



Addis Ababa University
College of Education and Language Studies
Department of Foreign Languages and Literature

**Students' Reading Strategy Use and Performance in Reading
Comprehension: Focus on Public High Schools in Addis Ababa**

By
Yazew Aberra

Addis Ababa
December 2025

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Supervisor's Name: Dr. Geremew Lemu

**A Thesis Submitted to the Department of Foreign Languages
and Literature in Fulfillment of Doctor of Philosophy in
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Approved by Board of Examiners

Advisor

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Declaration

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in any other university, and that all sources of material used for the thesis have been duly acknowledged.

Name of the candidate: Yazew Aberra Kitaba Signature -----

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Date of submission – December 2025.

Abstract

Reading is a central component of language learning at all levels because it plays a crucial role in shaping fundamental learning skills and serves as a source of knowledge and valuable experience. Reading strategies can be described as techniques used to enhance learners' reading ability and comprehension. From an Ethiopian perspective, research is still showing a gap in the use of major reading strategies, such as cognitive, metacognitive, and socio-affective, especially in high schools. This study aimed to assess the degree to which students use reading strategies, compare their use between high and low achievers, and investigate the correlation between strategy use and reading comprehension achievement. A total of 267 grade 12 learners were randomly sampled from five high schools. A descriptive correlational design was used in carrying out the study to meet the research purpose. Multilayer types of sampling, such as simple random, convenience, and purposive, were used in sampling the participants. The data collection included a questionnaire, a reading comprehension test, a think-aloud protocol, and semi-structured interviews. Statistical tools such as Pearson correlation, linear regression, mean, frequency, and percentage were used for data analysis. In addition, qualitative techniques, such as thematic analysis and open coding, were used to identify common patterns and thematic structures in the strategies used while conducting the think-aloud and interview sessions. Findings reveal that most students employ a range of reading strategies with moderate to high frequency, but some socio-affective strategies, such as discussing ideas with others and using checklists to monitor difficulties, continue to be much less common. There is a noticeable difference between the high and the low achievers in strategy use. The high achievers frequently use the cognitive and metacognitive strategies, while the low achievers need targeted support to use them effectively. The overall correlation coefficient ($r = 0.148$) between the students' reading strategy use and their reading scores shows that higher use of strategies is slightly associated with improved performance. Finally, the research identifies that explicit instruction in basic reading strategies, differentiated instruction, and peer collaboration can significantly enhance students' strategy use and knowledge. Furthermore, conducting both formative and summative evaluations and providing professional training for teachers on reading strategies are essential for successful reading instruction.

Keywords/phrases: *Reading strategy, cognitive, meta-cognitive, affective, reading comprehension, correlation, high achievers, low achievers*

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Table of Contents

	Page
Abstract	i
Acknowledgements	ii
Table of Contents	iii
List of Tables	xi
List of Figures	xii
List of Symbols	xiii
Abbreviations	xiv
Chapter One	1
1.0 Introduction	1
1.1 Background of the Study	1
1.2 The Beginning of Modern Education in Ethiopia	2
1.3 The Development of English Language Education in Ethiopia	5
1.4 Important Periods of English Language in Ethiopia	6
1.4.1 1947 --- 1958	6
1.4.2 1958/59 ---- 1963/64	8
1.4.3 The 19 62 conference	8
1.4.4 1963/64 Secondary school English curriculum	9
1.4.5 The 1967, seminar	9
1.4.6 Late 1960's ---- early 1970's	10
1.4.7 1974 ---- 1991	11
1.4.8 1996 ---- 2022	13
1.4.9 English for Ethiopia Text Books	14
1.4.10 2023 – Now	15
1.5 The Features of Reading Texts across the Years (1947–present)	15
1.5.1 1947 --- 1958	15
1.5.2 Between 1958 and 1964	16
1.5.3 Late 1960's ---- early 1970's	16
1.5.4 Between 1974 and 1991	17
1.5.5 1992 – 2022	18

1. 5. 6 Reading (2023 – Now).....	19
1. 5. 7 Conclusion	19
1. 6 The Research Problem	21
1.7 Research questions.....	24
1. 8 Objectives of the study.....	24
1. To identify major and minor reading strategies implemented by the learners when they read academic texts.	24
2. To describe the similarities and differences of reading strategies used by high and low achievers.	25
3. To find out the correlation between learners’ reading strategy use and their performance in reading comprehension.	25
1.9 Significance of the study.....	25
1. 10 Scope of the study	26
Chapter Two.....	28
Literature Review and Theoretical Frame Work	28
2.1 An overview on Language Learning Strategies	28
2.2 Defining Language Learning Strategy	30
2.3 Language Learning Strategy Classifications.....	31
2.3.1 Comparison of Rubin’s, O’Malley and Chamot’s, and Oxford’s language learning strategy classification	35
2.3.2 Classification of O'Malley and Chamot’s (1985) (O’Malley and Chamot, 1985b, pp. 582-584.)	36
2.3.3 Oxford’s (1990) strategy classification.....	39
2.3.3.1 Direct Learning Strategies	40
2.3.3.1.1 Memory Strategies	40
2.3.3.1.2 Cognitive Strategies	41
2.3.3.1.3 Compensation Strategies.....	42
2.3.3.2 Indirect Learning Strategies	44
2.3.3.2.1 Metacognitive Strategies.....	44
2.3.3.2.2 Affective Strategies.....	46
2.3.3.2.3 Social Learning Strategies	46
2.3.3. 3 Oxford’s Strategy Inventory for Language Learning (SILL)	47

2.3.4 Stern's (1992) Classification of Language Learning Strategies	48
2.4 Learning Strategies Research: A Global Trend	50
2. 5 Importance of Language Learning Strategies for Language Learning	51
2. 6 What is effective language learning strategy?	52
2.7 Characteristics of good language learners	53
2.8 The Concept of Reading and Reading Strategies	55
2.8.1 What is reading?.....	55
2.8.2 Reading strategies	56
2.9 The Relevance of Teaching Reading Strategies	57
2. 10 Reading Comprehension.....	58
2.11 The Application of Reading Strategies in a Pre, While, and Post Reading Stages.....	59
2.11.1 Pre-reading strategies	60
2.11.1.1 Previewing a text.....	60
2.11.1.2 Guessing meaning.....	62
2.11.1.3 Using prior knowledge.....	62
2.11.1.4 Skimming and Scanning	63
2.11.1.5 Making predictions	65
2.11.2 While-reading strategies	65
2.11.3 Post- reading strategies	66
2.12 Models of Reading Comprehension.....	67
2.13 Factors Affecting Learners' Reading Comprehension Skill and the Strategies for Improvement.....	69
2.13.1 Internal factors	70
2.13.1.1 Motivation.....	70
2.13.1.2 Attitude	71
2.13.1.3 Personality.....	73
2.13.1.4 Anxiety.....	74
2.14 Major Learning Theories and their application in Reading Comprehension.	75
2.14.1 Cognitive learning Theory	75

2.14.1.1 Cognitive Theoretical Approach to reading.....	76
2.14.2 Metacognitive learning theory	77
2.14. 2.1 The two aspects of Metacognition: metacognitive knowledge and metacognitive experience	78
2.14. 2.1.1 Metacognitive Knowledge	78
2.14. 2.1. 2 Metacognitive Experience.....	79
2.14. 2.1.3 The Application of Meta-cognitive Theory in Reading Strategies	80
2.14.3 Affective Learning Theory.....	82
2.14.3.1 The Role of Affective Factors in language learning	84
2.14.3. 2 The application of affective learning theory in reading comprehension.....	85
2.14.4 Social Learning Theory.....	87
2.14.4.1 The Application of Social Learning Strategies in Reading Instruction.....	87
2.14. 5 Compensation Learning Strategy.....	88
2.15 Theoretical Frame work of the study	89
2.15.1 Cognitive learning Theory	90
2.15. 2 Meta-cognitive Learning Theory	91
2.15. 3 The Affective Filter Hypothesis.....	92
2.15.3.1 The Relationship between the Affective Filter and Reading Comprehension	92
2.15.4 Socio-cultural Learning Theory	94
2.16 Conceptual frame work of the study.....	96
Chapter Three: The Research Methodology, Design of the Study, and the Pilot Study Report.....	98
Introduction.....	98
3.1 The Research Design	98
3.2 Research Context and Justification.....	100
3.2.1 Setting	100
3.2.2 Population	100
3.2.3 Rationale for choosing the high schools	100

3.2.4 Rationale for conducting the study on grade 12 students	101
3.3 Sample size and sampling technique	101
3.4 Research Instruments	103
3.4.1 Questionnaire	103
3.4.2 Interview	105
3.4.3 Reading test.....	106
3.4.4 Think Aloud Method.....	107
3.5 Validity of Research Instruments Prior to the Pilot Study	108
3.5.1 Validity of the questionnaire.....	108
3.5.2 Validity of reading comprehension tests.....	109
3.6 Method of data analysis	110
3.7 The Pilot Study	111
3.7.1 The study's participants.....	111
3.7.2 The reading comprehension examination	112
3.7.3 Reliability of the reading comprehension test.....	113
3.7.4 The questionnaires	113
3.7.4.1 Cognitive reading strategy questionnaires	114
3.7.4.2 Meta-cognitive reading Strategy questionnaires.....	114
3.7.4.3 Affective reading strategy questionnaire	115
3.7.5 Reliability of the questionnaire.....	115
3.7.6 Interview questions	116
3.7.7 Quantitative Data Analysis	117
3.7.7.1 Analysis of students' questionnaire	117
3.7.7.2 The most prevalent and the least employed reading strategies by high and low achievers	119
3.7.8 Qualitative Data Analysis	121
3.8.8.1 Analysis of the think- aloud protocol.....	121
3.8.8.2 Analysis of the students' interview.....	122
3.8.9 Summary of Major Findings	123
3.8. 10 Post pilot study improvements.....	125
3.8.10.1 The questionnaires	125

3.8.10.2 Order of the questionnaire items.....	126
3.8.10.3 Regression analysis.....	126
3.8.10.4 The advantages of following a mixed research approach.....	126
3.8.10.5 Quality of instruments.....	127
3.8.10.6 Managing external factors that may disrupt the study’s results.....	127
Chapter Four: Data Analysis of the Main Study.....	128
Introduction.....	128
4.1 Procedure of the main study.....	128
4.2 Statistical measurements.....	129
4.3 Quantitative Data Analysis.....	131
4.3.1 Analysis of the reading strategy questionnaires and the reading comprehension performance.....	131
4.3.2 Frequently used reading strategies.....	134
4.3.3 Least used reading strategies.....	135
4.3.4 Correlation between the students’ overall reading strategy use and performance in reading comprehension.....	143
4.4 Qualitative Data Analysis.....	146
4.4.1 Analysis of the students’ interview and think -aloud protocol.....	146
4.4.2 Analysis of the students’ think- aloud protocol (TAPs).....	146
4.4.3 Translation and coding procedures of the think- aloud protocols.....	146
4.4.4 Triangulated results from questionnaire and think-aloud data.....	151
4.4.5 Analysis of the students’ interview.....	153
4.4. 5.1 Analysis of the students’ interview in relation to cognitive reading strategy.....	153
4. 4. 5. 2 Analysis of the students’ interview in relation to Meta-cognitive reading strategy use.....	155
4. 4. 5. 3 Analysis of the students’ interview in relation to affective reading strategy use.....	156
4.4. 6 Triangulation of questionnaire and interview data.....	157
Chapter Five.....	160
Discussion.....	160
5.1 Introduction.....	160

5.2 Research Question 1: What are the most and the least frequently used reading strategies among the students?	160
5.3 Research Question 2: <i>What reading strategies do the high and the low achievers use when they read academic texts?</i>	165
5.4. Research Question 3: <i>To what extent does the students' reading strategy use correlate with their performance in reading comprehension?</i>	174
5.4.1 The role of language proficiency and linguistic knowledge for better reading performance	176
5.4.2. The impact of individual differences and learning styles in reading comprehension	177
5.4.3 Effective strategy use	179
Chapter Six.....	181
Summary of Findings, Conclusion, and Pedagogical Implications of the Study.....	181
6.1 Summary of findings.....	181
6.2 Conclusion	185
6.3 The Implications of the Research for Reading Instruction	188
6.3.1 Explicit Instruction in Reading Strategies	188
6.3.2 Enhancing Cognitive Reading Strategies.....	188
6.3.3 Promoting Metacognitive Reading Strategies.....	189
6.3.4 Addressing Affective Factors.....	190
6.3.5 Enhancing Vocabulary and Language Skills	190
6.3.6 Implementing Formative and Summative Assessment Techniques of Reading Strategies	190
6.3.7 Improving Differentiated Instruction	191
6.3.8 Taking into account factors besides strategies	192
6.3.9 Fostering Teachers' Professional Development	192
6.3.10 Peer collaboration	193
6.3.11 Pursuing additional research	194
Bibliography	195
Appendices.....	207
Appendix 1: Article I: Students' Affective Reading Strategy Use Vis- a-Vis Their Performance in Reading Comprehension	207
Appendix 2: Article II.....	221

Ethiopian Journal of Social Sciences and Language Studies (EJSSLS)	221
Appendix 3: Students’ Reading Strategy Questionnaire (English Version)	245
Appendix 4: Students’ Reading Strategy Questionnaire (Amharic version)	249
Appendix 5: Questionnaire validation form for the reading comprehension test (filled by the teachers)	252
Appendix 6: Reading Comprehension Test 1	253
Appendix 7: Reading comprehension test 2 (Reading test for the think aloud protocol)	259
Appendix 8: Answer key to the reading comprehension test 1	263
Appendix 9: Answer key to the reading comprehension test 2	264
Appendix 10: Students’ Reading score (pilot study)	265
Appendix 11: Frequency of reading strategies employed by high achievers (pilot study)	267
Appendix 12: Frequency of students’ reading strategy employed by average learners (pilot study)	269
Appendix 13: Frequency of students’ reading strategy employed by low achievers (pilot study)	271
Appendix 14: Reliability coefficient: cognitive, meta-cognitive, and affective reading strategy questionnaire items	273
Appendix 15: Interview items for students	273
Appendix 16: Sample script for the think – aloud protocol (pilot study)	274
Appendix 17: Sample script for the students’ interview (pilot study)	283
Appendix 18: Post –pilot improvements made on the questionnaire	287
Appendix 19: Frequency of reading strategies employed by high achievers (main study)	289
Appendix 20: Frequency of reading strategies employed by average learners (main study)	290
Appendix 21: Frequency of reading strategies employed by low achievers (main study)	291
Appendix 22: Students’ reading score out of 100 percent (main study)	292
Appendix 23: Transcription of the students’ think-aloud protocol (main study)	295
Appendix 24: Transcription of the students’ interview (main study)	346
Appendix 25: Response to the questionnaire (Main study)	367

List of Tables

	Page
Table 2.1: Overview of the most widely used classifications of second/foreign language learning strategies	32
Table 1.2: Rubin's (1981) Classification of Language Learning Strategies	35
Table 2. 2: Language Learning Strategies according to O'Malley et al	36
Table 2. 3: Oxford's (1990) language learning strategy classification	39
Table 3. 1: Schools and Sample Selection	111
Table 3.2: The components of the reading examination	112
Table 3.3: Surveys given to students	114
Table 3. 4: Mean of reading strategies	117
Table 3.5: Overall correlation between students' reading strategy use and reading score	120
Table 3.6: Correlation between students' use of reading strategies and their rank-based reading Scores	120
Table 4.1 Participants of the main study (main study)	130
Table 4.2: Descriptive statistics of the overall reading strategy use	131
Table 4.3 Mean Scores of Cognitive, Metacognitive, and Affective reading Strategies	131
Table 4.4: Distribution of strategy use	132
Table 4.5: Reading strategies used by high and low achievers	136
Table 4.6: Cognitive reading strategy use of high and low achievers	137
Table 4.7: Meta-cognitive reading strategy use of high and low achievers	139
Table 4. 8: Affective reading strategy use of high and low achievers	140
Table 4. 9: A summary of reading strategy use by the high and the low achievers	142
Table 4.10: The Scores of the Pearson Product Moment Correlation	143
Table 4.11: The correlation with the cognitive, metacognitive, and affective Reading strategies with the students' reading achievement	144
Table 4.12: Regression coefficients	145
Table 4.13: Reading strategies reported by both the high and the low achievers	147
Table 4.14: Reading strategies reported only by the high achievers	149

List of Figures

	Page
Figure 1: Cognitive learning theory principles in the establishment of language learning Strategies	90
Figure 2: The interaction between Metacognitive learning theory and Reading comprehension performance	91
Figure 3: The relationship between reading comprehension performance and affective filters	93
Figure 4: The development of language learning strategies using the ideas of socio-cultural learning theory	95
Figure 5: Conceptual frame work of the study	96

List of Symbols

1. **X**: The mean (average) value in statistical data.
2. **SD**: Standard deviation, a unit of measurement for the variability of data points around a mean
3. **N**: Sample size, the number of participants or observations in the study
4. **r**: Pearson correlation coefficient, a measure of linearity, which indicates the degree to which two variables are related.
5. **p**: p-value, which is the probability that the observed findings are merely random chance.
6. **b**: unstandardized regression coefficient, which indicates the change in dependent variables when the predictor variable is increased by one unit.
7. **α** : cronbach's alpha is a reliability coefficient that calculates the internal consistency of a test.
8. **β (beta)**: standardized regression coefficient, reflecting the degree of association between the predictor variable and the dependent variable in standard deviations.
9. **t**: T-statistics in regression modeling for testing the significance of predictors
10. **-- dash**, used to indicate ranges or to separate values.

Abbreviations

1. **A.N:** Almost Never (frequency of response)
2. **AL:** Always (frequency of response)
3. **CLT:** Communicative Language Teaching
4. **EFL:** English Foreign Language
5. **ELT:** English Language Teaching
6. **ENE:** English for New Ethiopia
7. **EPRDF:** Ethiopian People’s Revolutionary Democratic Front
8. **ESL:** English as a Second Language
9. **ESLCE:** Ethiopian School Leaving Certificate Examination
10. **et.al:** Latin “et alia” more than two or three authors
11. **FDRE:** Federal Democratic Republic of Ethiopia
12. **GCE:** General Certificate Education
13. **Ibid:** Latin “ibidem” the same place, the same source
14. **ICDR:** Institute of Curriculum Development and Research
15. **L2:** Second Language
16. **LLS:** Language Learning Strategy
17. **MoE:** Ministry of Education
18. **NDR:** National Democratic Revolution
19. **R:** Rarely (frequency of response)
20. **S:** Sometimes (frequency of response)
21. **SD:** Standard Deviation
22. **Sig.** Significance (statistical significance)
23. **SLA:** Second Language Acquisition
24. **SNNPR:** Southern Nations Nationalities People’s Regional State
25. **Std.:** Standard Deviation
26. **TAP:** Think-Aloud Protocol
27. **US :** Usually (frequency of response)
28. **VIF:** Variance information factor
29. **WPE:** Worker’s Party of Ethiopia
30. **ZPD:** Zonal Proximal Development

Chapter One

1.0 Introduction

1.1 Background of the Study

It is essential to develop a description of the entire educational system in Ethiopia to achieve the goals of this research. This helps to clarify how modern education, along with English language teaching and learning, developed in the country at different instances in history. First, this chapter introduces a background description on how modern education in Ethiopia originated. This has been marked by major instances in the educational developments and the increased availability, as well as changes in education policy.

