. That evening, Sam went to the pub where the local pirates spent the night.



At breakfast next morning, Sam said in a loud voice, "I heard the Masked Pirate talking in his sleep last night. He told where he hides his treasure!" One pirate sitting in a corner began to look worried. Sam's plan was working. "Now I know where the treasure is, I am going to get it for myself!" Sam went on. Hearing this, the pirate run out of the pub. He jumped into a boat to an island near by. Sam ran to Captain Winkle, yelling, "Follow that pirate!" When they arrived on the island, they found the pirate with the treasure. The captain said it was his treasure. He jumped on the pirate and sat on him. "Take my ship and bring help, Sam my boy!" said the captain. "You trust me to sail?" asked Sam. He was very happy.



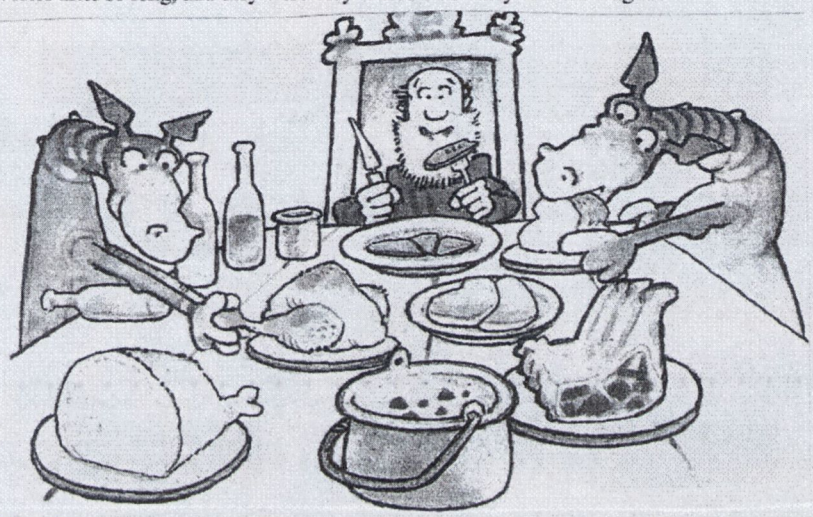
Victor Saves the Village



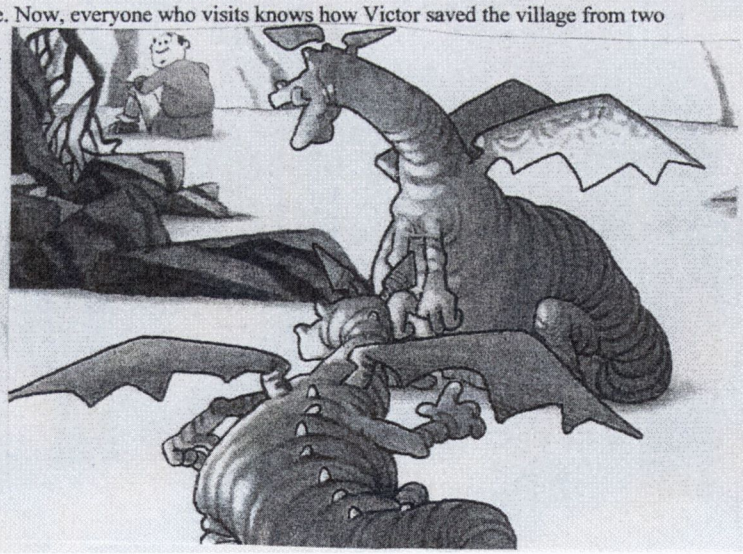
Victor made barrels, the best barrels in the country. He made the best barrels because he used the best wood. He walked in the forest to find the tallest and straightest trees. He was always looking out for the perfect tree. So he didn't always watch where he was going. One day, he tripped and fell into a cave. He tried to climb out of the cave, but he couldn't. Suddenly, he heard some noise. There was something behind him. Victor looked. He wished he didn't. He was scared.



"Please don't eat me!" he sad with fear. "We won't," said one of the dragons. "Not yet. We are going to sleep. Wake us up in the spring." He waited and waited. He got bored of waiting. There was nothing he could do. He had to wait until spring. All he had to eat and drink were grass and water. After a while he became very thin and weak. Finally, the dragons awoke. "We can't eat you!" said one. "You are skin and bone." The other dragon decided to take him home. "Perhaps your friends will make a juicy meal." The villagers were surprised to see Victor after so long, and they were very scared when they saw the dragons.



But before the dragons could bite anyone, Victor invited them to a huge dinner. Victor and the dragons ate for a week. The dragons liked the food so much, they decided they would never eat people again. The villagers were very happy to hear this. They put up a statue of Victor in the market place. Now, everyone who visits knows how Victor saved the village from two hungry dragons.

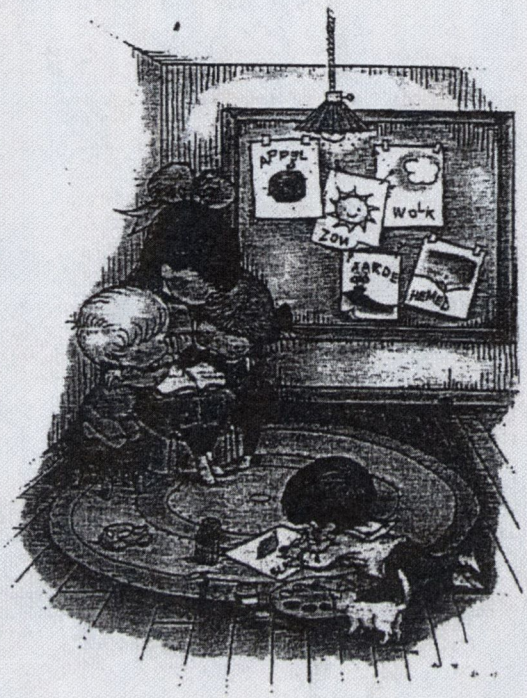


Appendix VI – The Dutch Poem

Een appel is rood,
de zon is geel,
de hemel is blauw,
een blad is groen,
een wolk is wit . . .
en de aarde is bruin.

En zou je nu kunnen
antwoorden
op de vraag . . .

Welke Kleur de liefde?



Appendix VII – Reading Strategy Questionnaire (Pilot 1)

READING STRATEGY QUESTIONNAIRE

PART A: Background Questions

Please tick as appropriate.

Boy ☐ Girl ☐

Do you get help from someone who knows some English?

Yes ☐ No ☐

PART B: (When you see an English word which you think you might not know, do you)

	Never	Rarely	Sometimes	Usually	Always
a) Try to sound out the word	○	○	○	○	○
b) Look at the word and guess what it means from familiar bits in it	○	○	○	○	○
c) Guess what the word means from the words you know around it	○	○	○	○	○
d) Guess the word form the pictures which are near it	○	○	○	○	○
e) Look up the word in the dictionary	○	○	○	○	○

PART C: (When I read English texts: (cognitive strategies))

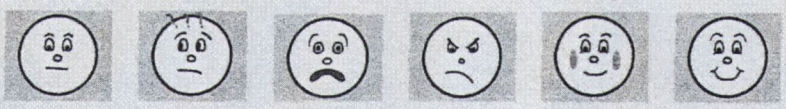
	Never	Rarely	Sometimes	Usually	Always
a) I think about what I know to help me understand what I read.	○	○	○	○	○
b) When text becomes difficult, I read aloud to help me understand what I read.	○	○	○	○	○
c) I read slowly but carefully to be sure I understand what I'm reading.	○	○	○	○	○
d) When text becomes difficult, I pay closer attention to what I'm reading.	○	○	○	○	○
e) I try to picture or visualize information to help remember what I read.	○	○	○	○	○
f) I check my understanding when I come across conflicting information.	○	○	○	○	○
g) When text becomes difficult, I reread to increase my understanding.	○	○	○	○	○
h) I try to understand main idea of the text while I am reading.	○	○	○	○	○
i) I try to relate the material to what I have known.	○	○	○	○	○
j) I stop and think about what I have understood from the text.	○	○	○	○	○
k) I know how to pick out specific info from the text	○	○	○	○	○

PART D: (When I read English texts: (metacognitive strategies))

	Never	Rarely	Sometimes	Usually	Always
a) I have a purpose in mind when I read.	O	O	O	O	O
b) I preview the text to see what it's about before reading it.	O	O	O	O	O
c) I look through the text first by noting characteristics like length and organization.	O	O	O	O	O
d) As I read, I think about what I understand from the text	O	O	O	O	O
e) I decide what to read closely and what to ignore.	O	O	O	O	O
f) I use pictures in text to increase my understanding.	O	O	O	O	O
g) I pay attention to boldface and italics to identify key information.	O	O	O	O	O
h) I try to guess what the material is about when I read.	O	O	O	O	O
i) I check to see if my guesses about the text are right or wrong.	O	O	O	O	O
j) I have a plan to follow to complete the reading task.	O	O	O	O	O
k) I understand well why I do well or not after the task is competed.	O	O	O	O	O
l) I think about how I have approached the task.	O	O	O	O	O
m) I think about how much new language I have learnt.	O	O	O	O	O
n) I plan how to answer the comprehension check questions before I start reading.	O	O	O	O	O
o) I read explanations before I start to read the text	O	O	O	O	O

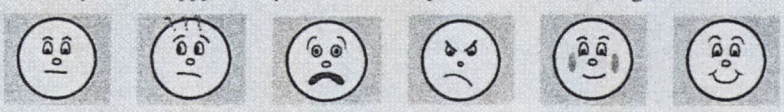
PART E: (Attitudes towards reading in English and Turkish)

a) How do you feel when you are asked to read English out loud during the lesson?



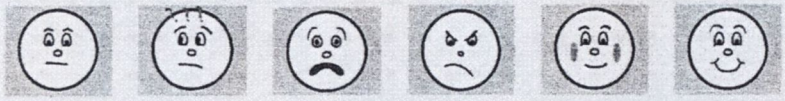
Not Bothered Puzzled Worried Angry Embarrassed Happy

b) How do you feel happy when you are asked to pronounce words in English out loud?



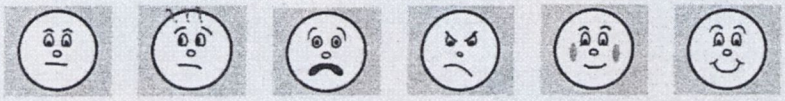
Not Bothered Puzzled Worried Angry Embarrassed Happy

c) How do you feel about pronouncing words in English silently to myself?



Not Bothered Puzzled Worried Angry Embarrassed Happy

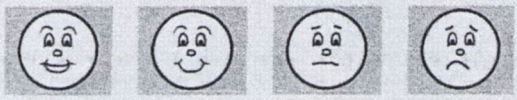
d) How do you feel when you do activities about the reading text?



Not Bothered Puzzled Worried Angry Embarrassed Happy

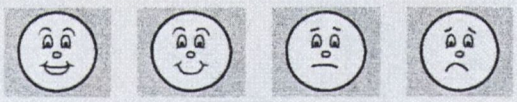
Part F:

a) How do you feel about reading books in Turkish?



Very Happy Happy Sad Very Sad

b) How do you feel about reading magazines in Turkish?



Very Happy Happy Sad Very Sad

Appendix VIII – Reading Strategy Questionnaire (Pilot 2)

READING STRATEGIES QUESTIONNAIRE

Part A:

Students' Background Questionnaire

Are you

A girl ☐ A boy ☐

I receive help in English outside of the classroom.

Yes ☐ No ☐

If Yes, explain .....

Part B:

When you encounter a difficult or an unknown word how often do you do the following?

	Never	Rarely	Sometimes	Usually	Always
a) Look at the letter strings and try to match them to their sounds in my head	○	○	○	○	○
b) Try to sound out the words correctly	○	○	○	○	○
c) I read the word or phrases aloud to help me understand better	○	○	○	○	○
d) I break the word into its parts and find the root to make an informed guess	○	○	○	○	○
e) I look at the other words around the unknown word to make a guess	○	○	○	○	○
f) I pause and think about the meaning of a sentence to check if it really makes sense	○	○	○	○	○
g) I insistently think about the meaning of words I might know	○	○	○	○	○

Part C:

When you read an English text how often do you do the following?

	Never	Rarely	Sometimes	Usually	Always
a) I reread if the text I am reading is difficult	○	○	○	○	○
b) I read slowly if the text I am reading is difficult	○	○	○	○	○
c) I think about what I know to help me understand what I read	○	○	○	○	○
d) I try to make a connection between what the text says and what I already know about the topic	○	○	○	○	○
e) I try to imagine that I am one of the characters in the story	○	○	○	○	○
f) I try to imagine the scene of the story as a read	○	○	○	○	○
g) I use pictures to predict what the text is about	○	○	○	○	○
h) I look at the title to predict the content of the text	○	○	○	○	○
i) I look at the organisation of the text to make predictions	○	○	○	○	○
j) I ask myself questions about the events in the story to better understand it	○	○	○	○	○
k) I use the words I know to make inferences.	○	○	○	○	○
l) I can figure out the use of a word from where it is placed in a text	○	○	○	○	○
m) I make inferences based on the characters' personalities in a text	○	○	○	○	○
n) I pay attention to the relationship between the characters in a text	○	○	○	○	○
o) I can draw conclusions about a text as I read it	○	○	○	○	○

Part D:

When you read an English text how often do you do the following?

	Never	Rarely	Sometimes	Usually	Always
a) I have a purpose in mind when I read	○	○	○	○	○
b) I give a quick look to the text to understand what it is about	○	○	○	○	○
c) Before I start reading, I have a look at how long the text is and how it is organised	○	○	○	○	○
d) I check to see if my predictions about the text are right or wrong	○	○	○	○	○
e) I pay attention to what I do to understand the reading text	○	○	○	○	○
f) I pay attention to when and why I use strategies	○	○	○	○	○
g) I think about the usefulness of the strategies I used while reading	○	○	○	○	○

INDIVIDUAL AND SOCIO-CULTURAL DIFFERENCE QUESTIONNAIRE

Part E:
Socio-economic background

1. What is the educational status of your parents?

	Mom	Dad
Secondary school graduate	☐	☐
High school graduate	☐	☐
University Graduate	☐	☐

2. What do your parents do?

   My mum works as a .....
   My dad works as a .....

3. Where do you normally take your holidays?

   .....

Part F:
Attitude towards reading in English

4. How do you feel about learning a new language like English?

   Very Happy ☐ Happy ☐ Do not know ☐ Little unhappy ☐ Unhappy ☐

5. Do you like reading in English?

   Yes ☐ No ☐

   If, yes what do you read in English when you read?

   .....

6. How do you feel about learning to read in English?

Very Happy ☐ Happy ☐ Do not know ☐ Little unhappy ☐ Unhappy ☐

7. How you feel when you encounter a difficult reading text in English?

Very comfortable ☐ Worried ☐ Hopeless ☐ Do not know ☐

Appendix IX – Reading Strategy Questionnaire (Final Version - English)

READING STRATEGIES QUESTIONNAIRE

Part A:

Are you
A girl ☐ A boy ☐

I receive help in English outside of the classroom.

Yes ☐ No ☐
If Yes, explain .....

Part B:

When you encounter a difficult or an unknown word how often do you do the following?

	Never	Rarely	Sometimes	Usually	Always
a) Look at the letter strings and try to match them to their sounds in my head	○	○	○	○	○
b) Try to sound out the words correctly	○	○	○	○	○
c) I read the word or phrases aloud to help me understand better	○	○	○	○	○
d) I break the word into its parts and find the root to make an informed guess	○	○	○	○	○
e) I look at the other words around the unknown word to make a guess	○	○	○	○	○
f) I pause and think about the meaning of a sentence to check if it really makes sense	○	○	○	○	○
g) I insistently think about the meaning of words I might know	○	○	○	○	○

Part C:

When you read an English text how often do you do the following?

	Never	Rarely	Sometimes	Usually	Always
a) I reread if the text I am reading is difficult	○	○	○	○	○
b) I read slowly if the text I am reading is difficult	○	○	○	○	○
c) I think about what I know to help me understand what I read	○	○	○	○	○
d) I try to make a connection between what the text says and what I already know about the topic	○	○	○	○	○
e) I use pictures to predict what the text is about	○	○	○	○	○
f) I look at the title to predict the content of the text	○	○	○	○	○
g) I make predictions about the next event in the text	○	○	○	○	○
h) I make predictions about the ending of the text before I finish reading it	○	○	○	○	○
i) I ask myself questions about the events in the story to better understand it	○	○	○	○	○
j) I use the words I know to make inferences	○	○	○	○	○
k) I make inferences based on what I learned from the text	○	○	○	○	○
l) I can draw conclusions about a text as I read it	○	○	○	○	○
m) As I read the text or after I finish reading it, I check if my predictions about the text are correct	○	○	○	○	○

Part D:

When you read an English text how often do you do the following?

	Never	Rarely	Sometimes	Usually	Always
a) I have a purpose in mind when I read	○	○	○	○	○
b) I pay attention to which strategies I use	○	○	○	○	○
c) I pay attention to when and why I use strategies	○	○	○	○	○
d) I think about how much the strategies that I used while reading the text helped me understand the text	○	○	○	○	○
e) I think about the usefulness of the strategies I used after I finish reading	○	○	○	○	○

INDIVIDUAL AND SOCIO-CULTURAL DIFFERENCE QUESTIONNAIRE

Part E:
Socio-economic background

1. What is the educational status of your parents?

	Mom	Dad
Primary school graduate	☐	☐
Secondary school graduate	☐	☐
High school graduate	☐	☐
University Graduate	☐	☐
Other.....		

2. What do your parents do?

   My mum works as a .....
   My dad works as a .....

3. Where do you normally take your holidays?

   .....

Part F:
Attitude towards reading in English

4. How do you feel about learning a new language like English?

   Very Happy ☐ Happy ☐ Do not know ☐ Little unhappy ☐ Unhappy ☐

5. Do you like reading in English?

   Yes ☐ No ☐

   If, yes what do you read in English when you read?

6. How do you feel about learning to read in English?

Very Happy ☐ Happy ☐ Do not know ☐ Little unhappy ☐ Unhappy ☐

7. How you feel when you encounter a difficult reading text in English?

Very comfortable ☐ Worried ☐ Hopeless ☐ Do not know ☐

Appendix X – Reading Strategy Questionnaire (Final Version - Turkish)

OKUMA YÖNTEMLERİ ANKETİ

Bölüm A:

Aşağıdakilerden uygun olanını işaretleyiniz

Kız ☐ Erkek ☐

İngilizce dersleri ile ilgili sınıf dışında yardım alırım.

Evet ☐ Hayır ☐

Cevabın evetse lütfen kimden yardim aldigini yaz.....

Bölüm B:

Karşına zor veya bilmediğin bir kelime çıktığında aşağıdakileri ne sıklıkla yaparsın?

	Asla	Nadiren	Bazen	Genellikle	Herzaman
a) Kelimenin içindeki harfleri bildiğim İngilizce seslerle eşleştirmeye ve böylelike kelimeyi okumaya çalışırım	○	○	○	○	○
b) Kelimeleri düzgün bir şekilde sesli söylemeye çalışırım	○	○	○	○	○
c) Anlamama yardımcı olması için, kelimeleri sesli okurum	○	○	○	○	○
d) Kelimenin anlamını anlayabilmem için kelime kökünü bulurum	○	○	○	○	○
e) Kelimenin anlamını tahmin edebilmem için çevresindeki kelimelere bakarım	○	○	○	○	○
f) Dururum ve cümlenin anlamı üzerinde düşünürüm	○	○	○	○	○
g) Bana tanıdık gelen kelimelerin anlamları üzerinde ısrarla düşünürüm	○	○	○	○	○

Bölüm C:

İngilizce bir parça okuduğunda aşağıdakileri ne sıklıkla yaparsın?

	Asla	Nadiren	Bazen	Genellikle	Herzaman
a) Okuduğum parça zorsa tekrar okurum	○	○	○	○	○
b) Okuduğum parça zorsa yavaş okurum	○	○	○	○	○
c) Okuduğumu anlamama yardımcı olması için konuyla ilgili ne bildiğimi düşünürüm	○	○	○	○	○
d) Kendi bilgim ve okuduğum parça arasında bağlantı kurmaya çalışırım	○	○	○	○	○
e) Hikayenin etrafindaki resimleri, hikayenin ne ile ilgili olduğunu anlamak için kullanırım	○	○	○	○	○
f) Okuyacağım parçanın ne ile ilgili olduğunu tahmin edebilmek için başlığına bakarım	○	○	○	○	○
g) Parçayı okurken, bir sonraki olayla ilgili tahminde bulunurum	○	○	○	○	○
h) Parça bitmeden sonu ile ilgili tahminde bulunurum	○	○	○	○	○
i) Parçayı daha iyi analyabilmek için, kendime hikayedeki olaylarla ilgili sorular sorarım	○	○	○	○	○
j) Anlamını bildiğim kelimeleri, parçanın anlamı ile ilgili tahminlerde bulunabilmek için kullanırım	○	○	○	○	○
k) Parcayı okuduktan sonra, okuma parçasının öğrettikleri ile ilgili çıkarımlarda bulunurum	○	○	○	○	○
l) Parçayı okurken ana fikri ve anlatılan hikaye ile ilgili sonuçlar çıkarabilirim	○	○	○	○	○
m) Parçayı okurken veya bitirdikten sonar, parça ile ilgili yapmış olduğum tahminlerin doğru olup olmadığını kotrol ederim	○	○	○	○	○

1

Bölüm D:
İngilizce bir parça okuduğunda aşağıdakileri hangi sıklıkla yaparsın?

	Asla	Nadiren	Bazen	Genellikle	Herzaman
g) Okuduğum parça ile ilgili bir okuma amacım olur	O	O	O	O	O
h) Okuma yaparken, okuduğum parçayı anlayabilmek için hangi taktikleri kullandığıma dikkat ederim	O	O	O	O	O
i) Okuma yaparken, okuduğumu anlamak için kullandığım taktikleri ne zaman ve neden kullandığıma dikkat ederim	O	O	O	O	O
j) Okuduğum parçayı okumayı bitirdikten sonra, parçayı anlamak için kullandığım taktiklerin parçayı anlamama yardımcı olup olmadığını düşünürüm.	O	O	O	O	O
k) Parçayı anlamak için kullandığım taktiklerin benim için kullanışlı olup olmadığına karar veririm.	O	O	O	O	O
	O	O	O	O	O
	O	O	O	O	O

BİREYSEL FARKLILIKLAR ANKETİ

Bölüm E:

1. Anne ve babanın eğitim durumu nedir?

	Annem	Babam
İlk okul mezunu	☐	☐
Orta okul mezunu	☐	☐
Lise mezunu	☐	☐
Üniversite mezunu	☐	☐

Diğer.....

2. Anne ve babanın işi nedir?
   Annem .....
   Babam .....

3. Tatil için genellikle nerelere gidersiniz?

   .....

Bölüm F:

4. İngilizce gibi yabancı bir dil öğreniyor olduğun için nasıl hissediyorsun?
   Çok mutlu ☐ Mutlu ☐ Bilmiyorum ☐ Biraz mutsuz ☐ Mutsuz ☐

5. İngilizce okumayı seviyormusun?

   Evet ☐ Hayır ☐
   Cevabın evetse, İngilizce okuduğun zamanlarda neler okursun?

   .....

6. İngilizce okumayı öğrenme konusunda nasıl hissediyorsun?
   Çok mutlu ☐ Mutlu ☐ Bilmiyorum ☐ Biraz mutsuz ☐ Mutsuz ☐

7. İngilizce, zor bir okuma parçası ile karşı karşıya kaldığında nasıl hissedersin?
   Çok rahat ☐ Rahat ☐ Bilmiyorum ☐ Endişeli ☐ Umutsuz ☐

Bölüm G:

Öğrencilerin Eğitim Programı ile İlgili Düşünceleri

8. Okuma üzerine yaptığınız derslerle ilgili ne düşünüyorsun? Neden?

.....
.....
.....

9. Okuma üzerine yaptığınız derslerin senin için en faydalı bölümü neydi?

.....
.....
.....

Appendix XI – Reading Comprehension Test (Cambridge ESOL Flyers)

Test 1

Reading

Part 1

– 10 questions –

Look and read. Choose the correct words and write them on the lines. There is one example.

a dictionary a knife a fork

a book a newspaper

a spoon

a postcard

art

scissors

a card

history a university

geography an envelope maths

	You send this to a friend at Christmas.	a card
1	You use these to cut paper.	.....
2	When you study this subject you learn about islands and jungles.	.....
3	If you can't spell a word you can use this to help you.	.....
4	If you like drawing and painting you should study this subject.	.....
5	We need one of these to eat soup or fruit salad.	.....
6	When you are on holiday you send this to your friends.	.....
7	You use this to cut bread, cheese and meat.	.....
8	You can study here after you leave school.	.....
9	We put a letter or a card in this before we post it.	.....
10	You can buy this every day and read about things which have happened.	.....

11

Part 2

– 7 questions –

Look and read. Write yes or no.



Examples

A woman is buying some stamps. ..yes..

Three children are standing in front of the woman. ..no..

Questions

1 The girl is pulling the boy's hair. .....

2 Some sweets have fallen on the floor. .....

3 The mice have eaten all the chocolate. .....

4 The person who is posting a letter is wearing a hat. .....

5 The boy and the girl are whispering together. .....

6 The cat is watching the mice very carefully. .....

7 The monster is too short to take a book from the top shelf. .....

Part 3

– 5 questions –

Tom is talking to Helen about food. What does Helen say to Tom?

Read the conversation and choose the best answer. Write a letter (A–H) for each answer.

You do not need to use all the letters. There is one example.

Example

Tom: Hello, Helen. Oh! I'm so hungry.

Helen: F

Questions

1 **Tom:** I didn't! What's your favourite food, Helen?

Helen: .....

2 **Tom:** Mine's pasta. Who cooks your lunch?

Helen: .....

3 **Tom:** Do you like cooking sometimes?

Helen: .....

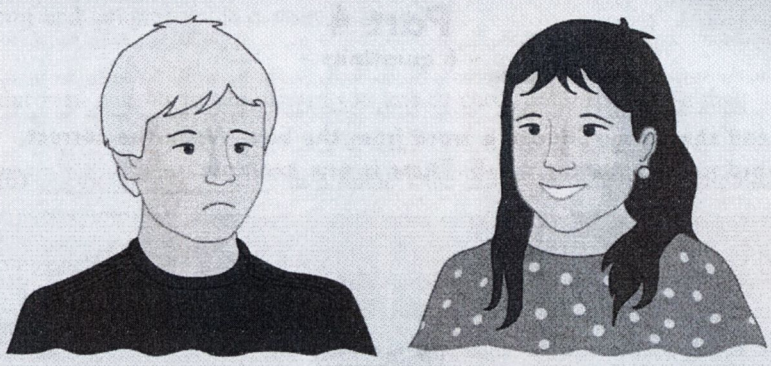
4 **Tom:** Yes, that's fun. When did you start cooking?

Helen: .....

5 **Tom:** What time do you have your lunch?

Helen: .....

Tom: Me too. See you later.



A My dad grew vegetables in our garden.

B It's cheese! Cheese on pizza and cheese on bread.