The latter part of this chapter focuses on the history of the English language in Ethiopia. It explains how English came to the nation and the key events that marked its adoption. It provides narrations of instances when English was given greater emphasis, i.e., foreign influences and diplomatic interactions. It tells us how the language was incrementally added to the education system and ultimately became a mode of teaching in the majority of formal schools and educational institutions. The chapter mainly discusses on the transformation of English language from a foreign language into an integral component of the national education system.

Moreover, the background briefly describes, the approaches to reading instruction in Ethiopian English language textbooks across various educational periods. This is due to the diverse governing powers and political systems, each with their own philosophy and beliefs towards education and English language teaching and learning.

For instance, during the time of British and American influence, the books and reading texts were mainly designed to promote the cultures and stories of Britain and America. Students read these texts not only for reading practice but also to learn about the traditions, values, and literature from those countries.

In the next period, called the Contact Series, there was a shift in focus. During this time, the reading texts put much more emphasis on Ethiopian culture, history, and folk tales. This meant that students and readers were introduced to stories and lessons that celebrated Ethiopia's unique traditions and rich past. They learned about important events

in Ethiopian history and heard tales passed down through generations, which helped them connect with their own heritage.

Later, during the Derg period, the focus changed once again. This time, the texts were heavily centered on promoting communist ideas and beliefs. The then government sought to propagate its political views through education, so the reading texts were filled with messages about communism. These texts aimed to educate the public about the government's ideals and to encourage support for the new political system.

1. 2 The Beginning of Modern Education in Ethiopia

In Ethiopia, there exists a Western style secular system of education, quite recent in comparison to other growth. During the 16th century, Ethiopia was extensively in contact with the Western nations through Jesuit and Portuguese missionaries. Here, the Jesuit missionaries wanted to spread religion as well as secular education, but instead of this, these interactions produced severe religious tensions and social upsets. The nobles and the church claimed that introducing new or outside religious denominations into the nation would help destabilize the status quo. Therefore, Ethiopia strived to remain isolated from outside contact for four centuries (Meaaza, 1966).

Modern education began in Ethiopia in 1908, a crucial year when Emperor Menelik II took measures to lay the foundations of the national educational system. At that time, he was strongly motivated by the need to modernize the country and establish strong institutions.

Before launching the modern education and the opening of the first school, Menelik II, the emperor proclaimed in 1906 that read,

In other countries, not only do the younger citizens learn, they make new things even more. Hence, as of today, all six-year-old boys and girls in Ethiopia should attend school. As for parents who would not send their children to school, when the former die, their wealth, instead of passing to children, will be transferred to the government. My government will prepare the schools and avail itself of the teachers (Bishaw & Lasser 2012).

This announcement had credibility and legal consequences because the emperor sought to improve education to bring about a new transformation in the country. Though the emperor was enthusiastic about expanding education among the society and even forced parents to send their children to school, the formal educational system was heavily dominated by male students and females were almost entirely absent due to cultural beliefs and practices in the society that held them back. Therefore, education was confined to a limited number of students, which narrowed the opportunities for many others (Ibid).

Moreover, the contemporary education system at these initial years was influenced by various factors, such as, political unrest, cultural trends, and external relations. These factors affected the establishment of schools, curriculum adjustments, and changing priorities over time (Bishaw, 2012).

Despite all these challenges, efforts were made to develop formal education and produce skilled citizens capable of communicating in multiple languages. During this period, it was not just focused on making learners acquire a single language but on developing proficiency in several languages, including, French, Italian, Arabic, Geez, and Amharic. This practice aimed at producing professional citizens for palace administration, church service, regional communication, and foreign diplomacy (Pankhurst, 1976).

There was also a strong belief that learning several languages was not so much an individual gift but a social necessity. People felt that multilingualism opened doors to better social contacts. It allowed people to move around with confidence in diverse communities and participate actively in different cultural settings. Moreover, politically, multilingualism was seen as a tool for promoting understanding and cooperation between nations (Ibid).

By this time, the significance of language teaching at the level of the school became notable in Ethiopia. Teaching French was given prominence, as it was viewed as the gateway to modern education and colonial dominance in much of the world. At this point, French had emerged as the main language used for the teaching of all subjects in most Ethiopian schools. This was not a random choice; it was a reflection of the political and

cultural issues of that day, as Ethiopia had friendly relations with the French government in terms of politics and economics (Pankhurst, 1976).

In addition to the government schools, missionary schools with foreign bases began to flourish and were able to instruct in various foreign languages, such as English, German, Swedish, and Italian. Therefore, one can confidently infer that during this time, education was primarily focused on learning foreign languages. This was due to the fact that much of the literature in science, technology, education, law, politics, and even constitutional studies had been written in those languages (Ibid).

Overall, the post Adwa period was a landmark period in the history of Ethiopia, especially in the field of its foreign relations and education. After the victory of Adwa in the battle in 1896, Ethiopia established better relations with European powers. This was a dramatic shift as, before this period, the country had been isolated and resistant to foreign involvement. The victory proved the strength of Ethiopia and its ability to withstand European nations, opening new opportunities for diplomatic, educational, and economic relations (Bahiru, 1991).

As Ethiopia adopted contemporary systems of education, the government moved quickly to implement a central authority to control these reforms. The new authority created a permanent governmental system that operated in the major cities. The cities assumed the function of being the main center for administration, making decisions, and enforcing new policies. Therefore, cities began increasing their importance, and their authority spread across the country. In line with these political changes, the economy recovered as well. The community showed great interest for innovative methods and concepts, especially in the areas of science and technology. In addition to these internal changes, the country began to open itself up to the rest of the world. Foreign embassies also opened in Addis Ababa, and these foreign missions were intended to strengthen relations and allow for education, trade, and political interaction (Girma, 1982).

Even though Emperor Menelik introduced a more secular and modern educational system in the country, the objective of introducing modern education throughout the country was not achieved. When Emperor Menelik II passed away in 1913, the education system in

Ethiopia was very limited, especially in the provinces. There were only three schools that were operational in the larger provincial towns of Harar, Dessie, and Ankober. These were among the few institutions where educational opportunities were being offered outside of the capital, Addis Ababa. Only a small number of students were able to enroll in the school even though there was no fee for enrollment. During those years, the schools enrolled only 100 students, mostly the sons of rulers and aristocrats. The aristocrats then started sending their servants' children or other members of the extended family. This created a situation where only a few families were represented, and it limited the diversity of the students who could learn (Bishaw & Lasser 2012).

Moreover, the views of the clergymen and the aristocracy posed another challenge to the advancement of modern education, as it was not accepted enthusiastically. They believed that modern education would be instrumental in introducing new religious denominations to the country and disrupting the existing norm and culture (Wagaw, 1979).

1.3 The Development of English Language Education in Ethiopia

The most common foreign language which was taught as a subject and served as a medium of education in the Ethiopian education system until 1941 was French. But when the Italians invaded Ethiopia, Emperor Haile Selassie I, who was king of kings of Ethiopia at that time, fled into exile in Britain in an attempt to marshal support from the international community, including the League of Nations, to denounce the aggressor. The British government played a key role in expelling the Fascist Italian regime (Pankhurst, 1976).

In light of this support, the British government introduced various textbooks and language teachers to set up English language teaching in Ethiopia. These materials were often in the form of textbooks, dictionaries, grammar guides, and reading handouts. Academic institutions founded during this period received these resources to promote English education. Despite the extensive resources that were made available, only a handful of elites were able to learn the language well and became proficient users. It was during that time that speaking English was associated with a social status. The language was widely perceived as a means to access better employment, higher social status, and greater power

and influence. And thus, in the Ethiopian context, English essentially became the language that replaced French in terms of the functions and the significance it had previously (Bishaw & Lasser, 2012).

Generally, seven distinct periods in history can be identified in the teaching and learning of English in Ethiopia: the year between 1947 and 1958, where the initial well-structured English curriculum was written, the year between 1958 and 1964, where the American dominance was clearly seen over the British in Ethiopia's English language education curriculum, the 1967 seminar that brought significant changes in Ethiopia's secondary school English language education curriculum, the late 1960's and early 1970's that local English text books were prepared; this is also the period when the "contact series" text books were first published, the year between 1974 and 1991, the time that socialist ideology was inculcated in English language text books particularly in reading passages, from 1996 to 2022, the concept of communicative language teaching (CLT) have become substantially integrated into textbooks, and from 2023 to present, the time that the concept of explicit teaching of grammar and vocabulary is coming back again.

1.4 Important Periods of English Language in Ethiopia

1.4.1 1947 --- 1958

The 1947 English curriculum might be regarded as the first significant document to direct and influence the ELT professionals of the time. The following justification for teaching English in Ethiopia was found in the opening sentence of the 1947/8 English curriculum:

1. Delegating responsibilities to English-speaking expatriates so that they help students become effective communicators.
2. Ensuring availability of all English language course materials.
3. Enabling students' success in the London exam (General Certificate of Education), so that they are qualified professionals.
4. Encouraging students to read more English scholarly materials; such as, fiction, and nonfiction by setting targets for them to read (Bender, 1976).

In this period, Ethiopia took steps to set policy for the teaching of English. Educators and policymakers focused on writing the nation's first coherent English curriculum. This curriculum was designed to set a base for systematic instruction of the language and

covered the basic language skills such as, reading, writing, speaking, and listening. It paved the way for further reform and helped bring order to instruction in different parts of the country.

The 1947–1958 Ethiopian English curriculum was divided into two cycles, including grades 1-6 and high school grades 9–12. Reading and understanding, listening and comprehending, and speaking abilities, all aimed at accuracy and fluency, were strongly emphasized in the elementary school curriculum. Writing proficiency was the lesson that was least stressed in primary school.

There was also in this curriculum a very clear difference that was present in the time spent on teaching English at elementary and high schools. For elementary-level students, ten weekly periods were allocated to the study of English. This means that students at the early part of their schooling received a more focused effort in learning the language, with classes being conducted regularly every week. High school students, however, only received 8 weekly periods for learning English.

According to the country's 1947 secondary school English curriculum English language courses were offered in high schools to help students get ready for either the Ethiopian secondary school leaving certificate examination (ESLCE) or the London examination (General Certificate of Education). The curriculum placed a strong emphasis on precision and included a list of grammatical concepts that needed to be taught at each grade level.

Additionally, the syllabus emphasized the importance of acquiring writing proficiency. There were specific expectations about how the students were expected to advance their ability to write. These included educating the students on how to build well-formed sentences, arrange ideas in order, and use proper grammar and punctuation (Bender, 1976).

1.4.2 1958/59 ----- 1963/64

The 1958/9 curriculum was marked as the second development in English language education, and this time was characterized by the shift of English language dominance from Britain into America. The imperial Majesty started a new diplomatic relationship with the Americans, and as a result, American language teachers and advisors came to Ethiopia with their books and methodology exactly as the British did in the 1940s.

This curriculum showed its influence by including American literature, vocabulary, and pronunciation standards. Greater emphasis was placed on American cultural values, which were expressed through language instruction, bringing Ethiopia closer to American models of language and education.

Moreover, significant changes were observed in both the elementary and secondary schools' English curricula, and a ten-year plan was introduced for the Ethiopian education system. The plan also introduced a new structure for the school system. The elementary level was restricted to grades 1---8, while the primary level covered grades 1---4. It also included middle elementary with grades 5----8. The document also suggested that English be taught through the natural order of language: listening, speaking, reading, and writing. Quoting Bender et al. (1976: 387)

1.4.3 The 19 62 conference

According to Bender et al. (1976), a conference was held in 1962 that was primarily focused on "secondary education" in Ethiopia. The conference's final report raised many significant issues regarding the status of English language teaching (ELT) in the country, including the need for Ethiopianization or the integration of learning themes into the national context.

The other significant concern during the conference was the training of English language teachers, which aimed to qualify them for their profession. The teaching of the English language in elementary grades was also deeply examined and the conference strongly recommended the adoption of the English language beginning in grade 3 and Amharic as a medium of teaching at primary levels, grades 1–6 (Seyoum, 1996).

1.4.4 1963/64 Secondary school English curriculum

Foreign Language Study & Grammar were of special importance in 1963/64 as part of the General/Secondary School Curriculum. The intention of studying these subjects was to equip students with the necessary skill, set to continue using language(s) they had been taught for the rest of their lives. The grammar lesson was designed to teach students how to create properly formed grammatically accurate sentences, and make them confident in their ability to express themselves clearly. As students study grammar, their speaking and writing skills improve. Improving writing and speaking skills is a valuable asset for a student's future, both academically and when entering the workforce. The overall intent of the curriculum was to foster the growth of confident and capable communicators (Bender et al., 1976).

The curriculum also placed great emphasis on literature, exposing students to a wide range of classic and contemporary writings. Reading plays, essays, poetry, and fiction gave students a chance to test different writing styles and themes. Furthermore, the curriculum encouraged students to acquire other modern languages apart from English, study skills, and note-taking strategies.

Tamene (2000), states that the English curriculum introduced in 1963 in the high schools was almost six years long; two years of junior schools, grades 7 and 8, and four years of secondary levels, grades 9 to 12. In this six-year period, English was assigned nine periods a week with the objective of giving students regular and moderate exposure to the subject matter. Therefore, this weekly schedule was designed to balance between the development of language skills and the demands of other subjects.

1.4.5 The 1967, seminar

The 1967, seminar thoroughly examined secondary school education generally as well as concerns related to the Ethiopian School Leaving Certificate Examination (ESLCE). A detailed examination of the state of English language instruction as a whole was conducted, and recommendations for significant reforms were made. According to Bender (1976), the following suggestions were made to improve English language instruction in the country:

1. The state of English language teaching in Ethiopia is critical.

2. The crisis has its origin in the elementary level.
3. Special training in teaching English as a second language with specialists should be given at the elementary level
4. In-service training for English teachers was a pressing concern in primary schools.

The 1967 seminar report was a significant document. It strongly suggested changes to the secondary school English curriculum. This call for reform arose from discussions and critiques voiced during the conference. Following these conference comments, a crucial decision was made. A series of textbooks called "The New Oxford English for Ethiopia" was designed for Ethiopian learners to modify the English curriculum. This involved making the content more applicable to the Ethiopian context.

The seminar held in 1967 came out with important suggestions to improve the teaching of English in schools. One such well-known suggestion was to transform the method of English language teaching (ELT) used by teachers. The report strongly recommended an oral approach, which meant that more emphasis should be put on spoken English. The assumption was that speaking enhances the foundation of learning a new language and that learning to speak would help learners to understand and remember written language more effectively. Another key recommendation was to include additional drills on the basic grammar of the English language. The drills were to familiarize the students with the basic grammatical patterns and sentence structure. Repetition and practice of the structures gave them a firm base, made it easier to learn how to construct correct sentences (Bishaw & Lasser, 2012).

1.4.6 Late 1960's ----- early 1970's

One of the most important periods was between the late 1960s and the early 1970s when Ethiopia started producing its own English textbooks locally. The idea was to do away with foreign textbooks and introduce more contextual and accessible textbooks for Ethiopian students. A move towards autonomy in education and more emphasis on contextualization of language teaching was the distinctive characteristic of the period.

Throughout this period, Ethiopia produced localized books that incorporated topics and subject matters familiar to the students. A key accomplishment was the publication of the

"contact series" books that were initially launched during this time. These books were designed to advance English language education, particularly in secondary schools, grades 9 to 12, with an emphasis on reading proficiency, vocabulary, and language structure (Tamene, 2000).

1. 4.7 1974 ----- 1991

The events of the 1974 popular revolution brought the imperial regime to an end and established the Derg regime in its place. When the Workers' Party of Ethiopia (WPE) took control the power, a great transformation had taken place in Ethiopian education policy. The new government placed strong emphasis on the progress of socialist ideas within the education system. This was not an accidental shift; rather, it was a reflection of the entire political ideology of the WPE that would be implemented throughout the country. To achieve the goal, the government adopted a new education policy centered on socialist ideologies (Tekeste,1990).

Socialist education seeks to produce citizens with well-rounded personalities by imparting the ideology across society and providing them the knowledge required for the political theory. The main objectives of the education policy were to promote Marxist-Leninist ideology in the young generation, progress scientific and technological knowledge, reinforce technical and vocational education, foster artistic endeavors, and integrate and coordinate research and production to advance the revolution and ensure the safety of citizens who could support themselves through employment (Ibid).

The national literacy rate went up significantly as a result of the government's huge efforts at propagating education across the nation. Among the major steps was to promote education in the local languages. This meant that instead of teaching in foreign languages only, the government promoted students to study in their native languages. This approach helped many more adults and children in reading and writing both in urban and rural areas (Seyoum, 1996).

The Curriculum and syllabus for English language study and teaching were mostly oriented towards the structural approach. The structural approach emphasizes comprehending the form and structure of the language, placing importance on grammar,

syntax, and sentence patterns. It attempts to teach how learners build and develop their capacity for identifying and correcting forms in speech and writing.

The English for New Ethiopia (ENE) series of textbooks were the primary resources used by teachers and students to teach and learn the language. The textbooks were characterized by openly presenting linguistic elements. In those textbooks, the ENE series, reading passages often appeared at the start of each unit and were followed by a variety of comprehension questions, including multiple-choice, true-false, and matching items. There were a few open-ended questions as well.

The other equally crucial component of language is the grammar part. Grammar was introduced formally with the explicit aim of drawing students' attention openly to elements of language. Rules and patterns of grammar were presented with examples of how they were used, but the rules were isolated from their contexts and they lacked broader semantic applicability. Analogously, grammar exercises were designed in such a way that the rules could be operated mechanically by students.

Speaking skills are hardly given importance in the ENE series textbooks. Tekeste (1990), noted that the communication skills of students had noticeably decreased at primary, secondary, and tertiary levels of education and that English was used merely as a teaching language within the classroom. Shortage of qualified Ethiopian English teachers, flight of qualified (expatriate) English teachers, and weak curriculum development were seen to be the main causes why students performed poorly in spoken English.

The language curriculum and syllabus were lacking in textual situations and themes that could have encouraged students to engage in a range of speaking activities. Well-qualified Ethiopian teachers migrated under the same circumstances, while better-qualified foreign English teachers (Indians and Americans) were returning home because of the political unrest. In order to bridge the gap between supply and demand for English teachers, the government was compelled to employ teachers who were weak in the language (Ibid).

1.4.8 1996 ---- 2022

Following the end of the socialist regime, the EPRDF had come with lots of concerns in the education system, and many adjustments were made. The country's 1994 education and training policy read that “English will be the medium of instruction for secondary and higher education” (FDRGE, 1994, p. 24). In addition, this statement plainly states that English language should be given across the entire country starting from grade one. It is also implied that students should learn English from kindergarten level, with an emphasis on developing basic communication skills (FDR MoE, 2009).

As per the 1994 Education and Training Policy, "most regions started using English as a medium of instruction from Grade 7 and very few regions from Grade 5," although the usage of the English language is advisable as the medium of instruction for secondary and higher levels (FDRE MoE, 2009). For example, the Tigray and Oromia National Regional States initiated the use of English as a language of instruction from grade nine, while Addis Ababa City and the Amhara National Regional State implemented it starting from grade seven.

In addition, the SNNP Regional State introduced it from Grade 5, as the region accommodates students with different linguistic backgrounds who attend the same classes in some areas. Therefore, English was given priority to address the multilingual linguistic origins of the students.

The school structure also consisted of eight years of primary education divided into two phases (basic education, Grades 1-4, and general primary education, Grades 5-8), two years of general secondary education (Grades 9 and 10), and two years of preparatory classes (Grades 11 and 12), as per the 1994 Education Policy.

Students took a university entrance exam after completing grade 12, and those who achieved a passing score were admitted to higher education institutions. On the other hand, students who did not achieve the required score to be enrolled to higher education institutions and had already failed the grade 10 national examination were allowed to join in technical and vocational colleges.

1. 4. 9 English for Ethiopia Text Books

The English for New Ethiopia (ENE) series had been in use for about fifteen years. To improve English language instruction in secondary schools, the language panel of the Institute of Curriculum Development and Research (ICDR) got ready new textbooks, the English for Ethiopia series and updated the curriculum in 1996.

Due to decentralization of education policy and politics, the Ministry of Education issued centrally developed syllabi for all regions to use in developing their primary school textbooks (Grades 1–8). Regional states, of course, also modified the contents of the text according to their own particular linguistic, cultural, traditional, religious, and other conditions.

Nevertheless, the task of producing English textbooks for all levels had been left to the English Panel, the Institute of Curriculum and Educational Research (ICDR), and the Ministry of Education. Moreover, the Ministry of Education developed English textbooks for secondary schools with the direction and technical support of specialists from the British Council, which were entirely different from the previous ENE textbooks in terms of content, approach, and methodology.

The communicative language teaching (CLT) strategies mainly predominated in the 1996 English textbooks. The reading passage contents are varied and presented in a way that can engage students. Grammar contents are presented contextually so that students could practice subconscious grammar learning. Lexical items and phrasal verbs are presented in the way that either students use them in a dialogue form or compose sentences and paragraphs. The curriculum and textbooks also emphasize speaking and writing skills.

1.4.10 2023 – Now

Since 2023, a new focus in Ethiopia's English textbooks has emerged. The English textbooks in grades 1 through 12 have once again been modified. Unlike earlier English textbooks with a focus on the concept of CLT, a communicative language teaching and learning model, there is renewed emphasis in new textbooks on the teaching of grammar, vocabulary, and writing explicitly. This shift implies a return to more traditional methods, where the teachers give special focus to the explicit teaching of vocabulary lists, grammar rules, and language structures.

In recent English textbooks, objective components in each unit specifically state that English language teaching aims to consolidate students' fundamental knowledge about the language, possibly due to issues encountered in achieving fluency and accuracy. It appears that the textbooks and curriculum are structured to improve language skills via consistent and particular grammar and vocabulary exercises.

In addition, the 1974 and 1996 education policy themes have been combined into the current education policy. Sixth-grade regional national exams are once more employed in an attempt to evaluate students' overall performance in the first cycle of primary grades. Earlier 10+1 and 10+2 higher education preparatory schools have been modified and restored to the earlier secondary high school programs (grades 9 – 12).

1. 5 The Features of Reading Texts across the Years (1947–present)

Reading texts in the Ethiopian education system have undergone various changes since 1947, when formal English language textbooks were first introduced in the country's educational institutions. The content of the reading passages has varied depending on the interests of the countries that introduced formal education in the country, the political agenda of the then authorities, the traditional and cultural values of society, the intention to incorporate global issues, and the aim of enriching the textbooks with literary content.

1. 5.1 1947 --- 1958

This was a milestone period for the country's formal education, particularly in English language teaching and learning. This was due to the fact that the Britain introduced the English language instruction in Ethiopian schools for the first time. As Ethiopia

established greater contact with the Western world, especially with Britain through diplomatic relations, there arose a necessity to standardize education levels and foreign language policy. Thus, English became the language of education and international diplomacy (Sharma, 2013).

Since the British were responsible for teaching the language, most reading materials and syllabi were centered on British culture, traditions, and notable figures. To help students enhance their English reading proficiency, the curriculum provided specially prepared textbooks and simplified readers. These materials were chosen to match different reading levels so that students could progress at their own pace more easily. For example, beginning readers were engaged with basic vocabulary and sentence structures, while advanced readers were expected to read more developed texts incorporated new words and more complex concepts (Ibid).

1. 5. 2 Between 1958 and 1964

Between 1958 and 1964, a shift was seen. The American cultural influence began replacing the British focus. American culture began to introduce in the new text books due to the arrival of American teachers and the use of study materials and readers that were primarily based on American values. Reading texts at this point would generally involve topics, such as American festivals, historical figures, and social customs. The majority of the books were imported directly from the United States, consequently making American culture the unifying theme (Sharma, 2013).

1. 5. 3 Late 1960's ----- early 1970's

By the late 1960s and early 1970's Ethiopia made a significant progress. The ministry of education began designing local English textbooks especially written for Ethiopian students. For the first time in history, reading materials in them portrayed Ethiopian issues. As opposed to relying on foreign images, texts used descriptions of Ethiopian history, society, and daily life. The locally created textbooks aimed at making English more relevant and reachable to students by basing language studies in realities (Getachew & Derib, 2006).

In addition to the popular contact series, there have been many important local books that have left an impact, especially those revolving around Ethiopian stories and folk tales. These include "Shlomo Bachrach," "Bright and Wingard's," and "Ethiopian life" that are part of a larger collection known as the New Oxford English course for Ethiopia. The primary purpose of such storybooks was to bring the Ethiopian folk tales and culture into the classroom. They allowed students to connect with their heritage via generation-old stories, and students felt a sense of pride and identity (Ibid).

These storybooks were composed in such a way to embrace and highlight Ethiopian moral values and life lessons from traditions. The stories provide clear examples of the manner in which Ethiopians live day-to-day life and useful traditions that should be carried out by the younger generations. The stories also outline the way of living in Ethiopia, capturing the social beliefs and norms embedded in the stories. They are crucial in that they do not only educate in English, but also preserve culture and encourage students to learn about their history. Their incorporation in the curriculum in the new Oxford English course is a demonstration of the effort to balance learning languages with learning culture and help students to know their own values in modern education. Overall, these folk tales and culture books played a great role in stimulating literacy rates because they ensured readers developed knowledge about Ethiopian culture and history.

1. 5. 4 Between 1974 and 1991

During this period, Ethiopia experienced a major political reformation, as the government shifted from feudalism to socialism. This had a great impact on the content of English reading texts. There were plenty of reading texts during this period that applied socialist concepts, revolution or praise for the new political order. Nearly all reading texts spoke of collective struggles or the merits of working together. This was a period when language teaching was closely linked to politics, and reading materials were designed to further inculcate the regime's message.

Reading passages such as, "Justice is Done," "The Better Lesson," "Class War," "The Accumulation of Capital," "Landlord Gulte is Caught Alive," etc. shows the intention of the then political regime to impart the socialist doctrine in English language text books.

For instance, the topic "Justice is done" presents the idea of redistributing private property for the benefit of society. This idea favors nationalization, i.e., transforming ownership from the private to the public sector in such a way that resources are utilized for the betterment of society and not for individual profit.

"The Better Lesson" identifies the virtue of devotion and loyalty to the communist party in society. It implies that following the objectives and visions of the party is a virtue. "Class struggle" is used to identify the major divisions in communist theory. It accounts for the continuous struggle between the bourgeoisies, the owners of the ruling means of production, and the proletariat, the laboring class that depends on manual or casual labor. "The Concentration of Capital" relates to issues of capital control and economic development; it contradicts the socialist principles that capital and production should be evenly distributed in society.

1. 5. 5 1992 – 2022

Since 1992, Ethiopia entered a new phase in which reading passages addressed both domestic and international issues. Reading contents were reflective of Ethiopia's growth and inclusion in international discourses. Students had been introduced to Ethiopia's economic, political, and social problems, cultural diversity and international cooperation. Meanwhile, they were learning about various global issues from all parts of the world. The change was aimed at preparing students for life in an increasingly globalized world with a combination of national pride and global awareness.

However, significant changes in the content of the reading passage had come in the 2010 textbook edition. In this new textbook, the missing literature section was incorporated. Poems, prose, biography, autobiography, identifying film genres, writing the plot and review of a film, an interview with celebrities, and other literary pieces were included under the art and literature section.

For instance, the grade 12 English textbook weaves in a broad range of literary choices from numerous African novels and poems. Some of the most prominent work among them include "Building the Nation" by Henry Barlow, "A Taxi Driver on His Death" by Timothy Wangusa of Uganda, and "The Vultures" by Chinua Achebe, a renowned

Nigerian author, and "Western Civilization" by Agostinho Neto, a well-known Angolan personality. These poems had been carefully selected with the aim to promote the critical thinking ability among students as well as the enhancement of their intellect.

In addition to the poems, the textbook also included a compilation of excerpts from some of the leading African literary novels. For instance, it has excerpts of Chinua Achebe's seminal novels "No Longer at Ease" and "Things Fall Apart," Ngugi wa Thiong'o's influential novel "Devil on the Cross," and Selormey's philosophical novel "The Narrow Path." These novel excerpts enrich the reading section of the textbook and enable students to read through a very wide pool of works on African literature.

Having a wide range of literary works in a reading section enables the students to better understand literature and also enhances their analytical skills. After the students are exposed to different types of texts, from poetry and short stories to essays and plays, the students are in a position to identify connections between genres and styles.

1. 5. 6 Reading (2023 – Now)

Reading passages in the newly published textbooks cover engaging thematic and content areas, including everyday life experiences, culture, national awareness, global issues, moral, and social values. The composition is easy to understand; it seems that the texts are selected to enable the students to grasp the main concepts and themes easily without any difficulty, because the use of simple languages and familiar topics help in building confidence and encourages the students to read more. Moreover, the tasks are appropriately designed to challenge students according to their academic level.

However, the removal of the literature section from the reading texts could be taken as a major drawback in the newly published text books. Unlike the previous text books, the new ones completely lack literature contents such as poems, prose, and other non-fiction extracts, which play a significant role in advancing students' reading comprehension skills.

1. 5. 7 Conclusion

Even though English has been the medium of instruction in Ethiopia for the past 75 years, issues with the English language have continued. Major reasons for the poor English language outcomes among students include lack of English language exposure, a low

level of language awareness, a fixed mindset for learning and using the language, the socio-cultural context like limitations using the target language in real life contexts, cultural differences between learners, issues in English language education, poorly prepared textbooks, and the performance of language teachers.

In addition, language proficiency of students will also weaken in academic and non-academic settings as a result of inadequate reading habits and ineffective reading strategies of students. Reading strategies used by students are required, especially in academic settings. It assists them to choose the most important information from written text, including keywords, concepts, and models. Further, readers can organize, connect, and retrieve information from both background knowledge and new input.

The practice of using reading strategies continuously helps students develop an increased understanding of what they have read. The strategies guide students to read the key points and details within a text. While students analyze, they carefully examine the information, look for patterns, and reflect on what the author is saying. This skill helps students connect different elements of the text and understand how ideas are linked.

Students can also use reading strategies to make inferences from the content. For example, after reading a piece of narrative, they can determine the underlying message or the moral value the author is trying to get across. They are taught to ask themselves, like, "What is the author saying?" or "What does this mean to me?" These skills help students become more engaged and proficient readers.

Besides, reading strategies help students condense lengthy ideas into brief, short summaries. If there is plenty of information, the students learn to find out the most important points. For example, they will take a complex paragraph and simplify it. This makes it easier to remember what one has read and understand the overall story or argument. Students also learn the ability to identify major concepts in a passage by separating out the major ideas or important facts from the overall message. Based on knowledge of the key concepts, students are able to focus their attention more effectively and avoid irrelevant details.

By practicing multiple reading strategies, students also regulate their overall reading activity. Most importantly, reading strategies help students monitor their comprehension at regular intervals. They learn to pause and ask themselves, "Do I understand this text?" or "What did I just read?" This helps them to identify misunderstandings in the early stages and clear them accordingly. It does not allow them to move ahead with gaps in comprehension, which can cause confusion in reading comprehension.

Overall, repeated practice in reading strategies makes students more independent learners. It provides them with strategies for approaching any text with confidence. Through the acquisition of these strategies, students improve their comprehension, think critically about what they read, and retain more. These routines allow them to have an active and engaged reading process so that they can comprehend both academic and non-academic texts.

In contrast, if students lack reading comprehension skills, their academic performance turns out to be poor. They don't even know why they are reading, and therefore, they fail in examinations and assignments. Students cannot construct new knowledge or build interconnections between various subjects without excellent reading skills. Consequently, they are less likely to succeed in higher-level studies, which often depend on the ability to decode complex texts and ideas.

Moreover, students who do not use reading strategies also fail to read actively. They lack sufficient practice, which makes it hard for them to master the skills required to analyze and interpret what they read. They are therefore forced to feel frustrated or even discouraged when confronted with challenging texts. They may not know how to approach difficult texts and thus feel demotivated from even making an effort or gaining confidence in attempting to do so.

1. 6 The Research Problem

The present-day language teaching often promotes individual learning and student accountability. Independent learning is beneficial to students in a variety of ways. Students can raise motivation, boost confidence, recognize their strengths and

weaknesses, and perform better academically. Also, students could control their behavior in class and promote social inclusion by addressing detachments (Astuti & Lammers, 2017).

In the Ethiopian situation, much can be expected from senior secondary school learners in their use of effective reading strategies. The students are at a stage where their ability to comprehend and analyze texts can be determinative in academic accomplishment. The student textbook and the teacher's guide also support the idea that such reading strategies must be introduced early and supported consistently in a learner's lifetime. The English language syllabi clearly state that from elementary grade levels onwards, students should be progressively instructed on how to implement various strategies depending on the type of text being read.

Even though English is taught at every grade level, there is a serious issue with how students actually exercise their autonomy or take ownership of their education, particularly in reading classes. Instead of actively working with the texts or setting goals for themselves, students would prefer sitting idle in the reading class. Teachers typically complain about students' lack of enthusiasm in the reading assignments and their general disinterest. This is a widespread problem that represents a misalignment between what occurs in classrooms and the concepts of learner autonomy or learning ownership.

Above all, researchers found that learners' language proficiency and reading comprehension are below the national average. Yechalework (2017), for instance, conducted research on reading strategy use on twelfth-grade students and confirms that most learners are neither aware of nor employ basic strategies of reading such as cognitive, metacognitive, affective, compensation, and social reading strategies, which are basic for the enhancement of reading comprehension. According to this study, cognitive reading strategies such as reading a text more than once, skimming and scanning, taking notes, visualizing, guessing, and summarizing are the least employed among the students.

Moreover, the majority of students cannot efficiently utilize metacognitive reading strategies. These include making a plan about how to approach a reading task, setting

clear objectives before starting, and maintaining active monitoring of their understanding while in the process of reading. Most students read a passage without pausing to think about whether they understand the main points or how the paragraphs connect. They most often stay away from questioning themselves about whether they understand the key ideas or whether they should read some sections slowly. Once they have read, students do not check themselves in general for how well they understand or review what they have read. This can lead to having a surface-level understanding of the reading text.

Additionally, he asserted that learners do not exhibit a tendency for employing the social reading practices known as seeking confirmation and cooperating with classmates. Learners showed weak effort to work together with other learners on an activity with common goals, such as sharing parts of a story to read and then figuring out the entire story through a process of negotiation. They also showed a weaker tendency to work with more proficient users of the language, particularly outside of the language classroom.

Atakilte (2016) also added the following to the aforementioned argument. The less successful students do not have a better understanding of how to employ effective reading strategies or when to use them. It has been found that students struggle to use good reading strategies such as summarizing, rereading the text, evaluating their understanding, confirming their responses, and looking for any missed ideas both during and after reading.

Additionally, students tend to lack the ability to change their reading strategies when their current ones do not work. In other words, they are unable to adjust their reading strategies to deal with a specific challenge that they might encounter in another area of a text, or they are unable to use effective strategies in analytical and critical reading activities.

The above research also revealed that apart from not employing basic cognitive reading strategies, students also showed a weak tendency to employ metacognitive reading strategies, which could be viewed as essential to improving reading comprehension. These strategies include planning, monitoring, and evaluating, which allow students to organize the reading process.

Based on the specific reading skill gaps identified earlier, this study is set to explore and gain insight into the reading strategies of students in a systematic framework. Three areas are highlighted: first, it describes the major and minor reading strategies used by the learners, offering information about the way students read and what they tend to use most frequently. Second, the study examines why these reading strategies are varied in high and low achievers. Differences in strategy use are typically explained by reading task effectiveness. Third, the study attempts to investigate the correlation between learners' choice of reading strategies and their true learning outcomes.

1.7 Research questions

1. What are the most and the least frequently used reading strategies among the students?
2. What reading strategies do the high and the low achievers use when they read academic texts?
 - (a) What differences are observed between the two groups in reading strategy use?
 - (b) What are the existing similarities between the two groups in reading strategy use?
3. To what extent does the students' reading strategy use correlate with their performance in reading comprehension?
 - (a) Is there any correlation between students' reading comprehension performance and their cognitive reading strategy use?
 - (b) Is there any correlation between students' reading comprehension performance and their emotional aspects (affective reading strategy use)?
 - (c) Is there any significant relationship between students' reading comprehension performance and Meta- cognitive reading strategy use?

1.8 Objectives of the study

1. To identify major and minor reading strategies implemented by the learners when they read academic texts.

2. To describe the similarities and differences of reading strategies used by high and low achievers.
3. To find out the correlation between learners' reading strategy use and their performance in reading comprehension.

1.9 Significance of the study

The researcher believes that the results of this study would have the following contributions:

Theoretical Significance

This study can make a contribution to cognitive and educational psychology by offering evidence for the relationship between strategy use and comprehension performance, thus validating and possibly extending various reading strategy frameworks and interactive models of reading. It points out the reasons why successful readers engage in monitoring and integration, whereas less successful readers do not.

Practical Significance for Teachers and Classroom Instruction

The findings can assist teachers in the explicit teaching of strategies, enabling them to teach strategies to their students, for instance, by modeling strategies for students using "think-aloud" and collaborative reading, as well as pinpointing difficulty for struggling readers. This is directly related to reading instruction and can help teachers in transforming passive readers into independent readers.

Contextual and Gap-Filling Importance

In countries like Ethiopia, where English is a foreign language, the research addresses actual concerns such as the lack of reading skills despite exposure to English, presenting solutions that local research has begun to focus on. Moreover, the research presents a new perspective by linking strategies with performance indicators, which have been the focus of numerous studies that tried to provide with possible solutions.

Implications for Curriculum, Policy, and Materials Development

The results can guide curriculum developers and policymakers in their attempts to incorporate strategy instruction into their national English/language arts curriculum, teacher training programs, or testing instruments (e.g., suggesting increased emphasis on cognitive and metacognitive strategies in textbooks).

For material developers, this will help them develop more effective learning materials such as online tools and textbooks that contain strategy prompts. By using these prompts, material developers will be able to develop more effective learning materials that will help students learn their lessons more effectively. Therefore, students will have access to more effective learning materials that will help them learn in a more effective and helpful way.

The importance of the study can be summarized in general terms by recognizing that reading comprehension is the fundamental building block of all learning, and the ability of the student to understand what they are reading has a significant effect on their entire life. Making the connection between strategy use and performance can help students learn critical skills; teachers can use effective strategies in the classroom and curricula to become more effective.

1. 10 Scope of the study

This study will explicitly outline the reading strategies that grade 12 students in Addis Ababa use and how well they perform on reading comprehension exams. However, out of 80 government high schools in Addis Ababa, only seven high schools: Ewket Chora, Tikur Anbessa, Derartu Tulu, Medhanialem, Dejazmach Wondyirad, kelemework, and Minilik II were incorporated in the research. Two high schools, Ewket Chora and Tikur Anbessa, for the pilot study, and the rest five schools: Derartu Tulu, Medhanialem, Dejazmach Wondyirad, kelemework, and Minilik II, for the main study.