C I was about seven. It's difficult to remember.

D No, it isn't the same time as yours.

E My sister. She likes doing that.

F Are you? I'm not. I had a big breakfast! **(Example)**

G Yes, but I only like making easy things.

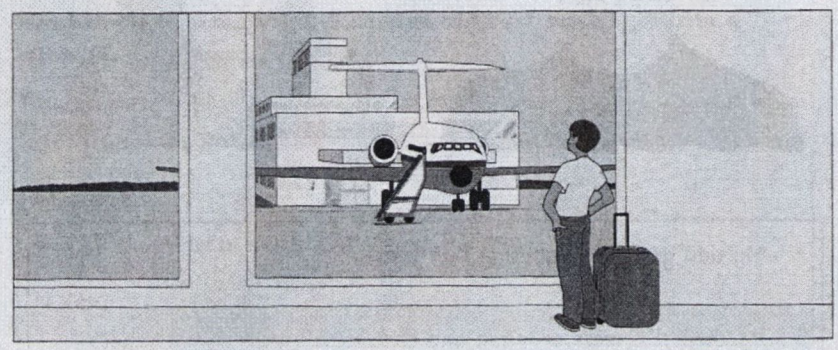
H At about midday usually.

15

Part 4

– 6 questions –

Read the story. Choose a word from the box. Write the correct word next to numbers 1–5. There is one example.



On his last holiday, Fred went to a beautiful .....island..... .

His family swam and played a lot of tennis there and at the end of the holiday, Fred didn't want to go home. But they had to! They went to the **(1)** ..... to catch their plane. The plane was late and they had to **(2)** ..... there for twelve hours. It was very boring for Fred and the room there was **(3)** ..... and full of people. But at last they could leave. When the plane was near London, the pilot said, 'Sorry, everyone. The weather's too **(4)** ..... for the plane to stop here. We'll fly to another

city and you can catch a train to London.'

But Fred and his family arrived too late to catch the last train so they

(5) ..... in a hotel. They didn't get home until the next afternoon, so Fred had one more day of holiday from school. He was very happy!

Example				
island	make	foggy	rocks	stayed
wait	airport	low	noisy	excited

(6) Now choose the best name for this story.
Tick one box.

A fast plane ☐

A longer holiday ☐

A terrible place ☐

17

Part 5

– 7 questions –

Look at the picture and read the story. Write some words to complete the sentences about the story. You can use 1, 2, 3 or 4 words.

Robert, Harry and the clever dog!



Last summer, Robert and Harry stayed at their grandparents' house by the sea. One hot and sunny morning, Grandmother made a picnic and took the boys to the beach. After lunch, Grandmother lay down and opened her book. The boys played football on the beach and then made a little castle with some sand.

Then Harry saw a strange cave which was near some big, grey rocks at the other end of the beach. The boys quickly ran to it and looked in, but they couldn't see anything because it was very dark. Harry said, 'It looks big inside. Come on! I'll go first.'

Harry and Robert were playing inside the cave when suddenly Robert said, 'Oh no! I can hear the sea! It's coming into the cave.' They were very afraid, but then Harry felt something wet on his hand. It was a dog's nose! The dog was very clever. It showed the boys another way out of the cave and back to the beach.

When they told their grandmother about the dog, she gave him three biscuits and said, 'Well done!'

'We're hungry too!' the boys said. 'Well,' Grandmother answered, 'you must wait until dinner. It was naughty to go into a dangerous place like that.' 'We're very, very sorry, Grandma!' they said. 'We won't do it again.'

Examples

Robert and his brother went to their grandparents' house last ..... summer ..... .

The weather was ..... hot and sunny ..... when they went to the beach.

Questions

1 The boys played with a ..... , and then made a castle with some sand.

2 The cave at the end of the beach was near ..... .

3 The boys couldn't see inside the cave because it was too ..... there.

4 ..... was the first boy to go into the strange cave.

5 The brothers felt ..... when they heard the sea in the cave.

6 Robert and Harry followed a very ..... and went a different way back to the beach.

7 The dog had some ..... to eat because he helped the boys.

Part 6

– 10 questions –

Read the text. Choose the right words and write them on the lines.



Example Last Saturday was a lovely day. Aunt Mary .....took..... Jill to

1 the circus. It was a present for ..... tenth birthday.

2 Jill liked the clowns very ..... and she laughed a lot.

3 But there was a small problem ..... evening.

4 One of the clowns ..... standing on a very tall elephant

5 when suddenly he ..... . Everybody was afraid and Jill

6 shouted, 'Be careful!' But ..... was another small

7 elephant which was standing ..... the big elephant. It

8 quickly ..... the clown and then put him very

9 ..... down on the floor. The people in the circus tent

10 were very happy and the clown found a big box .....

bananas and gave it to the small elephant.

20

Example	take	took	taking
1	hers	his	her
2	much	good	well
3	this	that	those
4	is	were	was
5	fell	fall	falling
6	it	they	there
7	near	next	over
8	catches	caught	catch
9	careful	clever	carefully
10	to	of	in

Part 7

– 5 questions –

Read the story and write the missing words. Write one word on each line.

Jim likes taking photographs. He wants to be a famous photographer

Example like his father. One day Jim was in the country.

1 He ..... sitting on a bridge when suddenly

a big, black car stopped and a beautiful woman got

2 ..... . Jim looked

3 ..... her and thought, 'That's the Queen!'

He walked to the car and said to the Queen, 'Excuse

4 ..... , may I take your photograph?' The Queen

said, 'You may,' and smiled. Jim took the photo and ran home.

5 He showed it ..... his father. It was a very

good photo so Jim's father put it in his newspaper.

Appendix XII – Think-aloud Protocols: Reading Text

The penny-pincher

There was a rich man in a village. He was rich, but he did not like spending money. He was unhappy when he spent money. He wanted to spend as little money as he can. One day, he decided to buy a big piece of gold with his money. He put it in a hole next to an old wall in the village. He went to see his gold every day. One day, one of his workmen saw him. He was next to the old wall looking at something. After the rich man went home, the old man came. He found the gold and took it. The next day, when the rich man came to see his gold he realised that it was not there. The rich man's neighbour saw him, he was sad. His neighbour said, "Don't be so sad, go and bring a piece of stone and put it in the hole. Visit it every day. It will not do much difference to you. You did not use your gold for any good when it was there."



Appendix XII – Transcriptions of Think-aloud Protocols & Motivation and Metacognitive Awareness Interview

Transcription code: TAP-C1

Think-aloud Protocol – Claire (High level achiever/ Intervention group student)

(The think-aloud training was completed in the first 62 lines)

63 S: I, guess from the title.

64 T: Hm. You said right away that you would guess from the title. It is all in your mind

65 ok, this is our reading text have a look.

66 S: I first decide from the title. If there is anything I don't understand I find the root of the

67 sentence, I look at the root of the word for example /pɛni pɪntʃər/

68 T: This title

69 S: This /ər/ I think... this is the root (showing 'pinch')

70 T: You are saying that 'Pinch' is the root. What else are you thinking?

71 S: I try to guess the rest of the sentence.

72 T: hm hm

73 S: what's happening, how is it happening in the story.

74 T: Could you guess from the title?

75 S: I couldn't, because I didn't know its meaning.

76 T: Ok, so you didn't know any of the words in the title.

77 What else do you do? (05.02 mins)

78 S: What else?

...

90 T: Your eyes went over the picture as well.

91 S: Hm hm I first look at the picture as well.

92 T: Hm hm

93 S: There is a child in the picture, He tried to do something, I think, and this is trying to warn him.

94 T: hm hm

95 S: Then, I look at the text; if there are words I know in the text I underline them

96 I try to find words I don't know or I look at the root of the sentence

97 T: How do you try to find?

98 S: I look at the root, if it is a compound word

99 T: Hm hm what else would you do?

100 S: Em what else, how the event went on, what wasn't there I try to guess

101 what wɪll happen. I guess this at the end of the study.

102 T: Ok, start reading a little.

103 /ðɛr wəz ə rɪtʃ mæn ɪn ə vɪlɪdʒ. hi wəz rɪtʃ bət hi dɪd dɪdnt lajk sɨpɛndɪŋ

104 məni. hi wəz ənhæpi wɛn hi sɨpɛnt məni./ Shall I go on? (06.08 mins)

105 T: What ɪs goɪng on ɪn your head?

106 S: There was a village. There was a rich man's village. Then, this rich man em but

107 happy /sɨpɛnt/ no I think not happy. He had a lot of money but he was not at all

108 happy.

109 T: How did you understand this?

110 S: Unhappy 'un' is negative

111 T: what is Happy?

112 S: Happy is happy

113 T: hm

114 S: He was not happy. He had money but he didn't have the thing, he didn't have

115 happiness. This is how I understood.

116 /hi wɑnt tu sɨpɛnt æz æ æ ɑz lajt məni æz hi kæn./

117 S: Here he says he would have something with his little money. It says that he could.

118 One day, he wanted to buy something, a piece of something, a piece of something

119 with his money /nɛkst tu æn olt wɒl ɪn ðə vɪlɪdʒ/ (07.15 mins)

(She did not read the first part of the sentence aloud; I assume she had a quick look at that part)

120 S: He wanted to contribute to the village.

121 T: What did he want to do?

122 S: Help.

123 T: How did you understand this?

124 S: Teacher here village money, I think he must have wanted to help.

125 T: What is Village?

126 S: Village, then went is to go, see is to see, I don't know the meaning of gold em

127 every day he would go somewhere, I think this man sees something. And one day

128 'workmen' workman (in Turkish) a man wanted to do something, he lost something a man wanted to do something he lost something em

129 T: How did you understand this? (08.00 mins)

130 S: from /sɛw/

131 T: What is that?

132 S: to get lost, to record it means something like this.

133 T: Hm hm

134 /hi wəz nɛkst tu ðə old wɒl li lʊkɪŋ æt səmtɪnk./

135 S: Here an old man near him, old old or sometimes there he looks. Then, the rich 136 man would go to his house. I think the old man would invite hime /fant/ to fall.

137 /ðə ðə gold ænd tʊk./

(Overall in her reading: She did silent reading for some parts)

138 S: He would try to talk to the man. During the other days the rich man would visit the 139 man.

140 T: What do you do to understand these? To understand these that you are talking 141 about.

142 S: I look at the rest of the sentence or words in front. For example, this I know 143 (showing a word) I look at the words around the unknown words or to the sentences 144 coming next. (09.00 mins)

145 T: Can you gıve an example? Which is the word you don't know here?

146 S: /nearbor/ (she meant neighbour)

147 T: Hm hm

148 S: I look next to it, here he wants to say something.

149 /dont bi so de sed go ænd ju/

150 S: puts, put is to put, I look around it. For example, if there is an unknown word, 151 I underline it or I ask a friend or I try to find the meaning myself

152 T: Was there anything else you did?

153 S: I get help from a dictionary.

154 T: Other than this. What else have you done now?

155 S: I guessed

156 T: Hm, What else?

157 S: I guessed the end of the story.

158 T: hm hm

159 S: I think, teacher, here with the rich man, the rich man goes to the poor man.

160 He would always visit him, he would help him.

161 T: Hm

162 S: Or a child, I understood this from the picture

163 T: hm hm

164 S: That's all

165 T: Read it again starting from here. (10.02 mins)

166 /ðə nɛkst de wɛn ðə rɪtʃ mæn kəm tu si hɪz gold wi rilst ð ðæt ɪz wəz nɑt nɑt 167 ð ðɛr ðə rɪtʃ mænz nearbor so hɪm hi wəz sæd./ /hɪz nearbor sed dont bi so 168 sæd go ænt brɪŋ ə pris ɒft ston ænt pʊt pʊt ɪt ɪn hol ðə hol. vɪzət ɪt ɛvəri 169 de. ɪt wɪl nɑt nɑt du mətʃ dɪfərənt tu ju. ju dɪd nɑt jus jɔr golt fɔr ɛni gʊd 170 wɛn ɪt wəz ðɛr./

171 T: Ok, what are you thinking?

172 S: I think teacher, he wants to do something with a stone, this has put the stone next

173 to him the child wants to do something with the stone (11.02 mins)

174 T: Hm hm

175 S: Em 'hole' something round.

176 T: Hm hm

177 S: 'Visit' He would go every day to complete it. He would meet with his friend.

178 T: Hm hm

179 S: Then, 'different'

180 T: Ok, how did you understand these? You guessed unknown words ok,

181 You look at the words around the unknown word

182 S: Yes

183 T: You looked at the word roots, what else did you do? Other than these?

184 S: Other than these I looked at the picture

185 T: hm, you guessed for example

186 S: Hm hm I guessed, from the title too. Though I didn't understand much but I got 187 help from the title too em then

Silence

188 S: here I think he didn't use anything

189 T: How? I didn't get it.

190 S: He didn't use, here it says not didn't

191 T: hm it says 'you didn't use your gold'.

192 S: I don't know the meaning of 'Gold'. (12.00 mins)

193 T: hm hm

194 S: For any, any is something like negation. Any means empty, good means nice
195 /wɛn ɪt 184 wəz ðrar/ this is what I understand teacher
196 T: Hm hm
197 S: If I knew what it meant in Turkish I would have been able to guess this word or the
198 story. I would have made an inference.
199 T: hm hm what else would you do?
200 S: What else! Whether something is going to happen, what result there would be, I 201
would check that. What else!
Silence
202 T: These are ok. About the story, about what the story tells,
203 what do you think about it?
204 S: Nice. There is something like helping each other. They meet somewhere, he tells
205 the other. I understand this from the picture. 194 He says not like this you put it like
that.
(13.04 mins)
Silence

The Motivation and Metacognitive Awareness Interviews

206 T: Hm, ok hm, right I have a few questions for you, how much do you work on your
207 English? I mean, how much do you study English? What do you do outside the
classroom?
208 S: I play English games and read English stories outside the classroom.
209 T: hm
210 S: If there are unknown words in the story, I try to make a guess, i look around the
unknown 211 word, or I use a dictionary to be able to understand what it says.
212 T: What kind of stories do you read?
213 S: For example, there is Tom and Jerry cartoon movie, it has a storybook, I bought that
and I 214 am reading it.
215 T: Hm an English storybook!
216 S: Yes, I do read. I am now reading page 5. Tom wants to catch Jerry all the time, but
he
217 can't. It is Jerry who wins all the time.
218 T: Hm hm

219 S: He wins all the time.

220 T: These are what you understood.

221 S: Yes

222 T: Ok. Right; What do you like to do in the English classes? I mean, especially with your

223 Serife teacher you do reading, writing, speaking and listening, which do you like the most?

224 S: I like to raise my hand and participate, I like to do the activities, I would like my friends to 225 be quieter in the classroom and I want them to get high marks too.

226 T: What about the lessons, do you like reading, writing, for example, or speaking and 227 listening? I mean in your English classes.

228 S: I like speaking in English and doing puzzles

229 T: hm

230 S: We sometimes do the activities in the workbook; I like those, then, the activities, listening, 231 reading! My reading is not very good but I like reading too, just a little bit.

232 T: Hm hm

233 S: This is all teacher.

234 T: Ok, right. Do you think that you are interested in learning English? Are you interested?

235 S: Yes, I am interested. Because teacher, you want to be something in the future, It is 236 necessary to learn English, it is a must.

237 T: Ok find, right, I came to your classes and we read texts like this one here. Do you think 238 that these classes were useful for you?

239 S: Yes teacher they were useful

240 T: In what way?

241 S: For example, teacher, when Serife teacher gives us a text, we make guesses about it. I

242 made a guess from the tittle. Fatma made a guess too. Then, we looked at the text itself; we 243 made guesses about what the text could and could not be about; we looked at the sentences. 244 When the story ended, we predicted the end of the story, whether the man died or not. Then, 245 when there is words that I don't know, I look at the root and the words around it.

246 T: Hm hm

247 S: Like this, this is how they were useful.

248 T: Hm hm, ok, hm, right, when you get a text like this one, can you understand whether it is 249 easy or difficult?

250 S: If there are unknown words, it can be difficult for me.

251 T: hm hm, ok. Is there anything else that you do to understand whether the text is easy or

253 difficult?

254 S: no.

255 T: Ok, Right, Do you use strategies when you read in English? And in what way do you

256 think these strategies were useful for you?

257 S: They helped me to understand the story.

258 T: hm hm what else?

259 S: What else? Hm I think, nothing else.

260 T: hm hm, There is not anything else. Ok. Right, which strategies are more useful for you? 261 Which strategies do you use frequently?

262 S: I frequently make guesses about the sentences. I guess the ending of the story, I look at the 263 picture, these are the ones that I use.

264 T: Right, you read an English text here, can you evaluate your performance here? I mean

265 were you good, average or weak when you were reading the text here?

266 S: I think, I was average, because the words that I did not know made may job difficult.

267 T: Hm hm

268 S: It was a little difficult for me due to the unknown words.

269 T: Right, were there more familiar or unknown words for you in this text here?

270 S: Familiar words were more.

271 T: hm

272 S: Because I didn't know some of their meanings. To give an example, for example, because 273 I didn't know the meaning of 'gold' here' it was a little difficult for me to guess the meaning 274 of the sentence.

275 T: hm it was difficult for you to guess. Ok, is there anything else that you want to tell me?

276 S: No

277 T: Ok, that's it, thank you. (Duration: 18.00)

Transcription code: TAP-K2

Think-aloud Protocol – Kristina (High level achiever/ Control group student)

The think-aloud training

1 T: I've started recording. First, there is a game that we will play to get prepared. We won't be

2 able to do it all. We don't have that much time, but we will do a short section. This is a puzzle

3 puzzle, there are the pieces, I would like you to find the right pieces for the corners and fit them 4 in. While you are doing this, tell me what you are thinking and what you are doing ok? I mean

5 talk to me.

(The student starts with the puzzle)

6 S: I first look at the sides because the colours may match.

7 T: Ok.

8 S: There..in place of that

9 T: Ok

10 S: This fits here, that's why I put it here.

11 T: Ok, what do you think? How did you decide that it fits?

12 S: The side of the corner, the corner starts there... (01.01 min)

13 T: Ok, the side is a circle,

14 S: and Hm… there is a

15 T: What else do you look at?

16 S: It looks like a tree, I mean the colours, the shape

17 T: You looked at the colours

18 S: I checked whether the shapes matched.

19 T: Hm hm

20 S: That's how I did it.

21 T: And you decided that it fitted, ok. Do the corners.

(Pointing at the edges)

22 These corners

(She takes another piece)

23 S: This, in the same way

24 T: Again the side is round

25 S: Hm hm

26 T: What else do you think?

27 S: Again, I looked at the colours and I saw that there is no other line there, so I put it there.

28 T: Ok

29 S: I'm (she is thinking) I want to do the sides (taking another piece). This goes here,

30 we can see her hair there

31 T: Hm hm

32 S: because that is similar

33 T: Ok there is hair on both pieces; you looked at the colour again

34 S: Hm hm. Colour. I'm, no! (taking one piece and leaving it) (02.01 mins)

35 T: What else

36 S: Here it seems... hm no! There. (after waiting for a couple of seconds) this goes here.

37 T: Ok, what did you do now?

38 S: Now this, I first looked at the colours and the lines

39 T: Hm hm

40 S: and I paid attention to whether the pieces fit together

41 T: you mean, you looked at the shapes too

42 S: Shapes

43 T: Ok

44 S: here, no this is not it (taking one piece and leaving it)

45 T: How did you understand that that was not it?

46 S: Hm, because these shapes did not match to it.

47 T: The shapes did not match!

48 S: The shapes did not match.

Silence

49 S: This did not match either.

Silence

50 S: We need to start from the first corner to find the right pieces (03.10 mins)

51 T: Hm hm

Silence

52 S: No (trying another piece)

53 T: Ok, we can stop here

54 S: Ok

55 T: Ok what did we do here? You told me what you did, why you did it, what went on in your 56 mind, and what you thought while you were working on the puzzle. Now, while we do this

57 reading activity, in the same way that you did while you were doing the puzzle, I would like 58 you to read this text aloud and tell me what goes on in your mind while you read it. As you

59 read and make sense of the text; you will tell me how you understand it. You remember you 60 told me that you looked at the shapes and the colours while you were doing the puzzle, here you will tell me what you are doing too. We can put the puzzle aside.

The Think-aloud Protocol

61 T: Ok! Let's start. (04.00 mins)

(She reads the title)

62 S: /ðə pɛni pɪŋkər/ /ðɛr wəz ə rajs mæn ɪn ə vɪlɪdʒ, hi wəz rajs bət hi dɪdnt nɑt lajk

63spɛd ɪŋk mənəy/

64 T: Ok, up to here, what's on your mind?

65 S: Here, of words, I mean, I am looking at words to understand whether or not I know the

66 words. I looked at words.

67 T: Are there any words that you recognise?

68 S: There is village, I think, I think it means village (she is not sure)

69 S: Yes village

70 T: Ok, fine.

71 S: Men is man.

72 T: Hm hm

73 S: It's man, I mean male, 'he' refers to a male. Here it is a negative word,

74'didn't'

75 T: hmm "didn't" is negative

76 S: Yes, just like that

77 T: This is all you thought. Ok, is there anything else that's on your mind?

78 S: On my mind!

(Silence)

79 T: I see that you are looking at the picture too.

80 S: Hm hm

81 T: You look both at the sentence and the picture

82 S: Yes, so that I can understand something from the picture. (05.02 mins)

83 T: You are trying to understand something. What's on your mind? What are you thinking?

84 S: In think, the children are at the mountain, they may be playing

85 T: You are telling me all these while looking at the picture.

(T articulates student's eye movements to minimize the drawback of the absence of video recording)

86 S: /rætʃ/ (ment to say rich)

87 T: hm hm

88 S: Like ... words

89 T: Is there anything you are thinking about the sentence?

90 S: There is, about the sentence. I mean, he says 'He was'.

91 T: Hm, ok, what are you thinking? You said 'he was'! What does this make you think?

92 S: There is something that he explains. I mean, something that's done here. It seems a little…

93 T: Hm you are saying that, something is expressed in the picture.

94 S: Hm hm

95 T: Ok

96 S: Right!

97 T: Ok. Continue reading.

98: S: /hi wəz ənhæpi wɛn hi spint mɛni./

99 S: Hmm now they dig money here, I mean, I think, they are looking for money (06.00 mins)

100 T: Hm

101 S: And they are sad, because they couldn't find any!

102 T: Ok, how did you think this?

103 S: The word is a little, I mean familiar

104 T: Which word, tell me.

105 S: Unhappy

106 T: Unhappy

107 S: Hmm and here that they dig /mɛnəy/

108 T: hm Ok

109 S: That

110 T: What does it mean?

111 S: Money

112 T: It means money. What is Unhappy?

113 S: I mean sad

114 T: Hmm

115 S: not happy

116 T: Hm

117 S: Shall I continue?

118 T: Is there anything else on your mind?

119 S: Nope

120 T: On, continue

121 S: /hi wɒntəd tu spɪt æz lɪtəl məni æz hi kæn/ Hm. Out teacher explained us 'as' ...

Silence

122 T: What do you think?

123 S: I mean, I am trying to find something relevant in relation to the words. (07.00 mins)

124 T: Tell me which word you are looking at.

125 S: To "little". I am stack at "little"

126 T: What are you thinking about it?

127 S: It seems relevant to the text, I mean, there is something here about it

128 T: Do you know its meaning?

129 S: Hmm it seems opposite but…

130 T: Do y you remember?

131 S: Hm hm

(T indicates her to continue)

132 S: /wən de hi dikɨdɨt tu baj ə bɪg pis əv gold wɪθ hɪz mɛnəy/ One day, hm I think gold is gold (07.38 mins)

133 T: Hm, What's on your mind?

134 S: It seems that they found a big "piece" of gold.

135 T: Hm what did you do here with the word gold?

136 S: I mean, they are looking at them

137 T: What did you do?

138 S: There, by looking at the other words. They found a big piece of gold

139 T: Hm (08.06 mins)

Silence

140 S: And did they give it in exchange of money?

141 T: Do you think that they may have given it in exchange of money?

142 S: One day /dekidet/. /hi pæt hi pæt ɪt ɪn ə hɒl nɛkst tu æn old wɒl ɪn ðə vɪlɪdʒ/

143 T: Hm

Silence

144 S: What's this? I think there is something like a bank in a village.

(She is not sure)

145 they probably show it

Silence

146 T: Hm what is going on in you r mind at the moment?

147 S: Now on my mind? It seems that they are showing what they found to someone else.

(09.07 mins)

148 T: Hm what?

149 S: The gold

150 T: You think that they show the gold to someone else. What made you think that?

151 How did you think this way?

152 S: Next to hole next to, then, village, when came from the village

Silence

153 T: Do you know what next to means?

154 S: Next to

155 T: Hm

Silence

156 S: /hɒl/. /hi wɛnt tu si hɪz gold ɛvəri de. hi wɛnt hi wɛnt./ These nope ...

Silence

157 T: You can continue reading if you want to

158 S: /wən de wən əv hɪz wərkmən səv hɪm/

Silence

159 /hi wəz nɛkst tu ðə old wɒl lʊkɪnk æt səmθɪnk səmθɪnk./ (10.10 mins)

Silence

160 /æftər ðə rɪtʃ mɛn wɛnt hom ðə old mɛn kəm kəm hi fawnd ðə gold ænd tʊk

161 ɪt/ Change, it seems that there is change.

162 T: How do you mean?

163 S: Gold

164 T: How did you understand this?

165 S: This, I understand this from took, took!

166 T: What does took mean?

167 S: I think he changes it took, took, to change

168 T: Ok (Indicating her to continue)

169 S: /ðə nɛkst de wɛn ðə rajs mɛn kəm tu si hɪz old hi rəlizənd dæt ɪt wəz nɑt

170 ðɛr. nɑt ðɛr/ /nɛkst de/ (sub-vocalised)

171 T: What do you think?

172 S: Next day, next day (11.06 mins)

173 T: How did you understand, which is word it?

174 S: Next day

175 T: The next day

176 S: Next day

177 T: Ok

178 S: The next day.

(Silence)

179 S: Gold, gold

180 T: What's on your mind now?

181 S: Gold, one it seems, they gave it to a man, but was not

182 T: Continue

183 S: /ðə rajs mɛnz nəgbərt so hɪm hi wəz sɛt./ Sad, what is he sad about?

184 T: How did you understand that he was sad?

185 S: Here, /hi wəz sɛt./

186 T: He was sad, ok! (12.02 mins)

187 S: /nəgbərt/

Silence

188 T: You are thinking what neighbour means?

189 S: Yes

190 T: Is there anything on your mind?

191 S: Took, I think somebody took it (unsure voice)

192 T: You think that somebody took the gold. What made you think that?

193 S: Hmm He is sad. He found it and someone else took it, that's why he is sad.

194 I think he must have been sad, that's why /hɪz nəgbərt sɛd/ /dont bi so sɛd go ænd brɪnk ə

195 pis əv ston ænd pæt ɪt ɪn ðə hɒl/

196 T: You re-read the sentence

197 S: Yes

198 T: Why?

199 S: I felt excited

200 T: Hm to understand right?

201 S: If I read it a few more times. (13.00 mins)

(She does silent reading, or with a hardly audible tone of voice at points)

202 /vɪzət ɪt ɛvəri de ɪt wɪl nɑt du mətʃ dɪfərəns tu ju/

(Silence)

203 /ju dɪdnt ju dɪd nɑt jus jər gold fər ɛni gʊd wɛn ɪt wəz ðɛr/

204 T: What do you think?

205 S: Now, they seem to be happy

206 T: What made you think that?

207 S: Good, any good

208 T: Hm what does good mean?

209 S: Beautiful nope good is good

210 T: good

211 S: good

212 T: Ok, what does this make you think? What's on your mind?

213 S: Hmm I think they lost the gold. I have started to get the thing now I think, they

214 lost it then when they found it they happ…I mean they probably felt better (14.07 mins)

215 T: What do you think?

216 S: Hmm

217 T: Ok. Is there anything else on your mind?

218 S: There is nothing else on my mind but this /nəgbərt/ /rajs/ these

219 if I understand what they mean, what they are.