The above high schools were considered due to their locations in different parts of the city, their convenience in terms proximity to my residence, and the presence of former high school staff in some of the selected schools. The sample size was constrained. From the overall 2,672 students in the five high schools only 267 students were taken as a

representative sample for the main study, which incorporates 10% from the overall population. The selection of only government schools for the study is the other restriction of the study.

Chapter Two

Literature Review and Theoretical Frame Work

2.1 An overview on Language Learning Strategies

It is very important to reflect on some fundamental concepts of language learning strategies before examining various reading strategies, as this serves as a prerequisite to address the research needs. These key concepts establish a basis for understanding the subsequent reading strategies covered. Through the discussion of these underlying principles, we will develop a more conceptual understanding of the relationship between reading strategies and the broader framework of language learning strategies.

The term language learning strategy (LLS) was first used in 1970s in the study that is often known as the "qualities of good language learners," which primarily discussed the major approaches language learners used to reach their goals in second language acquisition and the actions they took to improve their learning through active self-directed involvement that is, the practice of becoming better language learners (Oxford, 1990).

The study of language learning strategies often refers to the identification of successful learner(s) in order to extract the learning strategies used by high achievers and make those strategies accessible to those who are less successful. Besides, results of language learning strategy studies indicated that those learners who developed their own language learning strategies could actually clarify ideas of the target language better than those who did not employ personal strategies (Cohen, 2011).

Later in the 1980s, this idea of language learning strategy further developed into a taxonomy or a classification of language learning strategies. Strategies were classified into direct and indirect based on how they support second language learning. Furthermore, the language learning strategy taxonomy was also divided into cognitive, metacognitive, affective, social, and compensatory categories, which all have strong psycholinguistic foundations (Dornyei, 2005).

According to Oxford (1990), cognitive strategies are associated with mental process and ways of thinking which students use in their daily foundation of language learning, such as memory, learning, problem-solving, evaluating, reasoning, and decision-making. Metacognitive strategies, meanwhile, are concerned with the overall evaluation of learning processes. It is an assessment of the usefulness of cognitive strategies and how they can work successfully in students' academic lives.

Oxford further went on examining other learning strategies, such as affective, compensatory, and social. Affective learning strategies help learners to regulate their emotions in learning process. Moreover, learners' motivation and attitude towards the target language can be enhanced through the application of affective learning strategies. Unlike to cognitive strategies, which are concerned with information processing, or metacognitive strategies that are associated with monitoring and evaluation, affective strategies assist the learner in remaining motivated, lowering anxiety, and having a positive attitude towards learning. Key affective learning strategies include self-encouragement, anxiety reduction, interest-based learning, and peer collaboration (Ibid).

Compensatory strategy can be explained as those strategies learners employ to overcome their weaknesses in language learning. They keep learners communicating when their language skill is partial. Students may apply synonyms to express equivalent meanings when they don't have the precise vocabulary, use gestures to communicate ideas without words, paraphrase to repeat sentences for better comprehension, and make use of inference to contextualize meaning (Shakarami et al., 2017).

Social learning strategy is an approach to learning where an individual learns through observing others, imitating what they do, and interacting with others. It is based on the notion that people can learn more effectively by observing others and imitating what they do, how they act, and what they achieve within a social environment. The main features of the social learning theory include observation and modeling, which involve people observing others carrying out certain tasks or exhibiting certain behaviors, which they can copy from the people they observe; collaboration, which emphasizes the importance of social interaction in groups, including communication among members of the groups in which people are learning; feedback, which enables people to learn from others in a

positive manner; and support from the organization, which is very crucial in the implementation of social learning theory (Kendal et al., 2018).

2.2 Defining Language Learning Strategy

Researchers define the term "language learning strategy" with respect to different aspects of language learning. Scholars like Cohen (2014), attempted defining the term "Language learning strategy" through providing the key features of successful language learners that include taking responsibility, planning concepts, creating opportunities, and being patient in lessons and academic texts.

Others, such as Oxford (1990), sought to define the concept based on the key principles of learning strategies. Language Learning strategies are "specific actions taken by the learner to make learning easier and faster, enjoyable and self-directive, and effective and transferable to target contexts." The elaborate description of language learning strategy by Oxford includes general areas of strategy, namely cognitive, metacognitive, affective, and social dimensions of language learning that strengthen students' competency and confidence in language learning.

Chamot (1990) explains that language learning strategies refer to processes and behaviors that learners use when they take action on using the target language properly. This definition characterizes language learning strategy as a regulative action in which learners have to work if they need to understand their ability and control behaviors connected to educational careers.

The concept proposed by Chahmot (1990) does serve to supplement the earlier views of Rigney (1978) and Rubin (1987), especially when it comes to the key issue of proper management of learning goals. Chahmot defines a learning strategy as a plan that consists of different methods that language learners adopt in order to promote and accelerate their learning process. This definition emphasizes students' active engagement in adopting useful methodologies that are able to advance their studies in order to have efficient and fruitful learning experiences.

Research carried out by Rose et al. (2018) shows that language learning strategies involve various practices, emotional responses, and intellectual processes that learners perform to achieve their own personal objectives. These strategies are vital for advancing the way learners acquire, structure, and retain information. Strategies not only make learning more effective but also enable learners to adapt to new and diverse conditions.

It is evident from the above definitions that most frequent words, i.e., "actions," "techniques," "steps," "behavior," "conscious efforts," "self-regulation," etc., all imply that a language learning strategy is all about how a person plans and executes certain skills. . It is supposed to add to both the effectiveness and efficiency of learning or doing different tasks, whether academically or in daily life outside of formal education. By focusing on these areas, students are better able to handle the problems of language learning and apply their skills to a range of contexts.

Even though different researchers have provided different definitions of learning strategies, Oxford's (1990) definition of language learning strategies is taken as the most effective working definition for this research since it is comprehensive. Apart from indicating a learner's learning style, it also includes key elements of learning strategies such as cognitive, metacognitive, affective, social, and compensatory strategies. Emphasis is placed on these fundamental areas of learning, that is, how they are used to support students' reading comprehension performance and how low, average, and high-achieving students use them.

2.3 Language Learning Strategy Classifications

There are a number of categories for second and foreign language learning strategies. O'Malley and Chamot, 1985; Wenden and Rubin, 1987; Ellis, 1990; and Oxford, 1990 are the primary classifications of language learning strategies. The differences among these language learning strategies are primarily a result of various research approaches conducted through observation, interviewing, questionnaires, or measurements for various language tasks and in various settings, i.e., native language acquisition, foreign or second language learning, or students with varying levels of second language proficiency.

Table 2.1: Overview of the most widely used classifications of second/foreign language learning strategies

Authors	Strategies classification
Rubin. J (1975)	Verification, monitoring, memorization, guessing (inductive inferring), and deductive reasoning.
Bialystok. S (1981)	Cognitive dimension: how readers process information Meta-cognitive dimension: how readers monitor and evaluate learning
Tarone. S (1983)	Learning strategies: used to enhance linguistic knowledge Communication strategies: used to solve immediate communication challenges.
O'Malley and Chamot (1985)	Meta-cognitive, cognitive and socio affective
Rubin and Wenden (1987)	Direct strategies, that is learning strategies: cognitive and metacognitive. Indirect strategies: communication strategies, social strategies.
Cohen. D (1990)	Retrieval, Rehearsal, and Communication
Oxford. R (1990)	Direct strategies: memory, cognitive, compensation. Indirect strategies: metacognitive, affective, social.
Stern (1992)	Management and planning strategies, cognitive, communication experimental, interpersonal and affective.
Cohen and Weaver (2006)	Style preference and task demands

Despite the extensive diversity of strategy models and classifications, academics generally point to five core categories as most crucial (Macaro, 2001; Dörnyei, 2005; Griffiths, 2018).

Rubin's 1975 model was the first and can be considered a landmark in language learning strategy research. The study primarily focused on strategies commonly employed by effective language learners. According to Rubin's work, the language learning strategies used by effective learners were categorized into five areas: verification, the act of checking hypotheses concerning the language content being studied; monitoring, the way

learners constantly observe and regulate their learning; memorization, the use of various techniques to store and recall new content; guessing, using contextual clues to infer the meaning of words or phrases; and deductive reasoning, the application of rules or patterns to logically interpret new language content.

The second is Bialystok's model of language learning strategies, which was proposed in 1981, responding to the differences in language input processing. This theory also identified a number of essential learning strategies. Search for meaning mapping is one of them, which connects the L2 words with the corresponding thoughts, thus ensuring a better comprehension. Furthermore, the theory considers the significance of language monitoring, also known as self-editing, which is a process where the learners are supposed to monitor their language use. The other essential part of this theory is the formal practice, which includes controlled grammatical exercises and drills that aim to practice language rules.

In addition, the model promotes functional practice, which encourages learners to use what they know about language in a real-life situation, such as in a conversation, to increase their communicative skills, besides providing a thorough clarification on how learners can efficiently tackle the challenges involved in language learning.

The third model of language learning strategy is Tarone's (1983) model, whose particular emphasis is on communication skills. Tarone's model aims at communication gap filling. The predominant techniques found to be typically applied under this model are paraphrasing, the application of synonyms or descriptive phrases, the application of loanwords, borrowing from the first language or even from a second language, non-verbal communication through mime or gestures, and requesting assistance or clarification.

The scheme of classification proposed by O'Malley and Chamot in 1985 is largely psycholinguistic and bases intentional processes and attention's role. Cognitive operations, i.e., the mental processes involved in the process of gaining knowledge, metacognitive operations, high order skills that involve planning, monitoring, evaluating,

and checking the learning process, and the socio affective learning strategy, which involves social interaction with others to advance language acquisition.

We also have a model of the language skills categorization as outlined in Cohen's (1990) and Cohen and Weaver's (2006) strategies. Cohen's (1990) strategy model mainly focused on three issues: rehearse, retrieve, and communication. Students can access previously stored language content quickly and accurately using various techniques such as recalling, visualizing, and employing rhyme forms. Rehearsal strategies, on the other hand, are used through gradual mental processing before applying the language content.

Communication strategies are generally used when learners lack the necessary linguistic skills, enabling them to resolve language-related difficulties immediately. This model is very similar to that of Tarone (1981), which focused on communication frameworks. Techniques such as paraphrasing, approximation, word coinage, literal translation, asking for help, and mime can be considered communication strategies employed by language users.

Cohen and Weaver (2006) introduced a new language learning strategy model known as style and strategy-based instruction. The model emphasizes that effective strategy instruction should take style preferences into account, such as auditory, visual, kinesthetic, global, and analytic learning styles. Task demands, on the other hand, relate to the major language skills: listening, speaking, reading, and writing. The model clearly identifies strategies that should be used for each language skill. For example, during reading comprehension activities, students may focus on strategies such as skimming, scanning for details,, making contextual guesses, summarizing paragraphs, and questions generation.

Again, among these five main learning strategies, Rubin's (1981), O'Malley and Chamot's (1985), and Oxford's (1990) taxonomies are employed most frequently in second/foreign language learning strategy studies. Rubin's classification has a tendency to differentiate between direct and indirect learning processes, whereas Oxford's taxonomy proposes six main components: metacognitive, cognitive, memory, compensatory, social, and emotional.

2.3.1 Comparison of Rubin's, O'Malley and Chamot's, and Oxford's language learning strategy classification

Table 4.2: Rubin's (1981) Classification of Language Learning Strategies

Groups of strategies	Subgroups of strategies
Direct strategies	1. Clarification/ verification, 2. Monitoring, 3. Memorization, 4. Guessing/Inductive inference, 5. Practice
Indirect strategies	1. Creating opportunities for practice, 2. production tricks

The notion of direct and indirect learning was first raised by Rubin. J, who, established the majority of work within the domain of strategies. Three different learner strategies, directly or indirectly helping language learning, are described: socio- affective, communication, and learning strategies.

Rubin classified metacognitive and cognitive learning strategies as learning strategies that directly affect the development of the learner's language system. Communication strategies are less directly associated with acquiring language because they are more concerned with the act of communicating and passing on meaning or interpreting what the speaker intended. Speakers use communication strategies when they encounter problems or experience a misinterpretation by a co-speaker.

On the other hand, engaging in socio- affective strategies helps students advance their learning by interacting and involving without the need to process language directly. Socio-affective strategies include various techniques that stimulate learners to take an active role in their learning process. For instance, students may improve understanding by asking questions or seeking clarification from peers or teachers, which, aids comprehension and fosters an interactive learning process. Furthermore, learning in groups or enrolling in language exchange programs offers learners a platform to practice languages within a community of learners, which reinforces learning on a larger scale.

2.3.2 Classification of O'Malley and Chamot's (1985) (O'Malley and Chamot, 1985b, pp. 582-584.)

Table 5: Language Learning Strategies according to O'Malley and Chamot

Learning Strategy	Description
Metacognitive Strategies	
Advance organizers	Making a general but comprehensive preview of the organizing concept or principle in an anticipated learning activity
Directed attention	Deciding in advance to attend in general to a learning task and to ignore irrelevant distractors
Selective attention	Deciding in advance to attend to specific aspects of language input or situational details that will cue the retention of language input
Self-management	Understanding the conditions that help one learn and arranging for the presence of those conditions
Functional planning	Planning for and rehearsing linguistic components necessary to carry out an upcoming language task
Self-monitoring	Correcting one's speech for accuracy in pronunciation, grammar, vocabulary, or for appropriateness related to the setting or to the people who are present
Delayed production	Consciously deciding to postpone speaking in order to learn initially through listening comprehension
Self-evaluation	Checking the outcomes of one's own language learning against an internal measure of completeness and accuracy
Cognitive Strategies	
Repetition	Imitating a language model, including overt practice and silent Rehearsal
Resourcing	Using target language reference materials
Translation	Using the first language as a base for understanding and/or producing the second language
Grouping	Reordering or reclassifying, and perhaps labeling, the material to be learned based on common attributes
Note taking	Writing down the main idea, important points, outline, or summary of information presented orally or in writing
Deduction	Consciously applying rules to produce or understand the second Language

Recombination	Constructing a meaningful sentence or larger language sequence by combining known elements in a new way
Imagery	Relating new information to visual concepts in memory
Auditory representation	Retention of the sound or a similar sound for a word, phrase, or longer language sequence
Keyword	Remembering a new word in the second language by (1) identifying a familiar word in the first language that sounds like or otherwise resembles the new word and (2) generating easily recalled images of some relationship between the new word and the familiar word
Contextualization	Placing a word or phrase in a meaningful language sequence
Elaboration	Relating new information to other concepts in memory
Transfer	Using previously acquired linguistic and/or conceptual knowledge to facilitate a new language learning task
Inference	Using available information to guess meanings of new items, predict outcomes, or fill in missing information
Socio affective Strategies	
Cooperation	Working with one or more peers to obtain feedback, pool information, or model a language activity
Question for clarification	Asking a teacher or other native speaker for repetition, paraphrasing, explanation, and/or examples

O'Malley and Chamot (1985) go on to further classified language learning strategies in to three major categories: meta-cognitive, cognitive, and socio- affective using Rubin's first taxonomy as a foundation.

According to O'Malley and Chamot, meta-cognitive strategies are higher-order language skills that help students manage their learning activities. These include planning ahead or preparing the language elements needed for an activity, focusing attention on particular aspects of the learning input, ignoring distractions, and arranging optimal learning conditions (self-management). Students also monitor their own performance, such as improving pronunciation, vocabulary skills, and grammatical appropriateness.

Learners use cognitive strategies to directly manipulate learning activities in the target language. The list of cognitive strategies described in O'Malley's model ranges from simple to complex. These include lower-order skills, such as repetition and silent rehearsal of language models, to more complex operations, such as consciously applying rules (deduction), recombining known elements into new sentences, and translating ideas from L1 to L2 and vice versa.

The practice of cognitive strategy also helps learners to practice other useful strategies, such as categorizing language concepts by their unique features, taking notes, visualizing concepts, using key words to remember ideas, placing new words in appropriate contexts, utilizing prior linguistic experience, integrating new concepts with background knowledge, and making informed assumptions when information is limited.

Socio-affective strategies prioritize the emotional and social components of language learning and teaching. According to O'Malley and Chamot there are two categories in the study of socio-affective learning strategy: cooperation and questioning for clarification. Cooperation refers to collaborating with classmates to share information, give and receive feedback, or participate in modeled language activities, while questioning for clarification entails asking for further details, where students actively request teachers or classmates for repetition, examples, explanations, or rephrasing to enhance comprehension.

Similar issues have been highlighted by other scholars regarding socio-affective learning strategies. For example, Zeynali (2015) described a number of strategies through which students can apply social and emotional strategies to enhance their language learning. One such strategy is seeking clarification. Through this strategy, students question whether their understanding or knowledge of a term or concept is accurate when they are uncertain. For instance, if a student encounters a new vocabulary word and is unsure how it should be used, he or she can ask the instructor or a classmate for clarification. This allows them to fully comprehend the subject matter and ensures they learn effectively.

Moreover, it is mentioned that students may seek assistance when doing tasks that pertain to language. At times, students may be engaged in reading, writing, speaking, or even comprehending a lesson. By seeking help, from either the teacher or a peer, they can gain the support to overcome such challenges. Students also collaborate in classrooms for the purposes of addressing some language challenges. This cooperation allows them to exchange solutions and ideas and enjoy a more streamlined learning process .Thus; learning becomes easier and more enjoyable.

2.3.3 Oxford's (1990) strategy classification

Table 6: Oxford's (1990) language learning strategy classification

Main group	Strategy groups	Subgroups
Direct	Memory	Creating mental linkages, applying images and sounds, reviewing well, employing action
	Cognitive	Practicing, receiving and sending messages, analyzing and reasoning, creating structures for input and output
	Compensation	Guessing intelligently, overcoming limitations in speaking and writing
Indirect	Metacognitive	Centering your learning, arranging and planning your learning, evaluating your learning
	Affective	lowering your anxiety, encouraging yourself, taking your emotional temperature
	Social	Asking questions, cooperating with others, empathizing with others

Considering earlier studies on learning strategies, Oxford developed extensive language learning model. She classified common learning strategies into six categories. The classification includes elements from Rubin's (1981) and O'Malley and Chamot's (1985). The classification system promoted by Oxford (1990) is based on two categories: direct and indirect strategy categories. Direct language learning strategies are those that have to do with learning anything directly. Memory, cognition, and compensatory strategies are those that specifically have to do with learning the target language directly.

The second group of strategies by Oxford (1990) is the indirect strategies, more widely called strategies that involve activities or procedures learners themselves self-manage and control during the learning process. The use of indirect strategies deals with those strategies having limited support to enhance the target language. Metacognitive, affective, and social strategies are included here.

2.3.3.1 Direct Learning Strategies

Direct strategies include strategies that promote direct exposure to the target language, such as memory, cognitive, and compensation strategies. Cognitive strategies emphasize manipulating or analyzing the language, while memory strategies help with memorizing or recalling information. Moreover, learners employ compensation strategies to fill in any gaps in understanding (Shi, 2017).

2.3.3.1.1 Memory Strategies

It can be observed that students acquire and hold new language content that they learn in a class, read in a book, or gained in any other learning setting. It is crucial for students to remember language contents such as grammar, vocabulary, and discourse features that they have learned. Thus, to achieve all these learning objectives, students should establish major strategies that support language learning, and these strategies are said to be memory strategies, which allow students to save and retrieve information (Balini & Jeyabalan, 2018).

Before the evolution of modern education, people greatly rely on memorization to comprehend various aspects of information. In the ancient period, pre and post Christ, our world's education system, including Ethiopia, had a strong relationship with rote memorization, which was considered one of the best methods of teaching in most disciplines. Nevertheless, nowadays, as a result of growth in science and technology and the modern education system, individuals no longer use simple memorization.