220 The words, I can get it better.

221 T: There are words that you know. Ok, I think there are words that you know

222 S: Yes. If I don't know I wouldn't understand what gold was (14.38 mins)

223 T: Ok, that's it. Now, I have a few questions for you, hm. Could you understand the text that 224 you read, what do you think?

225 Can you comment on how much you have understood?

226 S: I understood some of what I read, because there were words that I knew; I used them

227 and could understood understand what the text was about

228 T: Ok. You understood what it is about, what is it about then?

229 S: Gold and money

230 T: It is about gold. You used the words that you know

231 S: Hm hm. Village, in a village.

232 T: Is there anything else that you did to understand the text?

233 S: I read again and again

234 T: You read again and again, what else?

235 S: Hm I thought words... I mean, I started to think about the words that I didn't know

236 T: You thought about the words that you didn't know. What else?

(Silence)

237 S: I thought about what were studied in the English lessons, the sentences…

238 the right way of reading them, those

239 T: Hm you tried to remember the correct pronunciation of the words that you learned.

240 S: Hm hm

241 T: You tried to remember the word meanings.

242 S: Yes

243 T: Ok, You thought that the content of the text was on gold

244 S: Yes and that it was in a village

245 T: Can you comment on it? You think that the story was in a village. Is there anything else

246 that you think about the events in the story? (16.07 mins)

247 S: There are two children who are friends, I think they started to search for gold in the village

248 and the dug a place. They lost something, they were sad. But I can't guess why they were

249 sad, I mean I can't guess what they were sad about

(pause)

250 T: Ok, you say that you couldn't understand those parts of the text

251 S: Hm hm

252 T: Ok

253 S: They may have lost

254 T: Hm hm

255 S: Or someone else may have taken it

The Motivation and Metacognitive Awareness Interviews

256 T: Ok, right, could you distinguish easy text from difficult ones when you read in English?

257 S: Yes I can.

258 T: For example, if a text is difficult could you understand that it is difficult or could you

259 understand that it is easy?

260 S: I can understand that it is difficult.

261 T: How?

262 S: Because there are a lot of unknown words in some texts, they are difficult to understand

263 T: Hm, when there are words that you don't know, you think the text is difficult. Ok, right,

264 how much do you work to learn English? (17.07 mins)

265 S: To learn English, I have a daily work plan. I work on those, I work on English on

266 Mondays.

267 T: How? Do you work at home?

268 S: At home.

269 T: Is there anyone who is helping you?

270 S: Naziyet sister, I sometimes work with her and sometimes…

271 T: Outside school, is she your sister?

272 S: No. She is my sister-in-law's sister, but she doesn't help so much

273 T: She sometimes help you. What do you do at other times?

274 S: At other times, I look through the notes from the lessons that we do in class on my own.

275 T: You repeat

276 S: hm hm

277 T: Ok. Right, what do you like to do in English classes? What do you like to do among the

278 things that you do in the classroom?

279 S: I started to like the English classes more this year.

280 T: Why?

281 S: Because out teacher is not strict, she does better things

282 T: What do you do in the lessons? (18.02 mins)

283 S: We chat sometimes about things

284 T: Right, do you like to read, write, speak, or listen in English?

285 S: I like time all.

286 T: You like them all. Right, are you interested in learning English?

287 S: Yes

288 T: You are. Ok, right, do you read texts in the English classes? Like this one for example,

289 (showing the text in front of her) do you read stories?

290 S: Hm, we read in the textbook.

291 T: You read in the textbook. Right, do you think that these are useful for you?

292 S: Yes

293 T: Hm hm

294 S: Because, the questions are from those, so we do better in the exams

295 T: Hm, they make you do better in the exams.

296 S: Yes

297 T: Because the questions are related. Do you like reading?

298 S: Hm, yes

299 T: Do you like reading?

300 S: Yes I like it.

301 T: You read with interest

302 S:hm hm (19.00 mins)

303 T: Ok, hm. Right, do you use any specific ways or tactics while you are reading? To help you

304 understand ?

305 S: I do.

306 T: Like?

307 S: Sometimes when I am studying. I mean when I work on my lessons daily, I use my

308 English dictionary; I find words, I use them in sentences

309 T: Is there anything else that you do?

310 S: What else, I order scrambled words to make sentences.

311 T: Is there anything else that you do except from using a dictionary?

312 S: Hm, yes there is.

Silence

313 T: What do you do?

314 S: For example, I work at home, I find the word.

315 T: Right, do you think that it is useful for you to use a dictionary.

316 S: Yes it is.

317 T: Ok, Right. How do you evaluate your English reading ability? (20.04 mins)

318 S: Hm, For my age, if I can understand by myself it is good. I mean if I can understand what

319 I read by myself it is good for me.

320 T: Hm, if you don't understand?

321 S: If I can't understand, it is not about my reading, because, I think, understanding is related

322 to knowing words.

323 T: hm, it is related to words. You say that it can be good if you understand the words, but if

324 the texts are difficult

325 S: I mean, reading, I mean, if I can read the words that I know for example village, I know

326 how to read those

327 T: Hm, if you can read them it is good.

328 S: Yes

329 T: Right, for example, you used the words that you know to understand the text here, is there

330 anything else like this that you used while you were reading the text?

331 S: I first start by keeping the words I know in my mind (21.02 mins)

332 T: Hm, is there anything else that you did?

333 S: What else, I mean, by reading again and again.

334 T: You read again and again.

335 Ok, thank you very much, you were in class 7B right?

336 S: Yes

(Duration:21: 31 mins)

Transcription code: TAP-M3

Think-aloud Protocol – Mary (Medium level achiever/ Intervention group student)

Think-aloud Protocol

69 T: Now, what do you do when you start reading? Start reading as usual.

70 S: I read the title, if there is a word that I know in the title, hm, for example, here look, there 71 is a compound word here. I try to find the root of the word. In the tile here for example, I try to 72 find the root and then I try to make a guess (04.03 mins.).

73 T: Hm, you look at the title, what else?

74 S: Yes

75 T: Then, what do you try to guess about the story?

76 S: The rest of it.

77 T: The content?

78 S: Yes

79 T: You try to guess the content. Did you look at the title here?

80 S: I did, but…

81 T: What does it say?

82 S: I think there is a name here. Is this a name?

83 T: Hm, there is something on your mind about its meaning, right?

84 S: No.

85 T: Ok. You can't make a guess, because you don't understand the word. You say that you

86 would normally make a guess from the title. Ok, what else do you do?

87 S: I look at the pictures; I try to make guesses about the events in the story.

88 T: Hm hm

89 S: Then, when I read a sentence and I don't understand it I wait and think a bit, hm if there is a 90 part that I don't understand, I use the familiar words to try to understand it.

91 T: Hm hm Ok, let's talk about it more after you read some.

92 S: But I can't read well. (05.01 mins)

93 T: But you made good comments until now.

94 S: I mean, I don't read aloud, but I look at it and then I try to.

95 T: You read silently. Ok, you can do silent reading for a while.

96 S: Hm, this one this, I mean, in the first sentence hm /vilɐ/ hm this means village.

97 T: hm, ok

98 S: I learned this in your course, hm /mæn/means man hm I think there is a man in the village 99 there is a man living there.

Silence

100 T: Ok, did you understand this from the sentence? Or from the picture?

101 S: from the sentence

102 T: Ok, let's go on.

Silence

103 S: Here there is the thing.

104 T: Can you read the second sentence aloud please? (06.00 mins)

105 S: /hi wəz rəjtʃ bət hi dɪd dɪd nɑt dɪdnt/ must be, isn't it? Here they explain it in the longest 106 ways, they do.

107 T: Yes, it is the long version of is 'did not'

108 S: /dɪd nɑt lajk sipindink məni/

109 S: Money, it means money but means but, but here they have put a comma this means that 110 it is related to the sentence here. Rich; rich must means something, for this reason they

111 continued the sentence this sentence, but

112 T: Do you recall it? Do you think of anything?

113 S: No, I don't recall anything, rich!

114 T: Hm

115 S: But I saw this somewhere. I am sure I have seen it, but I am not sure, I can't recall /lajk/

116 hm /lajv/ hm doing thing /lajv/

117 T: hm

118 S: /lajk/ too. It may mean to love. /lajk/ to like to love maybe

119 T: Ok, Is there anything else on your mind? (07.02 mins)

120 S: I think, money, with money

Silence

121 S: It seems like, he doesn't like money.

122 T: This is what you thought, ok, go on.

123 S: Hm I mean /hæpi/ hm now /hæpi/ hm I mean hm it means happy but /ən/ I mean 'un' is 124 written there. This means that he is unhappy.

125 T: hm Ok.

126 S: Because, it is made negative, since it is in front of it. This made it a different sentence.

127 T: Ok.

(She read silently again, I didn't make her to read aloud)

128 S: I think here although the man has money, I mean, although he had money I was unhappy.

129 T: hm hm

130 S: /wɑnt/ to search, he is searching.

Silence

131 S: Hm /sipint/ I don't know what that means but (08.02 mins)

Silence

132 S: He is searching for something.

Silence

133 T: How did you understand this?

134 S: Hm, I understood it from /wɒntəd/.

135 T: What other words do you know?

136 S: Hm /məni/ I don't know, then /lɪtəl/ means a few.

137 T: Hm hm

138 S: No, it doesn't mean a little, it means a few.

139 T: hm

140 S: Hm then, it is written as /sipint sipint/ I don't know this either. Some money.

Silence

141 T: What do you do now?

142 S: Hm in my mind hm the sentence, I mean, hm I am trying to make guesses using the 143 familiar words in the story.

144 T: Hm hm

145 S: Generally English starts from the end. Like this, you read from the start but you go from 146 the end to understand it.

147 T: hm you mean when translating into Turkish.

148 S: Yes

149 T: You may translate better when you go from the end of the sentence (09.02 mins)

150 S: Yes

(She still reads silently)

151 T: What sentence so you read?

152 S: I am still thinking about this sentence

153 T: You read that sentence again and again.

154 S: Yes

155 T: Ok, continue if there is not anything else that you are thinking.

156 S: I think the man is searching for something, some money and something else as well.

157 T: Hm

158 S: But I don't know what he is looking for.

159 T: You are looking at the picture too now.

160 S: Yes

161 T: What are you thinking?

162 S: I think, this man, no, this one. I think this. I mean, hm, someone left something. Hm 163 someone left something there, then he remembered that he left something there, and then searched for it.

164 T: In the picture, you first showed the man standing and then the one sitting down. Which one are you talking about?

165 S: Now I am talking about the one who is sitting down. No, first I am talking about the one 166 who is standing. There was the word 'search' there I thought it was this but then here, hm, 167 here there is one more man here. He is digging, he is looking for something. This one this 168 with blue t-shirt (10.08 mins)

169 T: He is doing?

170 S: I think, something something, he left something there earlier.

171 T: Hm what do you think he left there?

172 S: I don't know. But look he is holding something in his hand, pointing it towards his mouth. There is something white.

Silence

173 T: This is what you think about the picture.

174 S: But he opens his hand towards the other man, the other man does like this.

Silence

175 S: I think he puts his money here.

176 T: Hm what did you do here? Did you guess?

177 S: Yes

178 T: Ok, Can you read the text a bit more from where you were?

179 S: Do I read aloud?

180 T: Can you read aloud for a while?

181 S: /wən de hi disidənt tu baj ə bɪg/ hm teacher, how do I read this? (11.03 mins)

182 T: Piece

183 S: /pis əf gold wɪd hɪz mə məni/

184 S: Gold! Gold means gold, money gold, with his money, one day the man with his money 185 I mean with his gold /disidənt/ or I /disidənt/ I knew this. /bɪk/ big. He is digging a big hole 186 and puts them in. He puts them in.

187 T: This is how you understood.

188 S: Yes

189 T: Ok

190 S: No /baj/ to sell /baj/ to buy or to sell probably /baj/ /baj/ hm

191 T: You are not sure

192 S: Hm

Silence

193 S: This takes something, takes something hm

Silence

194 S: Hm is this to search? /disidənt/ is he trying to find something? To find his money 195 does he want to find? (12.16 mins)

Silence

196 S: Money hm

Silence

197 T: You are looking at the picture, you are thinking, you haven't recalled.

198 S: I haven't.

199 T: Continue.

200 S: /hi pʊt ɪt ɪn ə hol nɛkst tu nɛkst tu æn olt wɒl/

201 S: /olt/ it may both mean old and it may also mean, the thing, age.

202 T: Hm

203 S: Village hm village village

Silence

204 S: /pʊt/ hm /pʊt/ may be to put (13.02 mins)

205 T: hm

206 S: Put to put yes

207 T: What are you doing?

208 S: He is putting something

209 T: Where?

210 S: Somewhere away from the village, somewhere close to the village. I think old, hm I think 211 old hm the thing old not being used here the meaning of /olt/

212 T: Hm

213 S: A piece of land that is not being used, hm.

Silence

214 he buries it there.