While it tends to be taken for granted, rote memorization has also drawn new investigation from Rebecca Oxford, who has stressed the centrality of memory to learning. Because of this, memory has also come to be valued as one of the strongest tools for improving cognition in language learning. This new direction highlights the crucial

role played by memory in language learning, clarifying its efficacy in supporting the memorization and retrieval of language content.

As noted by Oxford (1990), numerous memory strategies promote second language acquisition. The major memory strategies include: making mental connection, employing images and sounds, rehearsing effectively and using action. Creating mental connection involves techniques like placing new words in context; using images and sounds involve creating pictures in a mind with the aim of making the learning more real; in reviewing and using actions students are meant to employ simple learning strategies like, placing things in order, creating association, and reviewing.

Oxford (1990) went on to describe how a disciplined study of languages helps learners progress from comprehending information on an explicit level to learning functional language skills, and this transition allows learners to apply the language directly and enhances their ability to communicate in real life situations. Whenever new language concepts are integrated into functional skills by students, content becomes easier to learn and is also beneficial for long-term retention, enabling them to recall and to use the language even after a long period of time.

2.3.3.1.2 Cognitive Strategies

Cognitive strategies are very important in learning a new language. Students also understand and produce new language structures through cognitive reading structures. Receiving new information, practicing the information received, sending messages, and analyzing language structures are some of the most important structures under cognitive learning strategy (Oxford, 1990).

The strategy of practice gives five methods for improving language learning: repetition, formal practice, using sounds and writing systems, the identification and utilization of formula and pattern, recombining, and practice in a natural manner. Repeating is the action of saying or doing something multiple times in an attempt to perfect a certain language activity. Despite not yet being integrated into naturalistic communicative practice, the practice of using sounds and writing systems has a number of implications for pronunciation, intonation, and register. Recombination involves integrating items into

new structures to produce a longer sequence, and naturalistic practice involves the use of the new language in natural, everyday contexts (Zhang & Liu, 2017).

The process of sending and receiving messages involves the use of various materials, both printed and non-printed, to better understand incoming messages or to construct outgoing messages. This is vital in ensuring that communication is clear and accurate. The strategy for analysis and reasoning, however, involves several important elements: translation, information transfer, and deductive reasoning. Deductive reasoning, particularly, is the use of universal rules to focus on situations that arise within the construct of the target language in a way that provides a richer understanding and interpretation of the reading text (Ibid).

Transfer strategy is the direct application of knowledge of words, ideas, or structures in a language to understand or produce an expression in the target language. The translating strategy, however, is the conversion of a target language expression into the native language or even transforming the native language into the target language. Note taking, summarizing, and underlining are the three strategies that form the structure of input and output strategy and are all part of reading comprehension activities (Olson & Land, 2007).

Students generally learn the language content meaningfully with appropriate use of cognitive strategies. When the acquired knowledge is made available, students can logically perceive the new structural pattern of the language and restructure the earlier knowledge. Further, students compare and create models of languages in their minds, and they may be able to learn the language content more effectively.

2.3.3.1.3 Compensation Strategies

Despite knowledge gaps, compensatory strategies enable learners to utilize the new language for production or understanding. They are intended to compensate for limited vocabulary and grammar contents. For instance, when students are unaware of the meaning of certain new words in a piece of literature, they can still understand the point or meaning by examining the surrounding phrases and the meaning of the text (Manda, 2022).

As Oxford (1990) indicates, compensation strategies are the cognitive processes that students use to approach difficulty when learning a language. These strategies involve a range of mental operations aimed at bridging gaps in learning a new language. Compensation strategies are commonly known as intelligent guessing, especially in reading and listening. In addition, these strategies assist learners in compensating for their shortcomings in writing and speaking, enabling them to convey their meaning more effectively even with their deficiency.

The intelligent guessing strategy of listening and reading has linguistic and nonlinguistic cues. Employing linguistic cues includes prefixes, suffixes, word form, etc., when students are guessing at the meaning of new words; they dissect words into their components, utilize their prior knowledge of the component parts, and add them up again to complete the meaning (Ibid).

Nonlinguistic cues involve applying non language cues to infer the meaning of the listening and reading text in the target language, and include context, situation, text structure, personal relationships, topics, or general knowledge. Various studies stated that learners use diverse nonlinguistic cues to complete gaps in knowledge, to make inferences about the meaning of the source of difficulty, and to have a general idea about the problem (Nazari & Niknejad, 2014).

In addition to the above, eight effective techniques can be used to overcome problems faced in reading as well as speaking. These strategies are: first, employing the native language to facilitate comprehension and expression; second, asking other people to provide advice or assistance; third, mimicking or inserting gestures to add to communication; fourth, limiting communication to some manageable degree in order not to overburden oneself; fifth, selecting the topic carefully in line with its familiarity; sixth, approximating or modifying the message to state the intended meaning more clearly; seventh, creating new words when available vocabulary is insufficient; and finally, employing circumlocution or synonyms to convey ideas in other words. All these strategies can greatly enhance one's capacity to communicate effectively regardless of any difficulties encountered (Dagarin, 2004).

2.3.3.2 Indirect Learning Strategies

The entire learning management, including affective, social, and metacognitive learning strategies, employs indirect learning mechanisms. The metacognitive learning strategy places a significant emphasis on student activity at the individual level that is engaged in controlling one's academic interests and self-regulation. Moreover, it can also function as an instrument to facilitate students' comprehension and attachment to textual discourse.

According to Dewaele and Botes (2012), feelings and emotions have a very close connection with self-efficacy and influence the results of language learning. When students go through emotional management strategies, they can efficiently reduce feelings of anxiety and thus help to increase their level of confidence. This more optimistic emotional state increases students' learning and motivates them to take control over their academic development. Through the act of being capable of managing their emotions, students would be in a better position to make effective choices, establish clear objectives, and attain a feeling of independence in learning that ultimately results in improved language learning outcomes.

Another important learning strategy that can significantly contribute to students' performance is the social learning approach. Social learning has been greatly influenced by Bandura's social learning theory, developed in the 1970s. When students are engaged in a social learning environment, they become more motivated and actively participate in their lessons. Consequently, such interaction contributes to a better understanding of the topic and enhances social skills, as students learn from one another (Mondahl & Razmerita, 2014).

2.3.3.2.1 Metacognitive Strategies

Metacognition refers to reflection on learning. The application of metacognitive learning strategies enables learners to take responsibility for their own learning and solve problems independently. Moreover, students are also able to plan their learning, review their current knowledge, particularly the areas in which they need to improve and select the most appropriate methods for learning new language content.

Researchers and educators can easily examine students' metacognitive levels by asking key self-reflective questions: what they already know, how they learn, and where they need to be. The "what" questions help to assess students' current language performance, whereas "how" reveals which content or areas have been addressed and which have not. The "where" question, helps to identify students' perceptions of their learning progress and their future learning goals (Oxford, 1990).

Oxford, (1990) further asserts that metacognitive practice of strategies seeks to enable the student to diagnose himself/herself, make himself/herself aware of the ideal ways of acquiring a target language, develop skills of problem-solving, experiment with and learn unfamiliar as well as familiar learning approaches, make decisions on how he/she will work at a piece of work, regulate his/her work, and assess himself/herself. It also aims to help students transfer effective learning strategies to scale up learning contexts so that they could be more autonomous, independent, and persistent learners.

There is convincing evidence that metacognitive learning strategies are more important than other learning strategies in language learning because, once the learner can control his or her learning through the use of strategies, language learning will advance at a quicker pace. Besides, students possessing metacognitive knowledge and learning styles will acquire remarkable skills, including a clear sense of what is required by a task and the capacity to apply the most effective strategies for achieving the requirements of the task and their learning preferences (Anderson, 2003).

Additionally, Zhang (2006) argues that promoting metacognition helps students become aware of their learning styles and successful learning methods. When learners are skilled in meta-cognition, they will be able to understand their thoughts and learning processes. As a result, they will be more likely to assess the selection and application of learning strategies, plan how to proceed with a learning task, monitor their performance continuously, find solutions to problems they encounter, and evaluate themselves once the task has been completed.

2.3.3.2.2 Affective Strategies

According to Brown (2007), the term "affective" is utilized in the identification of feelings, attitudes, motives, and values. These are regarded as indirect strategies in the process of language acquisition and include factors such as self-esteem, attitude, motivation, anxiety, extroversion, inhibition, risk-taking, and tolerance of ambiguity. All of these factors considerably contribute to the language acquisition process. By using the affective strategy of language acquisition, the learner can assume control of their feelings, attitudes, motives, and values. This strategy has three major functions: it helps learners overcome anxiety, provides the learner with a sense of self-confirmation as a language acquisition achiever through improved comprehension of the language, and enables the learner to identify and express their emotional condition through communication.

One of the ideas that is most important in determining whether language learning is successful or not is likely to be the learner's affective side. This is due to the fact that human beings are emotional. Emotion is the energizing source of all cognition, meaning, and action. People are influenced by emotions. While negative feelings and attitudes can hinder language acquisition, positive feelings and attitudes can make it much more successful and enjoyable (Henter, 2014).

2.3.3.2.3 Social Learning Strategies

Social learning strategies are the different ways individuals acquire knowledge, skills, or behavior by observing and interacting with other people. Social learning strategies reinforce peer interaction, group-based experiences, and knowledge to a very high level of effectiveness and versatility in the process of learning.

There are many useful strategies that could be categorized under social learning. One of these strategies is modeling or observation, where individuals learn by observing the behavior and actions of other individuals. The second strategy is imitation, which is also the spontaneous practice of a model's behavior so that students would be able to adopt behaviors without much effort. Collaboration or peer learning is another important technique that emphasizes the importance of group interaction, where individuals engage in discussion, teamwork, or group problem-solving as a way to enhance their knowledge (Laland, 2004).

In addition, reinforcement and feedback also play significant roles in language learning by strengthening the correct usage of language and providing information whether the language use is accurate and appropriate. Cultural transmission also plays a vital role as it involves gaining knowledge and skills imparted through traditions, stories, or collective practices within a community. Last but not least, social scaffolding is structured support provided by others, leading learners through challenging tasks and developing their learning process. All these measures together form an enriching and efficient learning process (Ibid).

2.3.3. 3 Oxford's Strategy Inventory for Language Learning (SILL)

The SILL is a widely used self-report measure for the assessment of language learning strategies employed by students. Rebecca Oxford developed the SILL in 1990 as part of her work on language learning strategies, and since then it has emerged as one of the most important tools in the field of Second Language Acquisition (SLA).

This questionnaire allows students to reflect on their strategies and provides them with valuable information concerning their learning habits and approaches. The SILL has undergone several revisions and adaptations during its history, as a result of which it constitutes a valuable means in the views of teachers and researchers for gaining insights into students' approaches toward language learning. The usefulness of the SILL to second/ foreign language learning research cannot be overestimated because it helps to identify effective methods that enhance language learning and reinforce classroom teaching (Fazeli, 2012).

The SILL is developed to measure the frequency with which learners adopt different strategies while learning. Such a tool not only leads the learner to understand what strategies they are employing but also enables them to give their opinion on the learning processes. This tool also helps the language teacher to adjust their teaching methods to better suit each of their students' needs and preferences, hence leading to effective learning (Ibid).

The SILL framework is composed of a very comprehensive 50 items, which have generally been grouped into six strategic categories. These categories include memory

strategies, which refer to techniques like using imagery and grouping related words to help associate their meanings or remember them. Compensation strategies involve techniques such as inferring the meaning from the context or using synonyms to help overcome barriers in language.

Metacognitive strategies involve planning learning tasks and then monitoring progress to ensure that learning is efficiently and effectively done. The framework also involves affective strategies in the management of emotions and the use of self-encouragement in order to maintain motivation. Finally, social strategies involve learners asking questions and cooperating with peers in activities that will help enhance learning. In general, the SILL framework has systematized language learning into categories of strategies that a learner can modify.

In Oxford's 1990 publication, there are two forms of the Strategy Inventory for Language Learning. Version 5.1 is an earlier version, which has 50 items for assessing the learning strategy frequency used by native speakers of English. Version 7.0, with 80 items, is utilized to determine the learning strategy frequency used by foreign or second language speakers of English.

The SILL scoring uses a five-point Likert scale of 'never/almost never' to 'always true of me' for the different descriptions of approaches. Strategy use is considered as low when it falls between 1.0 to 2.49 and high when the scores are between 3.5 and 5.0. Scores between 2.5 and 3.49 fall into the category of moderate users of strategy.

2.3.4 Stern's (1992) Classification of Language Learning Strategies

Stern (1992) mentions five language learning strategies: management and planning, cognitive, communicative-experiential, interpersonal, and affective. Management and planning are two strategies that deal with the learner's objective of mastering his or her language. Students can manage their program with the guidance of a teacher who will be an advisor as well as a resource. If they want the management and planning style to be effective, learners must attend to language learning, set practical targets, pick an appropriate method, and adopt the necessary resources.

Besides, they also have to compare their progress with the goals and objectives set earlier. Learners should be dedicated to learning, set goals that can be realized, choose a suitable method and the right materials if they want the planning and management approach to function. They should compare their achievements with the goals and objectives that they had set earlier.

Cognitive strategies are the various ways and approaches that students adopt to solve and tackle problems, typically involving close examination, transformation, or combination of information. Stern (1992), in his large-scale study, set out numerous cognitive strategies that are significant in language learning. Some of these are deductive reasoning, which enables the student to make definite conclusions from general principles; guessing and inductive inference, which enable students to make acute guesses from the information provided; and checking, which assist in verifying information and assessing understanding. Regulation is self-test and self-management of one's learning process, yet practice and memorizing techniques must be done to retain information and skills. Together, these cognitive strategies equip students with effective methods to enhance their language learning process.

Communicative and experiential strategies are also part of the other issues proposed under Stern's language learning strategy model. Students employ methods such as circumlocution, gesturing, paraphrasing, or asking for repetition and explanation to fill a communication gap, in order not to hinder the flow of communication. Language learners also have to become more acquainted with the target culture through interpersonal strategies, and these strategies aid learners to keep track of their progress and evaluate their performance.

Furthermore, cognitive processes in the learning process enable the transfer of new knowledge and skills into daily life. The internal schemata of the learners provide the foundation upon which effective learning approaches can be adopted, as they enable the learners to make connections between new approaches and those they are accustomed to. Jean Piaget has supported the concept of learning as the integration of new knowledge with the existing knowledge, noting that people start learning from what they already know (Kroll & Sunderman, 2003).

2.4 Learning Strategies Research: A Global Trend

The notion of learning strategy has appeared as one among the central issues in language learning and teaching since the 1970s. Researchers working in the subject tend to conduct research and used more time on developing our understanding of the research area. Wong and Nunan (2011); Chamot (2004); O'Malley and Chamot (1990); and Oxford (1990) are a few top researchers who conducted in-depth studies in the field.

Even though various scholars hold different opinions about the question of learning strategies, they are all in consensus that it is valuable and vital in second language acquisition. Additionally, researchers confirm that the strategies used by each language learner also possess a special role in how students conceptualize language learning and can either contribute positively or negatively to the direction of language acquisition.

Researchers like Cohen (2014) and Oxford (2017) conducted a pioneering study on learning strategies with a focus on second language acquisition. They found that the use of appropriate learning strategies, which could be applicable to the very topic of the target language, can improve learners' language-learning abilities more effectively.

Currently, the central concern in language learning strategy research has gone through a range of factors, with an emphasis on individual differences and personalized approaches. This is particularly true when cognitive and affective processes, metacognition, and self-directed learning are being considered. This focus underlines the need to teach learners to plan, monitor, and evaluate their strategy use appropriately. Further, it brings to light the socio-emotional and affective strategies that come with helping students cope with anxiety, enhance motivation, and increase performance. Particularly, peer collaboration and learning through community are considered significant issues in language learning process (Rivera & Plonsky, 2007).

In addition, researchers are increasingly focusing on issues related to cross-cultural and multilingual contexts. This is due to the fact that language is the major instrument to impart culture. In every language, vocabulary, idioms, politeness level, humor, taboo topics etc., are included in the expression of that language, and language learners should

understand all these issues so that not to offend the speakers of the target language (Xin & Luo, 2024).

Multilingualism also contributes a lot to language learning in general and strategies specifically, because multilingual learners do not only learn the language but also they learn other language concepts in relation to the previously learned languages. Moreover, through the study of cross-cultural and multilingualism, researchers could get the chance to explore how various cultures influence the approaches and methods of language teaching and learning. Besides, analyzing issues related to multilingualism helps language researchers investigate unique strategies that are effective for students acquiring multiple languages and explore the challenges involved in learning new languages (Ibid).

2. 5 Importance of Language Learning Strategies for Language Learning

Second language teachers and researchers have examined this area in the last four decades with an aim to find the distinct entities of second language approaches. This is because acquiring a second language is completely different from other subjects or areas of learning and possesses a unique identity of its own. Over the last forty years, various studies of learning strategies have been conducted and various second language learning researchers such as Fillmore (1979), Ellis (1990), Ellis and Sinclair (1989), Oxford (1990), O' Malley and Chamot (1990) and others have investigated specific aspects of second language learning strategies and the overall learning theories.

Using language learning strategies in acquiring a second language has various advantages. However, the major advantage of using a language learning strategy is to help learners be more autonomous and improve language proficiency. Students who use good learning strategies are able to increase their ability, close language gaps, and apply the language in real life situations. In addition, students become accountable in learning activities (Griffiths, 2004).

Harris and Mason (2003) further suggest the value of learning strategies on the grounds that they allow learners to think creatively while learning a new language. This is due to the fact that the learner is able to utilize various strategies and approaches in an attempt to comprehend multiple language rules. Harris and Mason also build the perception that

effective learning strategies help learners produce quality work consistently, be alert during lessons, and achieve on their own assignments. Moreover, students acquire information on when, why, and how to use these strategies and become successful scholars.

2. 6 What is effective language learning strategy?

There are several factors that influence the success of a language learning strategy. The first factor is how much the learner is engaged in learning. The engagement level is determined by how much interest and effort the learner shows in learning the new language. Learners who take an active role in learning and show enough interest in what they are learning tend to learn better. The second factor is the nature of the learning environment where the teaching takes place. The nature of the learning environment includes how conducive it is for effective learning. A conducive learning environment means one where learners feel relaxed enough to take risks and commit errors, which is very important in learning. In conclusion, for a language learning strategy to be effective, it is essential for the learner to be engaged and for the learning environment to be conducive for effective teaching (Wong & Nunan, 2011).

Oxford (2003) suggests that a language learning strategy may only be termed effective if it meets certain parameters that are relevant to the learners' specific circumstances and requirements. In the first place, the target strategies and language tasks must be well aligned to maximize second language learning. Secondly, an effective learning strategy must be in harmony with the individual learning style of the student, as well as their overall approach to second language learning, and the particular strategies or sequential steps they use.

In addition, learners can utilize various strategies simultaneously, whereby they can apply these strategies to the particular language content they are dealing with. The use of instructional strategies that align with the learners' strategies in second language learning not only facilitates the learning process but also enriches the process, providing the learners with a greater sense of self-direction. Besides, effective learning strategies

enhance learners' autonomy and independence and gradually make language learning a lifelong endeavor.