215 T: Hm

216 S: I mean he puts his money there.

217 T: Ok, continue if there is not anything else on your mind.

218 S: Hm

Silence

219 S: Something else!

Silence

220 No.

221 T: Ok, continue reading.

222 /hi wɛnt tu si hɪz golt vɛri de/

(I think children tend to read 'every' as 'very' in general)

223 S: He always goes hm he always goes and looks at his gold

224 T: Hm Ok

225 S: He probably looks at his gold

226 T: Again you focused on the words that you know.

227 S: Yes

228 /wən de wən əv hɪz wərkmən sɛl hɪm/ man hm /wərkmən/ working, work

229/wərk/

230 T: What is that?

231 S: /wərk/ is it to work? /wərk/ hm

Silence

232 T: hm hm

233 S: The man probably

234 T: hm what can it be?

235 S: To love hm

236 T: What can it be, right, what can workmen be?

237 S: /wərkmən/ /mæn/ it means man /wərk/ it is either worker or

Silence

238 S: I think it may be worker but (15.00 mins)

239 T: Hm if it means that, what it may mean here?

240 S: Man who works

Silence

241 S: The man is working? No!

Silence

242 S: The man hm /si/ I mean /sɐw/ here it is past of /si/.

243 T: Hm

244 S: /hɪm/ too of the thing /hi/ hm of the thing /hi/ what was it?

Silence

245 S: Probably it is written here as past probably. I am completely confused teacher

246 T: No, you got some part of it right.

Silence

247 S: He sees, one day he sees.

248 T: Who?

249 S: Who? Does he see his colleague? May he see his friend?

Silence

250 T: Ok, if there is not anything else on your mind continue. (16.01 mins)

251 S: There is not anything else on my mind.

252 /hi wəz wəz nɛkst tu ðə olt wɒl lʊkɪnk æt səmti səmətink/

253 S: Hm /hi wəz/, soon

Silence

254 S: Looks

255 T: hm

256 S: /səmt/ I knew this I did.

(she uses sub-vocalisation here.)

Silence

257 S: Somewhere near, he looks at the old land near there.

258 T: Hm

259 S: May be from time to time he /səmtink/ /lʊkɪnk/ looks

Silence

260 S: /lʊkɪnk/bakmak, /lʊkɪnk/ the man looks, where does he look? (17.04 mins)

261 S: Old or aged /wɒl/ /wɒl/ could it be the land? Land.

262 T: You looked at the picture too when you asked whether it could be the land too.

263 S: Yes

264 T: Why?

265 S: The man probably buries something there. He looks here. Look! There is something on the 266 land.

267 Like this, I think there is some soil like this, may be. If it was a land that was not being used, 268 grass may have grown, this could mean that it is not being used.

269 T: Hm

270 S: but it is next to a piece of land that is in use, look the land that they are standing on is grassy.

271 T: Hm

272 S: I mean there is grass there but

273 T: If there is grass, what does it mean?

274 S: Grass, may it be a forest? Grass, I mean, hm.

275 T: You are not sure, ok, continue. Read a bit more. (18.00 mins)

276 /æftər ðə rajs mæn wɛnt hom ðə olt mæn kem/

277 T: Hm

278 S: He goes to the old man,

Silence

279 S: I am so confused, I knew it all teacher.

280 T: Ok, let's talk up to here, what could this text be on?

281 S: I don't know, I think this story may be in a village.

282 T: Hm hm

283 S: Hm a mean wants to bury his money. He has money but I think this man is not happy.

284 He wants to get rid of his money now, I comes up with an idea. He thinks he may need to 285 bury this money. He may be thinking that, he could use this money later when he needs it.

286 T: Why did you think that you got confused?

287 S: There are other thing in the picture, what's written there is different? (19.00 mins)

288 T: Hm do your thoughts contradict with the picture?

289 S: Yes

290 T: Ok, right. What do you think by looking at the picture?

291 S: I think they are friends probably.

292 T: What is the part that is not consistent with the picture here?

293 S: The contradicting part hm, for example, here it says unhappy for the man right but
294 here the two of them look they are smiling
295 T: hm the one who is standing is smiling
296 S: This one, I mean, he is working on digging now, means he is thinking something.
297 T: hm hm
298 S: Here I don't think there is not anyone who is unhappy.
299 T: I see, for you it does not match to the picture.
300 S: Here I don't see any money, I mean it doesn't seem to be gold in their hands or in
the
301 place that they were digging.
302 T: Ok, but here the text says more than the picture. (20.01 mins)
303 S: Yes
Silence
304 T: You got confused when you looked at the picture.
305 S: Yes
306 T: Ok, I have a few questions for you. Let's move onto the questions and then if we
have tile 307 left then we can continue with our talk on the text.

The Motivation and Metacognitive Awareness Interviews

308 T: How hard do you work to learn reading in English? Do you study at home?
309 S: Average. I revise lessons that we learn in the classroom. I go over lessons at home.
310 T: hm hm
311 S: Hmm then
312 T: You mean, apart from doing homework, you revise lessons.
313 S: Yes teacher, I revise the topic that we study in class. I look through them.
314 T: Do you do this every day?
315 S: Teacher, when there is a lot of homework I can't. But for example, I do it when I
am free, 316 then I do it when I have little homework. I revise after I finish my homework.
317 T: hm hm, what do you do about the reading texts?
318 S: About the reading texts, hm I mean, hm, there were the things in the workbook,
there are 319 reading texts in the workbook, things like reading texts, there are words that I
don't know I 320 look them up in the dictionary, I think and I complete them. I don't have
an English

321 storybook, but nonetheless I am curious to read English stories. I really like to read them.

322 T: You read the stories in your textbooks then.

323 S: Yes

324 T: Ok. Right, what do you like to do in your English classes?

Silence

325 T: For example, there is reading, writing, listening and speaking, which of these do you like 326 the most? Think of the classes that you do with Sophia teacher.

327 S: I mean, I mostly like the activities that we do as a whole class. I mean, the teacher shows 328 something, for example, how can I say, hm, we recently studied a topic on the United

329 Kingdom which means United States (translation mistake) We are still on this topic. No we 330 are doing the activities in the workbook. When we do the activities in the workbook we do 331them all together and we discuss and I really like this. For example, I really like when

332 everyone participates.

333 T: Do you discuss in English or in Turkish?

334 S: Hmm, we answer in English, the teacher asks why, then we need to say why this is so,

335 there is this and that, we give reasons. We discuss in Turkish but we answer the questions in 336 English.

337 T: hm hm you answer in English. Right, do you think that learning English is interesting for 338 you? Are you interested?

Silence

339 T: Do you like learning English?

340 S: Yes I like Learning English.

341 T: Do you enjoy it?

342 S: Yes I enjoy it.

343 T: You like it.

344 S: Yes

345 T: Right, we mainly did reading classes; do you think that these lessons were useful for you 346 and your classmates?

347 S: Yes

348 T: In what way were they useful?

349 S: Hmm. For example, we can find the meaning of a word that we don't know.

350 T: hm, how?

351 S: Hm, for example, if it is a compound word we look at the root.

352 T: hm hm

353 S: If it is a simple word, I mean, if there is a past tense suffix, we first look at the word root. 354 We then look through the rest, I mean we find the meaning of the sentence. Then, at the

355 classes that we do with you, we use our ability to make guesses. We look at the pictures. We 356 then ask questions, then hm hm, we make a conclusion. I think it is really useful.

357 T: Do you use these tactics in other reading classes.

358 S: How do you mean?

359 T: Do you try to use them?

360 S: Do you mean in English?

361 T: Nope in English?

362 S: You mean in English?

363 T: For example, do you use them if I am not there?

364 Or do you feel that you should use them?

365 S: Yes

366 T: Making guesses for example, guessing them meaning of a sentence.

367 S: Yes, I do use them, I do try to guess the meaning of sentences. Hm I mean, I try to guess 368 the meaning of a compound word for example, then hm, I look at pictures. We discuss with 369 the teacher, why do you choose this, how do you decide that this is what it is, which word 370 would you place in the space provided, what is the difference, this is the way we discuss

371 things.

372 T: Right.

373 When you are given a text can you say whether the text is easy or difficult?

374 S: Yes.

375 T: How do you understand this?

376 S: When there is a text, I look at a sentence, if there are 4-5 words in a sentence but I only 377 know one of them, hm it is difficult for me.

378 I mean if I can't understand or make a guess the text is difficult for me.

379 T: I understand ok. Right, how do you evaluate your reading performance here, were you

380 good, average or bad?

381 S: bad

382 T: Why?

383 S: I didn't recall any of the words.

384 I didn't recall any of the words that I knew.

385 T: You didn't recall. (25.01 mins)

386 S: But I normally do recall.

387 T: Hm hm you forgot some of their meanings.

388 S: Yes

Back to the Think-aloud Protocol (Retrospection)

389 T: Which tactics did you use?

390 S: I first looked at the words that I knew, then I guessed the meaning of the sentences.

391 Then, hm (silence) for example, every day means day for example, day means day, that I

392 knew. Everyday means everyday (25.33) I guess that from there. Then, gold them meaning of 393 gold is... for example, hm gone go means to go I mean go hm past, in past tense, it is 'went' 394 for example, I knew that

395 T: Hm you knew that, this is how you guessed! Right, is there any other strategies that you 396 used that were not related to words. For example, you looked at the picture.

397 S: Yes

398 T: I looked at the title.

399 S: Yes, I guessed (26.00 mins)

400 T: Was there anything else that you did?

Silence

401 S: I asked a question hm I mean hm, for example, why that man wanted to bury this gold? 402 This is what I am stuck with, I am thinking about this. I am thinking teacher, but this got me 403 confused.

404 T: hm hm

405 S: Also, who is this man next to him? This is what I thought for example teacher. I asked

406 myself, teacher, but I am so confused.

407 T: You mean that there were questions that you could not find answers to.

408 S: Yes.

409 T: Were there other strategies that you used?

410 S: Hm

Silence

411 S: I looked at the picture, but I could not understand anything from the title, because I didn't know.

412 T: hm you said that you could guess if you understood something.

413 S: Yes

414 T: Ok

415 S: hm the picture did not have any details either. I couldn't guess very well.

416 T: hm hm (27.00 mins)

417 S: Also, there were words that I didn't know. A gain I couldn't guess.

418 T: hm hm

419 S: I thought that this was difficult for me.

420 T: Could you guess that words you didn't know based on the words that you knew?

421 S: Yes I tried, but I think it didn't work.

422 T: hm hm

Silence

423 T: Is there anything else that you recall that you want to tell me?

Silence

424 S: Teacher here, /vɪsət/ isn't this to visit? /vɪsət/ look to visit, every day. 425 he visits, now this one is stuck in my head while I am reading.

426 T: Hm right, what could it mean by saying that?

427 S: I mean, every day, he goes somewhere, he visits, but where does he visit?

428 T: You were looking at a line a few lines above that, what did you do? Did you look through?

429 S: Yes

430 T: You had a looked?

431 S: Yess, I looked through from the beginning, This took my attention, I stopped there to think. /vɪsət/ there one 432 de I learned this, to visit I thought I thought /vɪsət/ it means to visit 433 /ɛvəri de/ means every day, it means that he visits some place every day. (28.15 mins)

434 T: hm hm

435 S: Hm but where does he visit? Who? Does he visit the place with someone? Or does he go 436 on his own? Also, where does he go? Why does he go?

437 T: What do you think as the answer to these questions?

438 S: I think the man goes to where his gold is?

439 T: This is what you think?

440 S: Yes

441 T: Ok, Let's cut this here.

(Duration: 28.51 mins)

Transcription code: TAP-M4

Think-aloud Protocol – Martin (Medium level achiever/ Control group student)

7B Orta erkek ofrenci Mustafa

73 T: We have a short text, can you read it aloud? Can you start reading as you always do?

74 S: /ðɛr wəz ə rɪtʃ mæn ɪn ə vɪlɪdʒ./ /hɪz wəz rajs but hi dɪd nɑt lajk spid məni hi wəz unhæpi

75 wɛn hi spid məni hi wɑnt tu spid æz lajtəl məni æz hi kæn./ /wən de hi dəsis tu baj ə bɪg pis əv 76 gold wɪθ hɪz məni./

77 T: ok, is there anything that you are thinking up to here?

78 S: No, I read comfortably.

79 T: About the meaning of the text?

80 S: To read now, we should not be scared of the text when we see it. To read now, When we

81 see the text we should not be scared of it, I mean we should not worry, if we approach it with 82 comfort, I am sure that everyone can do this, I mean they can read like this. (05.03 mins)

83 T: Ok, have you thought something about its meaning?

84 S: I generally get the meaning when I finish reading the text. It becomes obvious from the

85 sentences anyway. It becomes obvious from the next sentence; I start to make definitions

86 about the end of the story, about how it is going to be.