2.7 Characteristics of good language learners

In a majority of studies on language learning strategies, the main focus has been on identifying what the good language learners report; they do in the process of acquiring a foreign or second language. This guides teachers and researchers as a benchmark to direct the slow learners along the path of the prevalent language learning strategies that the high achievers experience (Rubin, 1975; Naiman et al., 1978; Rubin & Thompson, 1983; Oxford, 1990; Chamot & Dinary, 1990s–2000s; Takeuchi, 2003; Griffiths, 2015).

As Rubin cited in Cohen (2011) successful language learners find their own means of organizing information about language. They are creative and experiment with language, come up with their own opportunities and plan for practicing the language in and out of class, and learn to deal with uncertainty and develop strategies for making sense of the target language.

Griffith (2015) identified a number of important factors that distinguish effective language learners. Such learners are proactively responsible for their own learning processes, being initiative takers in terms of organizing and structuring the information they receive on the language. In addition, they are highly creative, and this helps them to have an intuitive understanding of the language. This is done by their capacity to experiment with various aspects of the language, like vocabulary and grammar, and thereby enhancing their overall competence and understanding.

From the above two scholars' idea, it is possible to conclude that one of the major characteristics of good language learners is that they are passionate in searching for opportunities to learn the language. They don't wait for opportunities to arise; rather, they seek out numerous options to practice the language, both inside and outside the classroom. They are enthusiastic to learn the target language, which leads them to subject themselves to a variety of useful material presented in the target language, and this

continuous practice in the target language makes learners build their capacity, progress their application, and expand their cultural contexts.

Besides, the effective learners make use of prompt, repetition, imagery, and patterns to remember what they learned, and they do not avoid mistakes as they learn. They are also able to use basic linguistic rules, knowledge of their first language, and contextual clues in helping them understand and to make informed guesses.

Similarly, Houssami and Benattabou (2023) hold the opinion that effective language learners use multiple reading strategies to optimize learning. These include the ability to organize information in a coherent order, which helps with comprehension and recall. They also emphasize the requirement to access the knowledge of their native language as a source for acquiring a second language. This transfer of skill can facilitate understanding and make the learning process more efficient.

Moreover, successful learners are aware of how to use contextual prompts within the text to infer meaning and develop understanding. Lastly, they cite the process of chunking language, or breaking down text into manageable parts; so that, they are better able to process and understand the target language. Overall, these strategies are crucial for language learning and contribute significantly to the success of the learners (Griffith 2015).

It is important to indicate that effective language learning strategies entailed a series of activities other than traditional classroom settings. Most students who were considered successful language learners achieved the level of proficiency through independent activities and activity-inducing programs outside the normal classroom setting. These students typically participate in a range of activities such as reading books, watching movies, and language exchange programs, all of which help to play a great role in their language learning. By adopting these different approaches, students are able to develop their skills and understand the language better in daily, real-life contexts (Ibid).

2.8 The Concept of Reading and Reading Strategies

2.8.1 What is reading?

Reading is the subject matter of numerous researches. The definition of “reading” varies with varying scholars. To illustrate, Anderson (2009) defines reading as the meaning construction process involving written language and requiring the coordination of several associated sources of information through the interactive dynamic of reader's prior knowledge, the information presented in the text and situational context for the reading.

Brown (2007) also defines reading as learning a language, communication, and exchange of knowledge and ideas. This definition emphasizes that reading is a multi-layered relationship between the reader and the text that is guided by the reader's prior knowledge, experience, attitude, and language community that are embedded within a particular culture and social setting.

In a similar way, Nunan (2003) spells out reading as an interactive activity whereby readers integrate information in a text with what they already know to generate understanding. This definition encompasses three significant features: the interactive nature of reading, the use of background knowledge, and meaning construction. Interactive is the level of the reader-text relationship, the reader's background knowledge addresses the reader's pre-existing framework of the text's meaning, and the building of meaning addresses the process of actively gaining sense from the reading text.

Nunan emphasizes that reading is not passive but active and dynamic mental processing. Through this process, the reader becomes an active participant in actively contributing to understand the text. This is in accord with schema theory which postulates that our previous knowledge and experiences guide how we process information. It is also in line with interactive models of reading which entail both bottom-up and top-down processing. Top-down processing refers to the employment of context and background knowledge to understand the text, while bottom-up processing involves focusing on decoding the sentences and words themselves. In general, these approaches tend to convey the complexities involved in the reading process from a cognitive perspective.

Though there are many attempts to describe reading, I find Nunan's definition more complete because it covers the interactive nature, use of background knowledge, and construction of meaning simultaneously.

2.8.2 Reading strategies

Reading strategies are usually categorized under language learning strategies, as they share similar features and functions. All principles that apply to the formulation and implementation of language learning strategies apply to the use of reading strategies. They have also strong positive correlation; learners who use more language learning strategies, especially cognitive and meta-cognitive tend to use more reading strategies (Ghafournia, 2014).

Alderson (2000) contends that every reader would possess a different reading strategy. Several strategies can be utilized by the same reader at various instances. This can be due to what the readers were reading for and doing. Every strategy would be associated with either the direct or indirect approach specified as the umbrella learning strategies, and researchers categorized as cognitive, meta-cognitive, affective, social, and compensatory based on their function in language teaching and learning.

Cognitive reading strategies are techniques that enable readers to derive meaning from a text. These strategies both encompass top-down approaches, where the reader utilizes what they already know and anticipate about a text to help interpret it, and bottom-up strategies, which are preoccupied with word-by-word decoding of the literal words and sentences to build meaning. Alternatively, metacognitive strategies help readers regulate and monitor their cognitive processes for reading. They are self-regulatory and help readers plan, monitor, and evaluate their learning and comprehension while reading (Ibid).

Building on the general language learning strategies discussed above, researchers such as McDonough (1995) have developed a comprehensive list of cognitive and metacognitive strategies specifically used in reading. This list is categorized under four general areas of reading strategy: utilizing technical means of better reading comprehension, clarifying

difficulties encountered in a reading text, being capable of perceiving the coherence of texts, and monitoring while reading.

Skimming, scanning, text marking, developing a text summary, using a glossary, observing pictures, and using context to define a word are some of the reading strategies categorized as technical aids, while syntactic simplification, using synonyms, circumlocution, employing paraphrasing, rhetorical functions, searching grammatical category of words, inter textual analysis, utilizing inference, and adding information are all categorized as clarification and simplification.

Coherence detection, on the other hand, is a category that entails identifying the macro forms of reading comprehension, such as keeping in mind the passage's meaning, using information about the story, using associations and general knowledge, applying world knowledge, identifying key information, making content predictions, making guesses, identifying text structure, and integrating information.

McDonough (1995) makes the observation that metacognitive and affective strategies are two of the most important tools to be used in successfully monitoring the reading process. They comprise a variety of strategies used to increase comprehension and engagement with the reading text. In particular, they comprise the capacity to change reading strategies in accordance with the type of text being read, such as modifying one's strategy in relation to the complexity of the text.

2.9 The Relevance of Teaching Reading Strategies

Teachers teach students on reading strategies for several reasons. To start with, strategies make readers notice the process of reading. Reading comprehension strategies like metacognition, questioning, making connections, and visualizing make readers notice that reading is not just about recognizing words; it also involves thinking about the text critically. Thus, when teachers utilize several models of reading strategies in their reading instruction, their students notice the actual reading process.

As noted by Lee (2007), the practices in reading strategies help students make connections to other skills. Students, for example, can make a connection between

visualizing and identifying the setting. They can also distinguish between the main and specific ideas in a given text. Teachers' biggest complaint when it comes to comprehension is that their students read but cannot recall things. This is due to the inability of students to think while they read. Teachers need to get their students to be active readers. Active readers undertake many activities of reading, such as questioning, visualizing events, determining the importance of content, and checking for understanding.

Strategies cause students to rely on themselves, on their schema, on their life experience, and on prior knowledge in an attempt to make sense of the story. They encourage learners to apply their own experience, opinions, and ideas when it comes to making sense of the text. When students are sure and can see that they already possess information that can help them make sense, then it makes them bolder and capable of making sense (Ibid).

From all that has been discussed, it is very clear that reading, by its very nature, is a very interactive activity, unlike a non-interactive activity. It is not just about the information and ideas that are given by the writer, but it is also about how the reader understands and interprets what is being read. It is this interaction that brings about a dialogue between the writer and the reader, thus giving a greater motivation to reading.

Therefore, training students in proper reading strategies has a great influence on their comprehension of the intended message by the author and their ability to express responses through visualization and personal identification. These are basic skills that are considered a foundation for student proficiency and allow them to read and analyze a wide range of texts.

2. 10 Reading Comprehension

Reading comprehension, as used by Pang (2008) is the capability of the reader to read, interpret, and critically examine written texts based on the perspective of the writer. While reading a text, students are required to identify major information within the text, note the intention and purpose of the writer, and connect concepts explained in the

reading text with current knowledge frameworks. Besides, they evaluate the relevance and applicability of information obtained in relation to their learning requirement. This varied practice heightens their awareness and encourages them to further sophisticated interaction with the text as it allows readers to integrate new awareness into their learning system in general.

In the same manner, Liu (2010) defines reading comprehension as the ability to read written text, understand its meaning, and connect it to what one already knows. This ability has some significant aspects, such as decoding, which refers to the capacity to recognize and read words correctly; vocabulary knowledge, mastering multiple dimensions of a word; fluency, which refers to reading at an even and appropriate pace; comprehension, which refers to the capacity to understand main ideas, details, and deeper meanings; inference, the capacity to make predictions based on the text; and critical thinking, which involves analyzing, evaluating, and reflecting on what is being read.

We understand from the above definitions that having the ability to read effectively is a valuable skill for students wishing to succeed in their studies. Reading not only enhances the knowledge of students but also keeps them updated on various issues and advancements. Reading also promotes critical thinking, which allows students to analyze and assess information more effectively. They do so mainly to increase their knowledge about certain subjects so that they can readily grasp difficult ideas and concepts. Finally, reading ability acts as a foundation for intellectual development and academic achievement.

2.11 The Application of Reading Strategies in a Pre, While, and Post Reading Stages

Students need to be taught reading strategies so that they can evaluate the reading text critically, explain the text to others, and relate it to their schemata. Developing cognitive skills and practicing the stages of reading help learners to improve their reading attention and memory. This is because effective reading strategies in the classroom are able to reinforce students' reading achievement (Andini, 2023).

In addition, instructional reading strategies, as Rose et al. (2018) assert, allow students to take responsibility over their language learning, resolve problems of learning, and ultimately develop into independent learners of language. Students' practice in pre-, while-, and post-reading stages could serve as good practice for their later engagement of various direct and indirect reading strategies.

2.11.1 Pre-reading strategies

Tarshaei and Karbalaee (2015) indicate that students perform pre reading activities to anticipate the content of the text and to understand the general idea and concept being communicated in the reading text. This critical stage will be assisted by the stimulation and creation of the student's background knowledge. A few strategies can be introduced to the students in the pre-reading phase. Previewing, predicting, inferring meaning from context clues, drawing on prior knowledge, and skimming are some of these strategies.

2.11.1.1 Previewing a text

The first step that students take in order to read any reading material efficiently is previewing. Previewing entails familiarizing oneself with the content of a reading text prior to starting to read it. It is at this point that students start reflecting on any past experiences that they may have had with the topic covered in the reading text. When they receive an activity to read, majorities of students just begin reading from the initial word and continue accordingly. Consequently, it leads to the failure to comprehend the content of the reading text, which further worsens the students' reading capacity (Huang, 2009).

Nordin et al (2013) further explained that previewing the topic provides readers with a "big picture" of what to anticipate from it and challenges students to think critically about the topic and what they have already learned about it. Students who preview their reading will be more engaged in it and more likely to comprehend the text they are reading. This strategy enables readers to scan a text prior to reading it in an effort to pick out key information and details that will help them read more closely. It also helps readers remember earlier knowledge and establish goals for reading.

Students typically follow four general steps in previewing a reading text: they scan the title to determine the subject matter or topic of the reading passage from the title; they read the first paragraph to grasp the general idea of the reading section and move ahead to think about the reading material; they read the last paragraph to grasp the last idea; and they skim the passage to get the general sense of the passage. The title usually reveals the subject or topic of the reading passage. Once students read the title, the first line of each paragraph, and the last paragraph, they may raise questions, such as, "what does the text discuss? " What can I gain from it? And what do I already know regarding the subject discussed in a passage? (Ibid).

The opening section of a text serves as a significant phase that brings numerous advantages to the readers. With the first sentence that the readers come across, they are exposed to a concise summary of the subject matter, which helps them realize whether the information applies to their interests or needs without necessarily reading the entire document. Moreover, the section allows readers to place the work in a broader context, identifying its academic, social, or applicable relevance. It clarifies the importance of the topic and demonstrates how it connects to the knowledge and experience of the readers, thereby enhancing their comprehension and interest in the content (Ibid).

The last paragraph is a crucial component of the reading passage; it gives the reader a sense of closure as well as reminding them of the significance of the text and its information. Readers can achieve this by giving attention to view the structure of the document as a whole. Meaning, it is serving as a reminder of the key point for the reader. It usually takes a paragraph for most reading texts to briefly and clearly restate the main points and arguments, synthesize everything to make the theme of the reading text clearer. Instead of giving new ideas, a conclusion should clarify the significance and purpose of the content (Manz, 2002).

The second approach, which students use in the pre-reading level, is skimming the reading text. In this approach, students will be required to read the reading text, where they will be able to recognize some of the important words, which will help them to

understand the theme of the reading text. In this approach, students will be able to comprehend the theme of the reading text through practice (Singtuen, 2009).

In general, previewing causes readers to consider the content and what they read. It also makes readers better able to comprehend the content that they read, retain the prior knowledge, establish a purpose for reading, look for various things and information that will enable them to return and read the detail later, and encourages them to be interested in the reading as a whole.

2.11.1.2 Guessing meaning

Pre-reading reading strategies should be taught by teachers so that students are able to make meaning inferences. It might be making inference about the meaning of the topic or title. But if the students are reading lengthy texts, they will face unknown words. Even proficient readers won't be able to recognize all the words when they are reading. Students should initially consider the immediate context or the nearby words in the sentence when determining the meaning of a word in context. When this is not enough, they will have to fall back on the overall context or the earlier and later sentences in which they are making a guess (Mart, 2012).

2.11.1.3 Using prior knowledge

The use of prior knowledge is very significant in reading comprehension. Prior knowledge helps readers relate new information to something they already know. If readers come to a reading task with some prior knowledge of the topic, they can better understand the ideas presented in the reading. They can also easily understand new vocabulary or new concepts because of the connection they have made between the new information and the information they already know (Siddiek, 2014).

Another significant advantage is that prior knowledge is useful in inference-making. In many cases, the reader is required to “read between the lines” in order to comprehend the text fully. In addition, prior knowledge is useful in memory and recall because information associated with what the reader knows is easily remembered. Furthermore, prior knowledge is useful in helping the reader pick the main ideas while ignoring the less important information (Kikas et.al, 2021).

Generally, prior knowledge is significant in helping us comprehend what we are reading. It is like a strong foundation on which we can build our knowledge. When we have some background information, we become easier to deal with, especially when we are reading a text. We do not struggle so hard, which makes reading less frustrating. Moreover, having prior information on a particular topic helps us build our confidence. Thus, we are able to identify ideas and information in a text easily. We become more interested in what we are reading and can think deeply about the topic.

2.11.1.4 Skimming and Scanning

There are several reading strategies that can improve text comprehension and allow for better understanding of the reading text; among such methods, skimming and scanning are especially good methods, particularly when dealing with complex or challenging texts. Both strategies help readers to get through challenging texts efficiently, enabling them to pick out important concepts and useful information without necessarily engaging in extensive reading (Rose et al., 2018).

Skimming is an intentional reading method in which the readers read more in less time by focusing on the text's key points. At the same time, they scan for an exact fact or piece of information without necessarily reading it through. Reading comprehensions; as well as, content structure understanding are necessary for proficient scanning so that the readers will be able to find the very information that they are looking for. Furthermore, scanning enables readers to access details and other information quickly (Ibid).

There are necessary actions that readers should undertake while skimming a sample of text. Firstly, the reader should read the title and introduction of the reading text. The other way is reading the first sentence of each paragraph to understand what will be discussed. Identifying whether the following paragraphs help in achieving the main topic is the third action that readers should take. By adhering to the procedures above, readers are meant to scan the text for headings and subheadings, main details like names, dates, and events, and the summary or conclusion (Mart, 2012).

Moreover, skimming entails readers acquiring a broad overview of the text and informs readers of the overall information included in a certain section of the reading text. It is a

technique used by readers to preview, evaluate, and extract the essential concept from lengthy selections. It works as a preliminary stage to a more in-depth reading, which is quite helpful (Ibid).

The scanning technique of reading is employed for quick perusal of a text in order to locate specific words or key sections of the text that are vital for the extraction of significant information. The technique allows readers to have a general idea of the content of the text, along with specific information that is essential for full understanding. The technique can be made more effective by practicing on longer texts, keeping in view the most important information for understanding (Fauzi, 2018).

Pido et al. (2024) state that scanning is done with particular and definite steps. First, the reader should determine exactly what is being sought and the likely form it will take in the text, such as the word being a name, number, or key word. Then, the reader should concentrate on textual clues such as capital letters to indicate names, numbers to indicate data, headings, pictures, and highlighted words such as bold or italic writing, as well as words related to these.

With regard to the application of skimming and scanning, most researchers and learners agree with the advantages of applying the SQ3R method, which means Survey, Question, Read, Recite, and Review. It is an efficient strategy to adopt when recalling a reading text. With the support of the SQ3R method of reading, readers can learn the information better by being engaged in the reading process before, during, and after reading. The SQ3R reading method allows the reader to progress from simple details to complex information (Saricoban, 2002).

Readers are recommended to scan the text to get a general grasp of what the text is about. Looking for titles, graphics, highlighted, bolded, or italicized words is a basic strategy to immediately grasp the reading text. On the other hand, generating questions during the while reading activity serves readers to review the reading passage quickly, and readers may ask questions; such as, what the text is taking about? And what makes them curious to understand the passage? Readers might turn even chapters and section titles into

question as well. In doing so, readers read actively and take notes about important details or questions (Ibid).

Generally in skimming and scanning readers are highly encouraged to engage with the content actively by jotting down key information or any questions that arise. This not only helps in remembering but also in better understanding. It is also beneficial for readers to paraphrase the information, as this can enhance their understanding and help in recalling. Moreover, the readers need to plan to revisit or go back over the main sections of the reading, giving particular focus on those sections which might not have been fully understood on the first read. Such a rigorous methodology will make their understanding stronger as well as build a better interaction with the reading text

2.11.1.5 Making predictions

Prediction is a strategy where readers make use of information from a text, such as titles, headings, pictures, and charts, and also personal experience, to forecast what they will be reading about next. Students make predictions based on their background knowledge about what will happen next into the text. Using prediction students will tend to plan ahead and question. In addition to this, it also enables them to interact with the language and the content, get a better sense of it, and relate to other parts of the text as well (Mart, 2012).

2.11.2 While-reading strategies

This is one of the most important strategies to enhance reading comprehension. It would be better to use the while reading strategies in combination with other strategies, such as attention to structure and organization, and guessing unknown words and phrases. The students should be taught how to use all the strategies but also be able to figure out how and when it is appropriate to use the strategies (Juhari et al., 2021).

Taking part in the while reading activities significantly improves the understanding of the students and the various strategies that they may utilize. It makes them aware of when to apply these strategies and how to apply them. Throughout the stage they become more engaged with the content of the reading, allowing them to extract the required information

more efficiently. Besides, the practice helps students achieve the specific learning goals of the reading text, ensuring a more successful learning process (Ibid).