87 T: what do you mean by definitions?

88 S: I mean, hm, thoughts.

89 T: Hm would you guess? How would you guess? (helping with the expressions)

90 S: It can be understood from the sentences, how it is going to end.

91 T: Hm right, have you understood the sentences up to here?

92 S: Some, there are sentences that I don't know what they mean.

93 T: Hm sentences or words?

94 S: Words

95 T: There are words that you don't know right. Hm are there words that you know up to here?

96 S: Yes there are.

97 T: Which ones do you know?

98 S: For example, there is money here.

99 T: Hm what does it mean?

100 S: It means money.

101 T: What else? The words that you know (06.00 mins)

102 S: Hm what else is here after that? Next a question,

Silence

103 S: every day

104 T: What is it?

105 S: Every day, I think it means day.

106 T: Ok, let's go on reading.

107 S: /hi wəz nɛkst tu ðə old lʊkɪŋ æt səmθɪnk æftər rajs mæn wɛnt hom old mæn kəm hi fɑnd 108 ðə gold ænd tok ɪt./ /ðə nɛkst de wɛn ðə rajs mæn kəm tu si hɪz gold hi rajsild ðæt ɪz wəz nɑt 109 ðɛr./

110 /ðə rajs mænz nejbəd sæm hɪm hi wəz sejd./

(He reads with a poor pronunciation, but he is not aware of it)

111 T: Is there anything that you think up to here? Is there anything on your mind?

112 S: No

113 T: Ok, let's go on. (07.00 mins)

114 S: /vɪzət ɪt ɛvəri de, ɪt wɪl nɑt du mətʃ dɪfərənt tu ju.//ju dɪd nɑt jus jər gold fər ɛni gʊd wɛn ɪt 115 wəz ðɛr./

116 T: Ok, what do you think about the text now?

117 S: The text here, the meaning is written. Here is a picture, we can understand the meaning by 118 looking at the pictures as well.

119 T: Hm is there anything that is going on your mind by looking at the picture.

120 S: There is a child on the ground. He dug a hole, there may be something inside. They are 121 looking at it.

122 T: hm right, does that text tell you what the story is about?

123 S: It must tell. The text is about the picture.

124 T: hm

125 S: There is a connection.

126 T: Right, do you understand what the text tells you?

127 S: I think there is something in the hole, I mean, as far as I understand from the text, the child standing says look there is something inside, 128 and the child sitting looks at the with surprise.

129 T: Hm hm you are telling me all these by looking at the picture. (08.02 mins)

130 S: Yes

131 T: I think that you benefited more from the picture. Ok, What else do you do to understand 132 and English text?

133 S: When there are sentences that I understand, it is meaningful for me. But when I am faced 134 with words that I don't understand, I look them up in the dictionary, when there are no pictures.

135 T: Hm hm

136 S: This way I would understand.

Silence

Transcription code: TAP-A5

Think-aloud Protocol – Allen (Low level achiever/ Intervention group student)

Think-aloud Protocol

81 T: Now you can start, you can start to read as you always do.

Silence

82 T: What are you doing now? You looked through the text, what did you look at?

83 S: Teacher, I looked at the picture and the title first.

84 T: Ok, what are you thinking about these?

85 S: Teacher, these are names right?

86 T: What are you thinking? If there are names what made you think that they are names?

87 S: I don't know teacher, they look like names.

88 T: What made you think that they are names?

89 S: Hm I don't know.

90 T: You are not sure.

91 E: Yes teacher.

92 T: What else is on your mind?

93 S: The pictures teacher.

94 T: What are you thinking about the picture?

95 S: Teacher, a child looks at another, and the one on the ground digs a hole. The one who is

96 standing is either telling him that it is wrong or he is trying to join him.

(05.06 mins)

97 T: or they will do it together, is there anything else on your mind.

98 S: No teacher.

99 T: Do you think that this picture is about the text?

100 S: yes

101 T: What do you think it is telling you about the text?

102 S: What is it telling about the text, about the text?

103 T: Tell me if there is anything else on your mind.

104 S: No teacher.

105 T: You can read if you are ready.

106 S: Teacher, I don't; want to read it out.

107 T: Read a bit, it is just the two of us here, there isn't anyone else.

108 S: No teacher, I don't want to read.

109 T: you know, this is not going to get marked.

110 S: hm

111 T: you had a good start.

112 S: My English is really bad teacher.

113 T: It won't improve if you don't try. (06.01 mins)

114 S: I don't understand the words.

115 T: we are not in the classroom now

116 S: Do I read aloud or silently?

117 T: How could you be more comfortable?

118 S: Teacher, am I going to try to understand?

119 T: Of course.

Silence

120 S: Teacher, I read but I don't understand.

121 T: Ok, what did I tell you in the classroom what did I tell you to do to understand the text? 122 What we discussed you could do to understand the text?

123 S: To the pictures, the word roots and the title.

124 T: Ok, right, you looked at the title and the picture. You got something and told me.

125 S: Hm hm

126 T: If you don't look at the text you can't figure whether there are words that you know. (07.00 mins)

127 S: Teacher I looked, but there are none. (silence)

128 T: Give it a read. Can you read the first two sentences for me?

129 /ðɛr wəz/ (silence) /ðɛr wəz ə rɪtʃ mæn ɪn ə/ (silence) /vilɛk vilɛk/

130 T: Right, is there a word that you know up to here?

131 S: No teacher.

Silence

132 T: Read a bit more.

133 /hi wəz rɪtʃ bət hi dɪd nɑt dɪdnt lajk sipink mɛni/

134 T: Is there a word that you know here?

135 S: How do you mean teacher, among these words?

136 T: Is there any word that you know the meaning of?

137 S: /bət/ there is but /dɪd nɑt/ I do I say, I mean, I know but I can say

138/səpənik/ … (08.06 mins)

139 T: can you read a bit more?

140 S: Teacher I can't read. Could I not read?

141 T: You reading is not bad, you read ok.

142 S: Teacher, I don't understand.

143 T: So you don't recall the word meanings?

144 S: Yes teacher

145 T: Read a bit more, have a look through to find whether there are words that you know.

146 /hi wəz ənhæpi wɛn hi sipit mɛni/

147 S: Teacher /hæpi/ there /ənhæpi/ I don't know what it means. /hæpi/ happy, something like 148 this.

149 T: is there anything that you are thinking? What could it be? (09.00 mins)

150 S: I don't know teacher.

Silence

151 S: Teacher, looking at the picture but a little.

152 T: What did you get by looking at the picture?

153 S: /hæpi/ happy, it is normally said in birthdays.

154 T: It is said at birthdays

155 S: Yes

156 T: Yes there is a song as well

157 S: Yes teacher, like that, it was a child's birthday and they brought him out with his brother 158 while they were out they saw a hole and they were looking at it.

159 T: Do you know what money means?

160 S: I don't teacher.

161 T: Ok, read a bit more.

162 /hi wɐtəd tu sipit æz lajt mɐni æz hi kæn/

Silence

163 T: Is there anything that you understand?

164 S: No teacher, there isn't anything here.

Silence

165 T: Read a little more. Teacher, how is this read? (10.02 mins)

166 /w wən de hi dɐrkɨt tu baj ə bɪk pi/ Teacher, how is this read?

167 T: Piece

168 S: /piz əv golt wɪt hɪz mɐni/

169 S: Teacher here one day, one day

Silence

170 S: Teacher, I can't. One day, something big, but I couldn't understand the rest.

171 Silence

172 S: … (Inaudible)

173 T: Do you know what 'penny' means? There is the word 'penny' in the title. (11.00 mins)

174 S: I don't know teacher, it may be a name.

Silence

175 S: Penny

Silence

176 S: I don't understand teacher.

177 T: I didn't understand.

178 Teacher, I don't really understand teacher, I read a little but I don't understand the sentences

179 T: Right is it that you don't recall the words or is it that you forget because you feel nervous. 180 S: I don't know teacher, I mean I forget some of them, I mean, I knew them but I forget them.

T: Ok, there are a few questions that I would like to ask you about the text. You made some comments about the text, but can you gather them together again, can you tell me what you think about the text?

S: These teacher?

T: Yes, for example, how did you understand that the title gives names? Did it make you recall something?

S: The sign here.

T: The dash in-between?

S: Name

T: Are there dashes between names normally?

S: Yes

T: You say may be. Is there a name like that in your mind?

S: No teacher

T: Ok, looking at the picture you said that there are two children, one of them was digging a hole where are they?

S: These are somewhere in the forest

T: What did you think that?

S: Teacher, there are trees behind them and they are looking at a hole. These places are forests

T: You say that trees and places to dig holes are at forests. Off course you know what a forest look like and depending on this information and looking at the picture, this is what you thought. Is there any other word that you know in the text.

S: How teacher?

T: For example, there is unhappy there, you know what happy means; do you know what unhappy could mean?

S: Teacher, I don't know, cheerful?

Silence

Transcription code: TAP-A6

Think-aloud Protocol – Alfred (Low level achiever/ Control group student)

Alfred – Low Level Achiever – Control group student

The think-aloud protocols starts after the think-aloud training.

71 T: This is our reading text, read the way you normally read. Start reading the text in the way

72 you would normally read. You run your eyes over the text, what do you think? You are now looking at the picture.

73 S: I think this... no, this text is about the nature.

74 T: A text about the nature, how did you understand this?

Silence

75 S: They dug a hole and found something, also there is a green area.

76 T: hm ok

77 S: Do I read the text?

78 T: Yes

79 S: /ðɛr wəz ə rɪtʃ mæn ɪn ə vɪlɐtʃ. hi wəz rɪtʃ bət hi dɪd nɑt lajk spɛndɪnk mɐni. hi wəz ənhæpi

80 wɛn hi spɛnt məni. hi wɒntəd tu spɛnt æz lɪtəl məni (Silence) æz hi kæn. wən de/ how is this

81 read? (06.07 mins)

82 T: How do you think it could be read? Try.

Silence

83 T: Decided

84 S: /hi dəsajdəd tu baj ə bɪk piz əv gold wɪθ hɪz məni./

85 T: Ok, is there anything on your mind up to here?

86 S: hm hm, there are looking for some money and they found it in the hole.

87 T: Some money, what is there?

88 S: They were looking for the money and they found it in the hole, I think?

89 T: Ok, is there anything else that you are thinking? How did you understand this?

90 S: It says both /məni/ and /wɐntəd æz lɪtəl məni/ I mean, they are looking for that little money.

Silence

91 something like this.

92 T: Ok (silence) go on (07.02 mins)

93 S: /hi pɐt ɪt ɪn ə hol nɛkst tu æn olt wɒl ɪn ðə vilɐtʃ. hi wɛnt tu si hɪz golt ɛvəri de. wən de wən

94 əf hɪz wərkmən sɐv hɪm. hi wəz nɛkst tu ðə olt wɒl lʊkink æt

95 səmtink./

96 T: Ok, is there anything on your mind up to here?

Silence

97 S: Hm, I think the boy thought that he was going to find some money on that day.

98 T: hm how did you understand this?

99 S: It says /hi wɛnt tu si hɪz golt ɛvəri de/. /golt/ gold /ɛvəri de/ is something like money.

100 T: This is how you understood that he would find money.

101 S: hm hm, I thought that he could find gold.

102 T: Continue

Silence

103 S: Where was I? (08.00 mins)

104 S: /æftər ðə rɪtʃ mæn wɛnt hom ðə olt mæn kem hi fawnd ðə golt ænd tʊk ɪt.

105 ðə nɛkst de wɛn ðə rɪtʃ mæn kem tu si hɪz golt hi rəlizɨz ðæt ɪt wəz nɑt

106ðɛr./

107 T: Is there anything that you are thinking up to here?

108 S: No, I couldn't solve this.

109 T: Are there any words that you know?

110 S: There is.

111 T: Which ones?

112 S: /golt/, /hi/, /mæn/, /kem/ these words

113 T: hm what are they?

114 S: /golt/ gold. /hi/ man /mæn/ yes man. (Silence) /ðə rɪtʃ mænz nəjbɐr sɐv hɪm hi wəz sæd.

115 hɪz nəjbɐr sejt dont bi so sət go ənt brink ə pis əf ston ənt pɐt ɪn ɪt ɪn ðə hol vɪzət ɪt ɛvəri de.

116 ɪt wɪl nɑt du mətʃ ss dɪfərəns tu ju. ju dɪd nɑt jus jər golt fər ɛni gʊd

117 wɛn ɪt wəz ðəjr./ (09.25 mins)

118 T: What do you generally think about the story in the text?

119 S: They are looking for a piece gold and money

120 T: What else?

121 S: They asked their neighbour

122 T: hm

123 S: Like this

124 T: How did you understand these?

125 S: Hm it first talked about money here hm /wɛntəd tu spɛnt æz lɪtəl məni fɔr/ (He re-read)

126 S: Like this (silence) hm then here /golt/ it talks about something like gold, I are looking for

127 gold as well, I think they thought that they would find gold as well. (10.04 mins)