During the while-reading phase, students use sets of cognitive as well as metacognitive strategies to improve their understanding and self-control. Some of these techniques include predicting future content in terms of context or prior knowledge, visualizing by forming mental images of a setting, clarifying by rereading, paraphrasing, or use of context clues to eliminate doubt, questioning by formulating questions regarding the text, establishing links between the content and personal experiences, marking important detail, developing themes, explaining unfamiliar terms for future use, scanning or skimming to quickly find specific information, and breaking down difficult sentences or paragraphs into separate sections. These are some of the primary cognitive reading strategies employed by students when reading (Saricoban, 2002).

With regards to metacognitive strategies , for instance, monitoring understanding, continually checking understanding; checking predictions, assessing whether past predictions fit the text; controlling the speed of reading, adjusting speed to fit text difficulty; setting goals, reflecting, assessing strategy effectiveness; controlling concentration, fostering attention, questioning oneself, investigating understanding; and activating existing knowledge, actively associating new information with prior schemas while reading are just some of the reading strategies employed by students at the while reading stage (Ibid).

2.11.3 Post- reading strategies

The post-reading strategy is another crucial phase that should be emphasized by language teachers. This is a strategy required to facilitate learners to use the knowledge acquired through the reading texts and relate it to other language skills such as listening, speaking, and writing. In this method, the students are likely to achieve the learning objectives. Thus, they will be able to derive and interpret meaningful information from the reading text and apply the information to other activities or lessons. Examples of post-reading reading strategies are: using visual representations, making reference to the relevant source/s, paraphrasing, and critiquing the text (Saricoban, 2002).

Students employ a range of strategies during the post-reading phase; for instance, they may summarize the text into key points or a concise paragraph to enhance comprehension of the main ideas and structure. Additionally, the post reading stage could be a means to hold group or pair discussions, which facilitates collaborative learning. By doing so, learners could have diverse perspectives toward social learning. In addition, responses or reflection activities, writing personal reactions, critiques, or affective feedback about the text are employed to enhance metacognition and self-to-text connections (Atay & Kurt, 2006).

There are also other post reading activities which are recommended for the learners, such as critical thinking, where one examines the intention of the writer, as well as holding debates on thematic points; role-play to engage creatively in the text's content; clarification and rereading, where one reads uncertain passages or unfamiliar vocabulary to sort out miscomprehension; text connections that connect the text to one's life or societal environments; debates and role-play which include discussing controversial points, and synthesizing, activities that bring unique concepts from several texts or sources to derive more general interpretations (Ibid).

2.12 Models of Reading Comprehension

Bottom-up and top-down stages of comprehension are two basic processes to be adopted while reading comprehension. During the bottom-up stage of reading comprehension, readers build meaning from the lower level textual elements. It starts with letters or words and moves up to larger clusters. Before constructing textual meaning, readers must first decode the letters, words, and grammatical arrangements of the text, while in the top-down approach, readers infer the meaning of the text from their pre-existing knowledge, and the concept of the approach is to infer the meaning of the intended reading text.

Abdul et al. (2025) have noted, top-down processing is a concept-based approach in which readers rely on their own knowledge and experiences in interpreting a text. On the contrary, in bottom-up processing, readers decode words and sentences in a text in order to make meaning out of what is written. Moreover, in top-down processing, there is a focus on getting a general idea of what a text is about and what concepts are involved in a

text, while in bottom-up processing, a text has to be read in detail in order to make complete meaning out of the written discourse.

Top-down processing occurs when a reader processes a text by making use of his or her background information or schemas. Singhal (2001) asserts that the process of a reader in reading will be more effective based on the background knowledge he or she brings to the text. This holds true if the reader will not be too dependent on merely linguistic knowledge, i.e., grammatical, syntactic, and semantic hints.

On this basis, the process of reading comprehension is controlled by the principle that every input corresponds to a current knowledge and that every element of the schema must be compatible with the input information. In other words, top-down processing depends on integrating new information into learners' pre-existing knowledge or schemata (Ibid).

Another important aspect related to reading is the interactive strategy, which combines top-down and bottom-up processes simultaneously. For instance, readers can start with top-down processes to comprehend the overall meaning of the text, and they might move on to bottom-up processes while reading an unknown word. In such cases, readers process the unknown word through bottom-up processes before going back to top-down processes to comprehend the overall meaning of the text (Dechant, 2013).

Similarly, Kendeou and O'Brien (2017) describe the same feelings, noting that the interactive model illustrates the simultaneous functioning of bottom-up and top-down processes in reading. In this perspective, reading is not a sequential process but a bidirectional one in which several cognitive functions act together. By being able to combine these two models effectively, readers can enhance both their accuracy and comprehension of the text. However, if a reader is struggling with the content, they might find it useful to employ both models linearly, utilizing bottom-up processes to decode the text and top-down processes to employ prior knowledge and context. This dual application can serve to guarantee that the text is more completely comprehended.

2.13 Factors Affecting Learners' Reading Comprehension Skill and the Strategies for Improvement

The development of students' various academic assignments is aided by their reading comprehension capacity. It assists in the interpretation of texts, analysis, justification, and communication of ideas. Students must develop a solid understanding of written texts to cope with the academic assignments that are assigned to them by their teachers. One of the main goals of reading comprehension is to support students in developing their reading comprehension skills so that they can be successful readers.

Internal and external variables can have a significant impact on how well students read and understand what they are reading. The majority of variables that affect the development of language, in general, can affect the development of the particular skill of reading comprehension. Age, attitude, personality, motivation, proficiency in the first language, and other learner characteristics are internal factors, also referred to as "individual difference factors," while "external factors," which are also referred to as "social factors," are generally environmental, economic, cultural, and technological variables (Liwanag, 2023).

2.13.1 Internal factors

Internal factors refer to the personal qualities and characteristics of the learner of the new language. These include motivation, which is the learner's drive or desire to learn a new language; intelligence, which is the learner's ability to understand and process information; and anxiety, which is the nervousness or worried feeling of the learner as he or she attempts to communicate or comprehend a new language (Mirhadizadeh, 2016).

Another internal factor is the learner's risk-taking capacity, which is the learner's willingness to attempt new things and make errors as he or she attempts to learn a new language; the learner's attitude, which is the learner's feeling or sentiment towards the new language and the process of learning; and the learner's proficiency in the first language, which is the learner's ability to comprehend and communicate in his or her own native language. These internal factors play a major role in influencing the learner's reading strategy and comprehension of the reading text (Ibid).

2.13.1.1 Motivation

Various studies have provided evidence of a strong correlation between motivation and reading proficiency, and proof has existed to show that motivated students learn more and that achievement brings on motivation. Motivation has long been cited as being a strong determinant of achievement and success in reading proficiency. It is said that motivation serves as a positive energy for learning, driving students, and enabling them to overcome the challenges of reading comprehension and language learning in general (Dornyei, 2007).

Motivation, as Brown (2007) explains, is one of the affective variables of second or foreign language learning. It is an internal factor that stimulates learning activity and leads students to sustain the effort in order to achieve what they desire. Internal motivation has the capacity to facilitate the process of learning as well as to inspire and direct learners' learning. It is undeniable that motivation plays a crucial role in learning a second language. It is beyond any doubt that motivation is fundamental to reading comprehension and in general to second language learning.

The preceding arguments confirm that strong motivation drives students to act constructively in the process of learning a second or foreign language and, as a result, tends to have high learning efficacy. Conversely, less motivated students have poor attitudes towards learning and invest less hours and energies studying a second language, which tends to have low performance.

Gardner (2014) also emphasized the use of motivation in learning a second/foreign language, identifying two primary motivational dimensions: integrative and instrumental. Integrative motivation is the motivation to learn a language in order to communicate with and become part of a specific social or cultural group, giving rise to a sense of belonging and identity, while instrumental motivation is characterized by the practical advantages of language learning, such as opportunities for career growth, schooling, or other instrumental reasons.

Integrative motivation is characterized by students' strong desire to interact with target language speakers, and also their pleasure in a second language, its speakers, and things culturally related. Learners with integrative motivation of a second language consider the learning of a second language as the fulfillment of their interests, which they will work very hard to accomplish, while students who are instrumentally motivated see learning a second language as a means to an end that can be obtained by getting a job, passing exams, and enhancing their social status and wealth (Ibid).

2.13.1.2 Attitude

Oroujlou and Vahedi (2011) explain that every individual has an acquired attitude shaped over time or by the surrounding environment. This individuality of attitude allows learners to perceive, sense, or have a negative, neutral, or biased perception of various issues. Language attitudes can be specifically described as the reactions people have towards the various forms of language expression and their beliefs and opinions toward the use of language.

There are positive and negative attitudes. Learners will be more inclined to apply the target language if they possess a positive attitude, which will ease the learning of a second language. A learner with a negative attitude will keep away the target language, which

will hinder the process of second language acquisition. Attitudes, however, are not inherited through genes; rather, they are influenced by a variety of social and individual factors, including a person's or group's attitude toward things, ideas, and other people and entities, and their faith, views, and behavior (Ibid).

Attitude is a composition of three major components. The first is cognitive, meaning it demands the beliefs, thoughts, or opinions an individual holds about a subject. This is the cognitive aspect that forms the foundation upon which a person looks at and understands information regarding his/her attitudes. The second aspect is emotional, being the emotions encompassed by the attitude. This affective component is the degree of approval or disapproval one has for the subject matter. Lastly, the behavioral component is linked to the intentions and resulting actions that one is likely to undertake because of his/her attitudes. Together, these three components: cognitive, affective, and behavioral interact to define one's overall attitude (Riyanto et al., 2015).

According to Darvin and Norton (2023), the cognitive dimension involves ideas and hypotheses that will be perceived by the language learners, whereas the affective dimension involves students' feelings and emotions about the reading content or the text as a whole. Behavioral factors on the other hand, affect the appearance and perception of students' actions and habits. Students' reading comprehension skills can exhibit behavioral factors in various ways. The primary behavioral factors seen under this factor are intention and readiness towards reading activities.

The above insights lead to the conclusion that reading comprehension and strategy use would be improved if students had a positive attitude towards the target language. Their attitude will determine how well they understand the language and the way in which they use it.

Therefore, how much the students read positively or negatively at home, at school, or in the library depends largely on their attitudes toward reading. Students' attitudes have a central role to play in suggesting how engaged they are towards the reading text. Moreover, as mentioned earlier, school, home, and cultural influences can impact reading

attitudes as well. Due to the extensive contribution of attitude towards reading behavior and reading ability, it is mostly assumed to be the central focus in reading studies.

2.13.1.3 Personality

Self-confidence, anxiety, depression, being an extrovert, being an introvert, and other personality types all affect second language acquisition and contribute significantly to the success of the students in learning. Extroverted and introverted personality types both exist, psychologically. An extroverted personality gives the learner optimism, enhanced social interaction ability, and a high level of desire to communicate with others, especially those who speak the target language, which will lead to more exposure for the learner to use the language. Therefore, an extrovert is more likely than an introvert to perform better in second language acquisition (Oroujlou & Vahedi 2011).

The opposite is true for introverts, as they are always self-restricted, fearful, and low on self-esteem. Due to these aspects, introverts often abandon practicing their verbal communication skills in fear of never being able to generate the passion needed. Therefore, they do not engage with any plat forms that support practicing their language skills.

For reading comprehension, extrovert learners are more likely to communicate their input and reading strategies to other individuals; they are also better at applying socio-affective reading strategies and like to communicate their feelings and emotions towards the contents of the reading text. Introvert readers; however, tend to internalize the content of reading themselves. They listen carefully to the words as they are being read to them, deliberately breaking down every word and evaluating the complexity level of each. They are more committed to metacognitive and cognitive reading practices (Ahour & Haradasht, 2014).

2.13.1.4 Anxiety

MacIntyre and Gardner (1989) defined anxiety as the worry and negative feelings elicited when learning or using a second language, and this negative emotion may hinder language acquisition. In the same way, Dörnyei and Csizer (1998) defined language anxiety as part of academic stress that may cause learners to worry as they acquire the target language and that it may either bring them success in learning or make them fail in academics at the end.

Emotional factors of students have a significant role to play in learning the target language while learning a foreign or second language. Dörnyei and Csizer (1998) also presented the components of emotional factors in accordance with the frequency of using them as research variables for anxiety, motivation, and self-confidence. Self-motivated and confident learners perform better across subjects, whereas anxious learners are not good academically. At times, if the students could use it as a stimulus to improve their perspective, it could also lead to higher academic performance.

Since the primary focus of the study lies on the students' application of reading strategies, reading anxiety emerges as a concern that needs to be resolved. Reading texts in a foreign language is difficult for students particularly mastering the writing systems, and cultural features. Frustration and anxiety on the part of the students while reading are certain if they cannot understand the content of the texts. Additionally, the students will also feel nervous when dealing with reading texts, just as they do when they speak. The majority of the students are not aware that anxiety has been named as one of the factors which can hinder the process of reading; however, the experience of anxiety by the learners during reading is a fact. This fear also arises when students attempt to decode or interpret texts in another language.

Likewise, Liu (2010) explains that reading anxiety manifests as a sense of discomfort during the process of reading. This feeling arises when students feel uneasy and uncertain while engaging in reading tasks. When anxiety sets in, students tend to have diminished cognitive abilities, which can lead to difficulties, the development of negative self-perceptions, and ultimately a decline in self-efficacy.

Zhao (2009) explains the reading anxiety phenomenon based on physical and cognitive reactions. Physical symptoms of anxiety include sweating, shakiness, a racing heartbeat, rapid breathing, and the release of adrenaline (or the "fight or flight response"). Cognitive reactions to anxiety are an intense sense of dread, low self-esteem, feelings of powerlessness, and anticipation of embarrassment before others.

Additional research supports the result that low-anxiety or less anxious students concerning language learning and reading skills are likely to perform well on reading comprehension tests. Conversely, those who are highly anxious regarding language and reading comprehension, perform worst on language and reading assessments, as indicated by Shang (2010). This indicates that there is a strong correlation between the degree of anxiety and performance on reading comprehension, which confirms the significance of considering emotional variables in classroom instruction to promote student success.

2.14 Major Learning Theories and their application in Reading Comprehension

2.14.1 Cognitive learning Theory

The cognitive learning theory, developed by the educational psychologist Jean Piaget in 1936, is an examination of the human thinking process and the deep change that is realized in the brain when one is acquiring new knowledge. The theory is not only an examination of how humans acquire new knowledge but also of how the brain functions.

Second, it also investigates the complex processes that facilitate long and short-term memory formation, especially the interactive influence of mental development in remembering memory. From these factors, the cognitive learning hypothesis offers essential information regarding how learners interact and acquire new experiences, which in turn affects their mental growth as well as knowledge about the world (Sorden, 2013).

The cognitive theory development makes students participate and be involved in the learning content since it emphasizes the learner's contribution and behavior toward language learning. Moreover, cognitive learning includes learning elements such as classification, judging, observing, and obtaining of concepts. Applying the concepts of cognitive learning components also makes students think more critically about the subject matter because the more deeply readers understand the text; the easier to apply the

concept in new situations. Applying the concept of cognitive learning theory also enhances students' memorizing ability (Ibid).

When it comes to using background knowledge, cognitive strategies help students to recall knowledge by making meaningful connections between the new and the existing information. Ideas and meanings are stored using long-term memory. It also makes learners use information efficiently, as well as motivating them to gain new ideas that relate to their areas of study (Elbro et al., 2013).

2.14.1.1 Cognitive Theoretical Approach to reading

Reading comprehension, according to Anderson (1984), is dependent on the performance of numerous cognitive activities. To understand a sentence, one must visually process every word, recognize and access its phonological, orthographic, and semantic representations, and subsequently connect these representations to construct the underlying meaning of the sentence. Similarly, to understand a sentence in its completeness, the reader must analyze and compare multiple units of thought to develop a coherent mental representation of the text.

The approaches to reading comprehension can be applied in different theoretical models that describe the involvement of cognitive and linguistic processes. These models either focus on the mental representation developed as a byproduct of understanding words, sentences, and their associated relationships in a text, or they target the developmental phases of various processes and abilities involved in reading comprehension, including inference and inference related activities such as, drawing conclusions, making critical judgments, and forming interpretations (Blaži, 2023).

While the various theoretical models give a distinctive emphasis to the various dimension of reading comprehension, they all stick to the general assumption that reading comprehension in its purest form is a matter of forming a coherent mental representation of the text in the reader's mind. The mental representation of the text connects textual information and related contextual information by semantic relationships, connection between meanings of words and how they relate to each other within the reading text; this is just because that reading is both process and product (Ibid).

Willingham (2017) states that reading as a process is the concern with the way the reading happens. It is the cognitive process, the mental interactions among the reader, the reading text, and the context. Reading as a product, on the contrary, is the concern with what is being brought forth as a consequence of the reading process. It is an insight being brought forth as a consequence of the reading. In other words, it is what is being "taken away" or exhibited from the reading text.

Willingham (2017) further advanced his explanation that while the reader is reading the text, the reader is carrying out different cognitive processes on every new piece of information being received. Good reading comprehension is the proper usage of the right strategies at the right time. Regaining focus is also a fundamental aspect of reading comprehension. A reader's mind may drift while interpreting a text, and they are expected to redirect their attention if distracted.

In cognitive reading, activities can be divided into lower-level and higher-level forms, each to function with different purposes in comprehension. Lower-order processes include word recognition, the ability to read words and letters ; decoding, the ability to sound out unfamiliar words with phonological awareness; lexical access, or retrieving word meanings from memory; and syntactic analysis, or interpreting simple sentence structure such as, word order and grammar (Kendeou & O'Brien 2017).

On the other hand, more advanced processes are adjusted toward more comprehension, analysis, and meaning integration. They include drawing inferences, arriving at conclusions; text integration, or combination of sentence-to-sentence or paragraph-to-paragraph ideas; comprehension monitoring, or monitoring comprehension to discover whether it matches up with the text (e.g., by re-reading challenging paragraphs); activation of background knowledge to aid interpretation of the text; and critical evaluation, which includes examining arguments and analyzing the writer's intention (Ibid).

2.14.2 Metacognitive learning theory

John Flavell, the originator of social cognitive developmental psychology, initially theorized the metacognitive learning theory in the early 1970s. Although Flavell coined

the term "metacognitive," other educational psychologists such as Dewey and Thorndike recognized the concept in 1910 and 1914, respectively. John Lock the Empiricism founder also supported the theory of metacognition (Moshman, 2018).

Though it is explained by different scholars, the term is related to monitoring, regulation, and influencing cognitive learning activities. Louca and Zacharia (2012) explained metacognition as reflecting on how one has learned and understood a concept. That is, thinking in thought, and an insight into what we know. Metacognitive skills also improve our thinking skill while engaging in learning activities.

Louca and Zacharia (2012) further provide an extensive explanation of metacognition, viewing it as a complex idea that involves not only access to information and knowledge but also the ability to monitor one's learning process. Metacognition further involves the reflective activity of thinking about and judging one's work. Metacognition is essentially the act of being aware of and understanding one's thought process, particularly in learning and pedagogical situations.

2.14. 2.1 The two aspects of Metacognition: metacognitive knowledge and metacognitive experience

The concept of meta-cognitive includes two fundamental divisions which are known as metacognitive knowledge and metacognitive experiences. Metacognitive knowledge stands for the individual's mental understanding and beliefs about how cognitive processes work both within their mind and in other individuals. During cognitive performance, people experience metacognitive experiences which are their instant subjective feelings and assessments of the situation. Through cooperation between these two elements, learners gain the ability to develop successful learning plans and track their progress while evaluating their educational outcomes (Hauck, 2005).