128 T: hm hm

129 S: This is what I understood

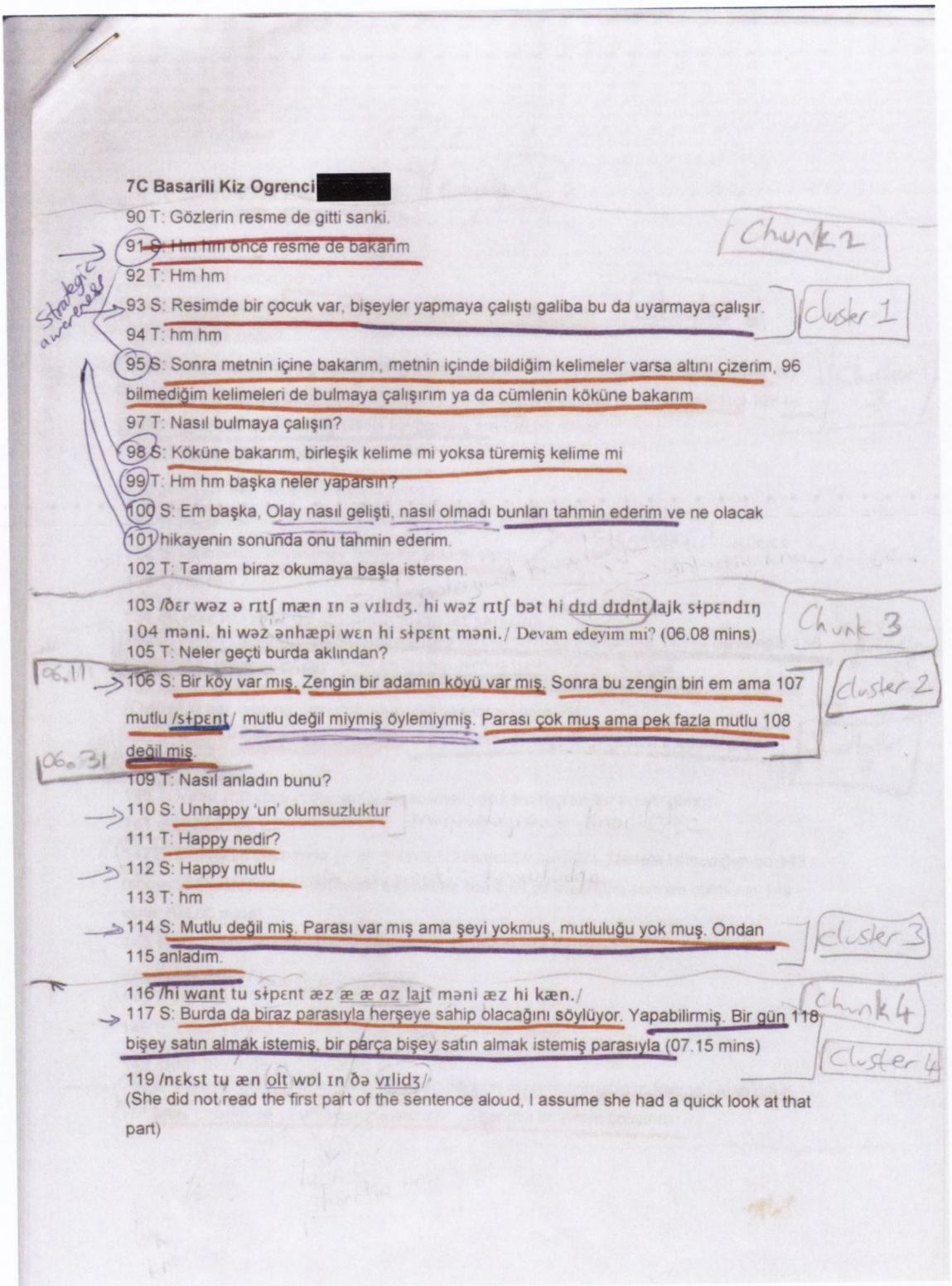
130 T: You looked at the words that you know, is there anything else that you did?

131 S: I looked at the picture.

132 T. Is this all? Is there anything else?

133 S: No

Appendix XIII – Think-aloud Protocols: Analysis



7C Basarili Kiz Ogrenci [redacted]

90 T: Gözlerin resme de gitti sanki.

91 S: Hm hm önce resme de bakarım

92 T: Hm hm

93 S: Resimde bir çocuk var, bişeyler yapmaya çalıştı galiba bu da uyarmaya çalışır.

94 T: hm hm

95 S: Sonra metnin içine bakarım, metnin içinde bildiğim kelimeler varsa altını çizerim, 96 bilmediğim kelimeleri de bulmaya çalışırım ya da cümlenin köküne bakarım

97 T: Nasıl bulmaya çalışın?

98 S: Köküne bakarım, birleşik kelime mi yoksa türemiş kelime mi

99 T: Hm hm başka neler yaparsın?

100 S: Em başka, Olay nasıl gelişti, nasıl olmadı bunları tahmin ederim ve ne olacak

101 hikayenin sonunda onu tahmin ederim.

102 T: Tamam biraz okumaya başla istersen.

103 /ðɛr wəz ə rɪtʃ mæn ɪn ə vɪlɪdʒ. hi wəz rɪtʃ bət hi dɪd dɪdnt lajk sɨpɛndɪŋ

104 məni. hi wəz ənhæpi wɛn hi sɨpɛnt məni./ Devam edeyim mi? (06.08 mins)

105 T: Neler geçti burda aklından?

106 S: Bir köy var mış. Zengin bir adamın köyü var mış. Sonra bu zengin biri em ama 107 mutlu /sɨpɛnt/ mutlu değil miymiş öylemiymiş. Parası çok muş ama pek fazla mutlu 108 değil miş.

109 T: Nasıl anladın bunu?

110 S: Unhappy 'un' olumsuzluktur

111 T: Happy nedir?

112 S: Happy mutlu

113 T: hm

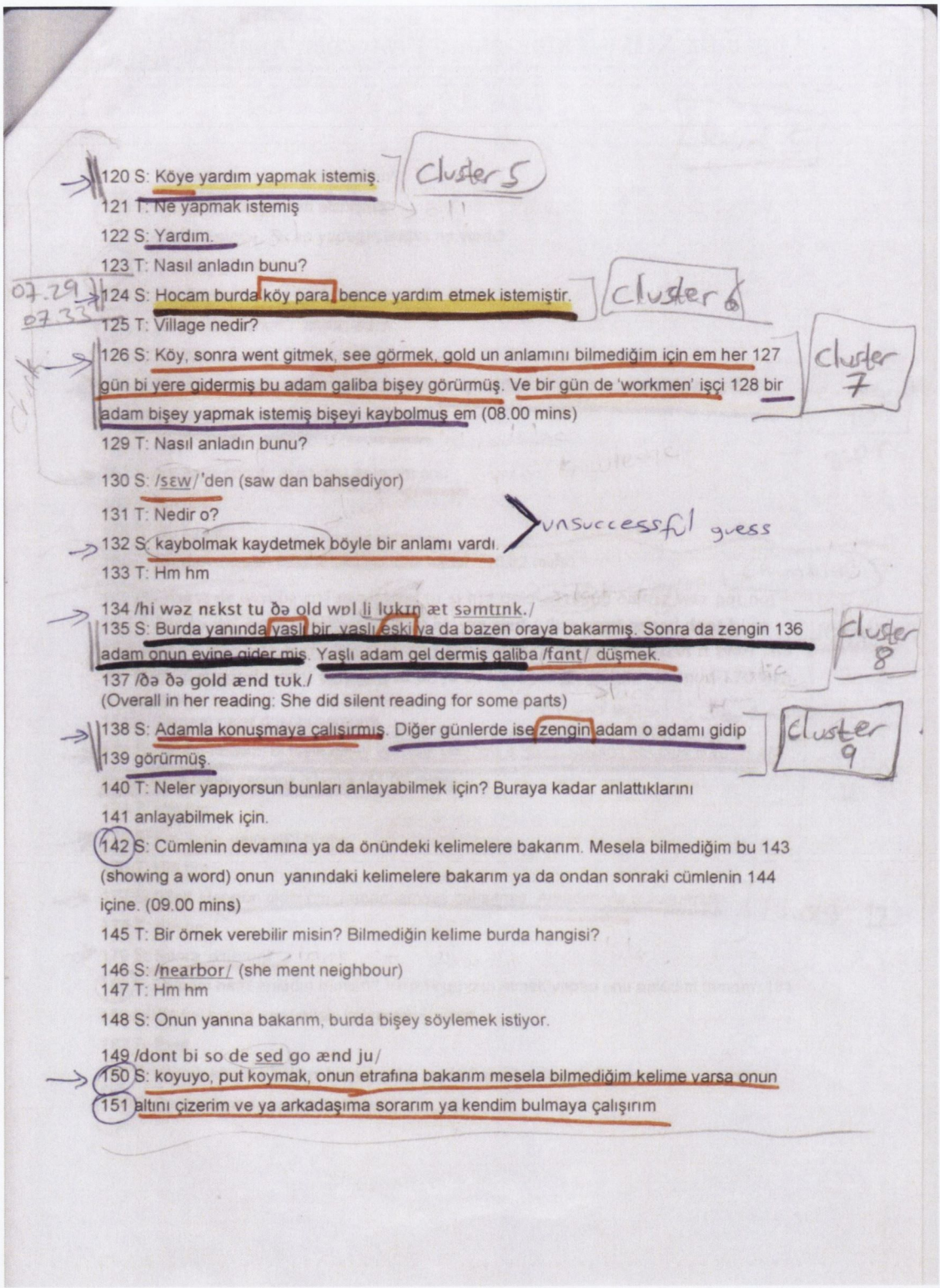
114 S: Mutlu değil miş. Parası var mış ama şeyi yokmuş, mutluluğu yok muş. Ondan 115 anladım.

116 /hi want tu sɨpɛnt æz æ æ az lajt məni æz hi kæn./

117 S: Burda da biraz parasıyla herşeye sahip olacağını söylüyor. Yapabilirmiş. Bir gün 118 bişey satın almak istemiş, bir parça bişey satın almak istemiş parasıyla (07.15 mins)

119 /nɛkst tu æn olt wɒl ɪn ðə vɪlɪdʒ/

(She did not read the first part of the sentence aloud, I assume she had a quick look at that part)


120 S: Köye yardım yapmak istemiş.
cluster 5
121 T: Ne yapmak istemiş
122 S: Yardım.
123 T: Nasıl anladın bunu?
07.29
07.33
124 S: Hocam burda köy para, bence yardım etmek istemiştir.
cluster 6
125 T: Village nedir?
126 S: Köy, sonra went gitmek, see görmek, gold un anlamını bilmediğim için em her 127 gün bi yere gidermiş bu adam galiba bişey görürmüş. Ve bir gün de 'workmen' işçi 128 bir adam bişey yapmak istemiş bişeyi kaybolmuş em (08.00 mins)
cluster 7
129 T: Nasıl anladın bunu?
130 S: /sɛw/'den (saw dan bahsediyor)
131 T: Nedir o?
132 S: kaybolmak kaydetmek böyle bir anlamı vardı.
unsuccessful guess
133 T: Hm hm
134 /hi wəz nɛkst tu ðə old wʊl li lukɪŋ æt səmtɪnk./
135 S: Burda yanında yaşlı bir, yaşlı eski ya da bazen oraya bakarmış. Sonra da zengin 136 adam onun evine gider mis. Yaşlı adam gel dermiş galiba /fant/ düşmek.
cluster 8
137 /ðə ðə gold ænd tʊk./
(Overall in her reading: She did silent reading for some parts)
138 S: Adamla konuşmaya çalışırmış. Diğer günlerde ise zengin adam o adamı gidip
cluster 9
139 görürmüş.
140 T: Neler yapıyorsun bunları anlayabilmek için? Buraya kadar anlattıklarını
141 anlayabilmek için.
142 S: Cümlenin devamına ya da önündeki kelimelere bakarım. Mesela bilmediğim bu 143 (showing a word) onun yanındaki kelimelere bakarım ya da ondan sonraki cümlenin 144 içine. (09.00 mins)
145 T: Bir örnek verebilir misin? Bilmediğin kelime burda hangisi?
146 S: /nearbor/ (she ment neighbour)
147 T: Hm hm
148 S: Onun yanına bakarım, burda bişey söylemek istiyor.
149 /dont bi so de sed go ænd ju/
150 S: koyuyo, put koymak, onun etrafına bakarım mesela bilmediğim kelime varsa onun
151 altını çizerim ve ya arkadaşıma sorarım ya kendim bulmaya çalışırım

Appendix XIV – Original Theoritical Frameworks of Act-R

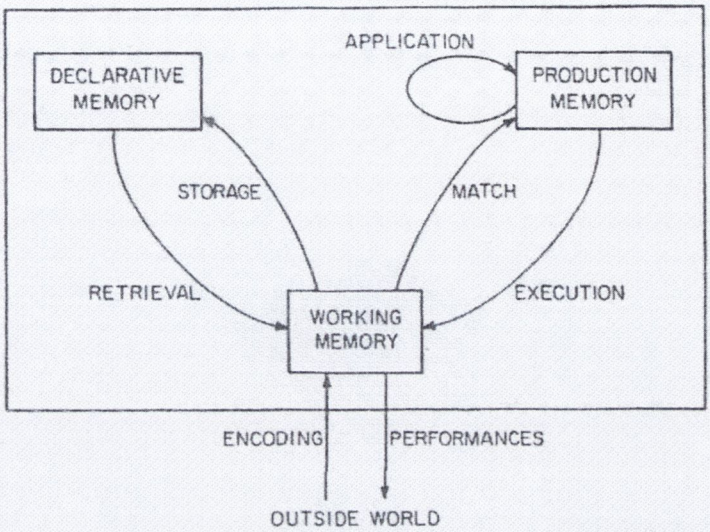


Figure 1.2 *A general framework for the ACT production system, identifying the major structural components and their interlinking processes.*

Anderson, 1996

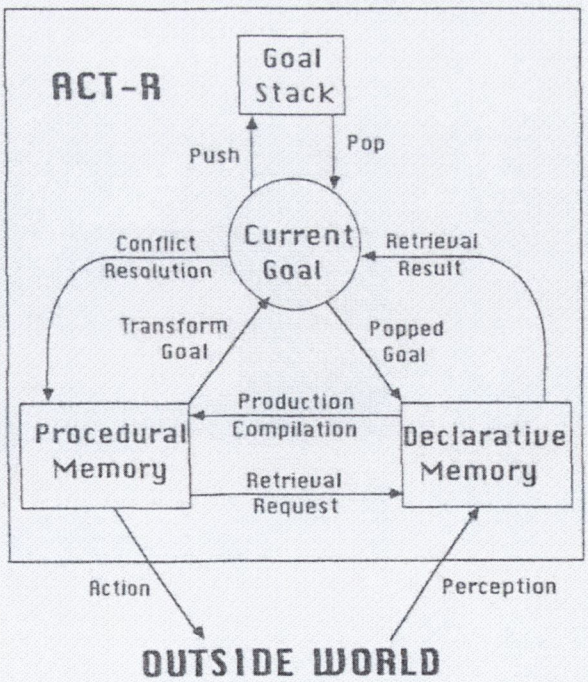


FIG. 1.2 Flow of information among the various modules of ACT–R.

Anderson, 1998