2.14. 2.1.1 Metacognitive Knowledge

According to Flavell (1979), metacognitive knowledge covers all knowledge and includes beliefs that specify factors that affect how people learn and what they learn. People develop metacognitive awareness through their formal and non-formal educational experiences, which combine deliberate and natural learning processes. Students gain

knowledge about their operational metacognitive processes to understand their educational behaviors better.

Students form specific strategies to establish their necessary actions through planning methods. The learning process includes three distinct types of metacognitive knowledge that support both learning processes and problem solutions: personal Knowledge/Declarative knowledge includes the first type of metacognitive knowledge that involves "knowing what" about individual learning strategies. Knowledge about one's learning tendencies and learning methods represents declarative knowledge which falls within the metacognitive framework. Students need to identify both their existing knowledge and their missing knowledge along with the knowledge they need to acquire (Zhang, 2001).

Procedural knowledge serves as the second knowledge domain which people recognize through the expression "knowing how." The possession of procedural knowledge includes a complete understanding of different techniques and methods that apply to multiple situations; as well as, the necessary process for effective implementation. One must possess both cognitive understanding and practical ability to gain complete knowledge about performing these tasks successfully. People need to learn procedures through which they can manage complex situations and solve problems by correctly applying methods and approaches. To achieve professional competence in any field it is necessary to possess this type of knowledge which transforms theoretical understanding into actual performance (Ibid).

Moreover, conditional knowledge informs the reader about the when and why of using strategies or methods in learning. It is important for the reader to ask himself/herself when and why he/she should use certain strategies in a task. For instance, in some tasks, skimming is useful before reading, and rereading is useful when the text is complex.

2.14. 2.1. 2 Metacognitive Experience

Meta-cognitive experiences are systematic application of strategies that help individuals understand and control their intellectual functions. The presence of these experiences becomes most visible within environments that emphasize careful attention to particular learning situations and stimulate reflective thought. Readers use different cognitive

methods together with specific approaches to reach their educational goals effectively. Through metacognitive experiences, learners develop an understanding of their learning processes, which enables them to evaluate their understanding, track their progress, and make adjustments to enhance their learning achievements (Moshman, 2018).

Generally, the differences between metacognitive knowledge and metacognitive experiences lie in their applicability, which extends across situations for knowledge but limits experiences to particular contexts encountered during task performance. Metacognitive knowledge focuses on understanding our cognitive process regarding learning and remembering, while metacognitive experiences concern our subjective feelings and behaviors during cognitive work. The experiences undergo continuous transformation because we adapt to the particular tasks happening in the specific environmental settings. Metacognitive knowledge with metacognitive experiences together supports self-regulated learning and problem-solving since they enable people to monitor and modify their cognitive strategies when working on different tasks (Flavell 1979, as cited in Hammond et al., 2001).

2.14. 2.1.3 The Application of Meta-cognitive Theory in Reading Strategies

According to Duffy et al. (2009), metacognition represents the capability for readers to perform advanced mental processes, which include strategic decision-making, problem solving, goal creation, idea development, and information assessment.

Based on their framework, there exist three fundamental phases of metacognitive processes: planning, when readers establish objectives and develop strategies; monitoring, which involves self-assessment of understanding and progress; and evaluation, where readers assess strategy effectiveness along with effort success.

Before readers engage with the text, they use planning to prepare for their advanced reading process. The preparation process includes several key elements, such as goal setting, which requires readers to state their learning objectives, such as understanding ideas or preparing for activities. Previewing is performed during the planning stage, which includes examining headings and subheadings as well as summaries and

illustrations so that readers can obtain a general understanding of the content before reading (Anderson, 2003).

As Baker and Brown (1984) explained, monitoring is conducted throughout reading and includes several techniques. The purpose is to enhance comprehension and retention of what is being read. One of the effective techniques is self-questioning, in which readers consciously ask themselves questions while reading. This technique elicits greater involvement with the content and greater comprehension of the reading text.

Another crucial technique in monitoring is clarifying, which means looking up unfamiliar words' definitions or seeking explanation when something is unclear. This preventive technique eliminates confusion and ensures readers completely comprehend the information. Visualizing is also an integral part of effective monitoring of reading. Visualizing is where readers create images, scenes, sensations, such as smells, sounds, and even tastes while reading a text (Ibid).

Furthermore, summarizing is an essential part in the process of reading. By frequently pausing to reconsider key points, readers can enhance their comprehension of the content and retain vital information better. Readers also control their speed to monitor their comprehension. This skill basically involves techniques, such as adjusting the rate of reading to the degree of complexity in the text and slowing down on difficult passages to facilitates increased understanding. When speeding up, readers could improve the overall reading effectiveness, whereas slowing down technique helps them to grasp unfamiliar words and difficult concepts, and this improves the level of comprehension and learning outcomes more broadly (Hervina et al., 2022).

The monitoring stage also involves the connection of new information with what the students already know. According to schema theory proposed by Anderson and Pearson (1994), the mind processes new information by connecting it with pre-existing mental frameworks, which improves comprehension considerably. In addition, competent readers tend to make a connection of what they are reading with what they know, while failing to make such a connection results in a substantial decline in comprehension.

As for the assessment phase, it takes place when the students complete their reading exam, along with the other related activities. The process consists of four main elements, which include self-assessment, which involves students checking their learning goal accomplishment; reflection, which requires students to evaluate their reading strategy performance; review, which requires readers going through their notes and summaries and highlighted the text to strengthen memory; and gap analysis, which helps students identify study areas that need more clarification (Ibid).

2.14.3 Affective Learning Theory

The affective learning theory was originally advanced in 1948 at a historic American Psychological Association meeting, where teachers and psychologists gathered to argue the imperative need for comprehensive educational taxonomies. This meeting was a breakthrough in the history of education since it aimed at establishing an organized system that not only made course content better but also looked at establishing a more significant relationship between the educational system and the learners' individual development (Gano, 2009).

Affective learning concerns the emotional aspect of learning, such as attitudes, values, and feelings that determine students' involvement in studying the material and interaction with teachers and others. This taxonomy, developed at this conference, was designed to provide teachers with tools for developing more effective and interesting learning experiences. In recognizing the importance of the affective domain, teachers were better able to adapt their teaching to students' unique strengths, interests, and emotional needs (Ibid).

The previous texts highlight that learning involves more than intellectual process, incorporating other aspects, such as affective factors and personal experiences. The process of learning demanded that teachers re-examine their instructional methods for fostering positive attitudes among learners' motivation and building a sense of community. The model demonstrates that education is supposed to create human beings who can handle life's problems successfully, not necessarily academic success.

In a similar vein, Gardner and MacIntyre (1993) argue that "learning is not merely the absorption of information." The development of knowledge is greatly influenced by the emotional orientations and mental attitudes of the students. The emotional and attitudinal qualities of students develop through multiple variables, which include their expectations and personal biases, as well as self-esteem levels and social contact requirements. This perspective demonstrates the complex connection between cognitive operations and emotional influences in learning. Effective education exists beyond pure mental procedures because it integrates the students' social and emotional development.

It is evident from the researchers' perspective that emotional feelings are also driving forces in language learning processes. To further explain this issue, expectations play key roles in students' acquisition of knowledge. Students perform better and remain focused if they think highly of themselves or know their teachers and peers. Low expectations, however, may bring disengagement and low motivation.

List (2021) deepens this discussion by explaining that memory consolidation and recalls are important aspects of language learning. It is merely because emotions can evoke and aid in the retrieval of information from memory. Emotional events are more recalled and will be prioritized by the brain for encoding and retrieval. This connection of emotion to memory explains why emotionally significant events are remembered more vividly and for longer periods than emotionally irrelevant events.

Furthermore, Hortwitz (2010) claimed that the actual conceptual and procedural understanding of a learner is influenced by the richness and depth of his or her affective experience. Students' ability in cognitive control and intellectual development is facilitated as they use emotions in the processes of language learning.

Horowitz (2010) went on to explain that the emotional depth and range of the student could affect the actual capacity of the student to see concepts and procedures in the process of learning and to be able to understand any subject properly. Therefore, a thorough understanding of any subject matter should take account of meaning integration. Students use different strategies to connect the learning content with issues that interest them, and this is where emotions are a part of learning.

Self-concept is another essential element for the academic growth of students, since affective domains are highly interconnected with cognitive processes. Educators should realize that students' attitudes and feelings will determine how they will learn in the future. Altmann et al. (2012) highlighted the need to continuously monitor the emotional activities in schools and classrooms. They contended that through the integration of affective learning strategies, both teachers and students would be better positioned to employ a variety of learning methods, such as cognitive, metacognitive, and socio-affective.

In general terms, the learning environment has to be challenging both within and outside the classroom. When students have a positive self-image, they are more likely to take risks and be actively engaged in their studies. Furthermore, they are more inclined to take risks when they are confident of their ability to achieve success. The teaching and learning process could be greatly hindered if the students lack the confidence to achieve success.

Likewise, Dörnyei (2005) describes how the affective domain introduces new values into the learner's philosophy and integrates them with values already present. Students' positive attitudes shape their conduct, social lives, preferred activities, and classroom manner. They must be nurtured to develop such values in an environment of learning, ultimately making them more intellectually capable. Without effective curriculum that integrates affective domain and teaching approaches, students will be both socially and academically incompetent.

2.14.3.1 The Role of Affective Factors in language learning

In the early 1870s, educators and linguists Dulay and Burt introduced us to the new, groundbreaking concept of affective factors and affective filters that explain on how psychological and emotional aspects influence the foreign language learning process. They emphasized that attitudes, feelings, and motivations of learners play a central role in the process of second language acquisition. Moreover, they suggested affective variables could make language learning easier or more difficult. This fundamental concept was the basis for the study on the interaction between affective factors and second language

acquisition. Later, the role of affective factors was discussed and elaborated further by Krashen in 1982 (Boakye, 2012).

Krashen's research examined numerous theories and findings on which he founded his theory of second language acquisition, which comprises five hypotheses. These are the Affective Filter Hypothesis, the Monitor Hypothesis, the Acquisition-Learning Hypothesis, the Natural Order Hypothesis, and the Input Hypothesis.

Du (2009) asserted that it is possible for affective characteristics to be a filter that limits the amount of language that can be taken in and processed by a learner. It has a close relationship with the intake and output of the language learner. It can be argued that affective characteristics control the ratio of intake of the language learner to input. The affective factors of second language learning include all types of emotions, i.e., confidence, motivation, anxiety, attitude, learner beliefs, extroversion, introversion etc. Positive emotions promote the learning of language as well as the performance of the learners, while negative emotions are barriers to effective language learning.

2.14.3. 2 The application of affective learning theory in reading comprehension

Depending upon the complexity level, affective learning can be structured into various levels. Reception, the first level of the affective category, deals with the question of how ready students are to concentrate on their studies. Receiving can be demonstrated by paying attention to the classes of the teacher in various contents and reacting accordingly in classroom. It is a crucial part of learning, as it invites students to be open to acquiring new concepts from the outside world (Nasab et al. 2015).

The second step in emotional learning is accompanied by making confirmation for the acquired knowledge. Most of the learning outcomes in this phase are defined as interest and curiosity. At this stage, students move from passive attention to active response or involvement. For example, students could show willingness to respond to a question, participate in group discussions, enjoy the class exercise, do homework, and engage in further educational activities (Ibid).

The third step in the process of affective learning strategy is the issue of value, which emphasizes the need to be genuinely interested in a particular activity or assignment. This step indicates how students acquire a favorable attitude toward particular assignments, and this can enhance their learning process. Being interested in tasks is a good stimulus to acquire knowledge from the target language. This interest on the part of students is marked by the intense degree of energy, passion, and commitment. Not only does it enhance their engagement in the activity, but it also strengthens attachment to the process of learning, resulting in more significant results of learning (Ibid).

According to Ransford et al (2009) motivated students find learning and studying enjoyable. Such students concentrate on the problems and content that they study, and they hence relate to the content on a personal basis. The motivation also helps them to avoid doing whatever is not desired or correct in a learning setting. As a result of these positive learning factors, motivated students commonly excel in exams, reflecting their seriousness in their studies and focus well on learning objectives.

The fourth is "organization," which is the consolidation of different values, information, and ideas and then relating these to established beliefs to integrate them into an internally consistent philosophy. It is the capacity to prioritize one value over another and construct a system of values that is solely for someone else. The focus of this stage is comparing, relating, and judging values to create a unique value system (Bunghanoy & Sumalinog, (2023).

The fifth and most developed classification in the field of affective learning is known as characterization, which represents the highest stage in the philosophy of affective learning. Here, learners' behavior not only turns out to be consistent but is also predictable, leading to adult life. Their behavior and choices stick to the inherent philosophy that acts as the basis of their philosophy. This alignment suggests that the values and beliefs they've been successful in acquiring are deeply integrated into daily life, affecting their behavior and choice of action in a persistent and usual way, which is consistent and characteristic of the identity they have formed (Nasab et al. 2015).

At this stage of development, students learn actively and adopt the core values through internalization as they utilize values such as empathy and honesty as part of themselves. This brings a behavioral pattern since they start putting these principles into practice in their day-to-day lives and even among fellow peers. This ensures that they have high conformity towards such principles and self-awareness as well. Thus, they naturally apply these values in making decisions and performing activities, which makes them, lead themselves in all situations with an inner sense of justice without needing to be encouraged or motivated by anything else.

2.14.4 Social Learning Theory

Albert Bandura, a psychologist, formulated the theory of social learning with a deep emphasis on observation. According to the theory, learning is a social process, and there is continuous reciprocal interaction between the environment, the learner, and behavior. Human beings learn from observing and imitating the behavior of other people. In addition, the theory places strong dependency on reward and punishment that are directly related to behavior and learning, and also mediational processes that play a crucial role in learning knowledge and behavior (Li & Jeong, 2020).

Similarly, Singhal (2004) explains that the social learning theory emphasizes on how individuals learn by copying or observing others through modeling influences. The theory was then added to cognition to explain human behavior more accurately, using mental processes like information processing to react to such modeling influences. It is also used to explain how individuals behave, learn new skills, and regulate themselves.

In addition, as stated by Kojima (2019), learning is a change that occurs internally and may influence behavior. There are two types of learning: one is active (learning through performance), and the other is passive (learning from others); this theory holds. In the active learning process, learners learn directly from the consequences of their actions, whereas in the indirect learning process, learners learn from the experience or outcome of others.

2.14.4.1 The Application of Social Learning Strategies in Reading Instruction

Among the most significant inputs of social learning strategies to foreign language learning and acquisition is the fact that it increases learner communication with other societies. Moreover, the strategy invites the learners to ask questions, receive replies,

correct errors, create collaboration, and try to experience the feelings and thinking of the target language (Lan & Oxford, 2003).

The role of the teacher is equally important in making sure that the students can communicate effectively with each other as they learn a new language. Apart from teaching students vocabulary and grammar, a teacher should offer a motivating and delightful environment in which the students can use their skills. Teachers should be certain that they review what the students have already covered and identify the challenges the students might have. When students feel good about themselves and their capabilities, they will be more willing to take part in the class activities and discuss with others (Laland, 2004).

To enhance the teaching and learning of the target language, teachers tend to implement various social learning instructional strategies. These strategies encompass approaches such as requesting learners to clarify confusing concepts, verifying the accuracy of information provided, promoting collaboration among classmates, and teaching the important cultural values found in the language being learned (Pritchard & Woollard, 2013).

Generally, social learning is an automatic and intuitive process employed by students in educational environments to improve language learning. Besides academics, fundamental beliefs and constructs such as gender roles, religious beliefs, political ideology, and self-esteem are generally established through social learning. Additionally, social learning theory has given rise to cooperative learning. During reading sessions, students collaborate with their peers and exchange various cultural experiences that enable them to comprehend fellow students' feelings and perspectives from various social groups.

2.14. 5 Compensation Learning Strategy

Compensation strategies are among the learning strategies that fall under direct learning strategies. Oxford (1990) has described compensation strategies as the means through which learners are still capable of using the new language despite knowledge gaps, either for production or understanding. Learners who lack the necessary knowledge to understand the target language use compensatory strategies. Compensatory strategies

make up for the absence of grammar and vocabulary when the students are not familiarizing with new words and expressions.

Students also use their life experience to make sense of information based on an educated guess. They make compensation strategies whenever the grammar is not known to them. In other words, they make an educated guess regarding the new word's meaning with partial knowledge about the target language. For example, the students may use paraphrasing to express ideas using simpler words, using general words when the specific ones are not common, and using approximation when the exact word in the reading text is unknown.

Oxford (1990) continues to state that compensatory strategy comprises two sets: bridging gaps in writing and speaking, and intelligent guessing in reading and listening. Intelligent guessing comprises verbal and nonlinguistic clues. Linguistic clues are used to make an educated guess about the meaning of the unknown part of the reading text if there is no complete vocabulary, grammar, or other target language elements. Students could use other clues, such as their native language or other languages, to fill the gaps and to get a total understanding of the reading text.

If there are unknown words and phrases in a sentence, the surrounding words in the sentence can provide clues as to what words and phrases might mean. To infer the meaning of challenging words, phrases, or sentences in a written text, readers also draw upon nonlinguistic information such as context, text organization, individual perception of the subject matter, or prior knowledge.

2.15 Theoretical Frame work of the study

The cognitive theory, socio-cultural learning theory, meta-cognitive learning theory, and the affective filter hypothesis form the theory of this study because the learners acquire the language learning strategies both from the inside and the outside. The central theme of the sociocultural theory of learning is that learners' academic achievement is dependent on what they are exposed to, while the cognitive, metacognitive and affective theory of learning are concerned with how learners process the information provided to them, monitor and evaluate, and control their emotional states.

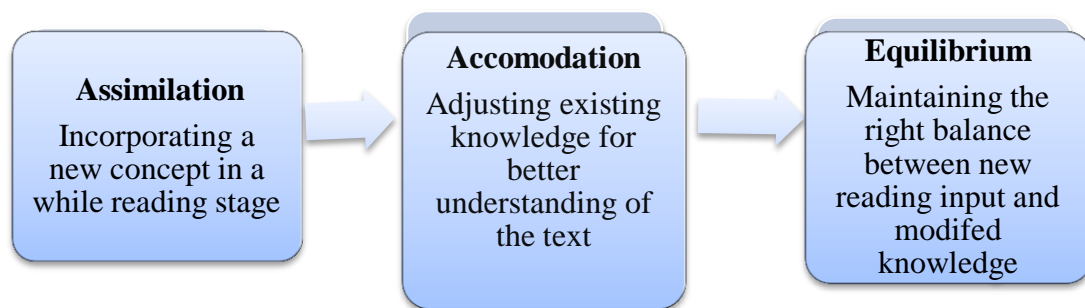
Language acquisition is a complex process resulting from various layers of learning processes. It involves cognitive development, sociocultural factors, metacognitive knowledge, and emotional regulation. It entails how learners take part in mediated interactions and social learning, how they cope with learning through assimilation and accommodation, and how they find a balance through equilibration. It further includes guided learning in a supportive context and learners' ability to plan, monitor, and evaluate their learning. In addition, learners need to be able to regulate their emotions and have a positive mental state for learning.

2.15.1 Cognitive learning Theory

According to the cognitive learning theory, our brains develop knowledge based on experience, sense, and thinking. The cognitive capacity of learners depends on their capacity to memorize, comprehend, and apply new ideas by relating them to previous background knowledge.

According to Jean Piaget, for learning to take place, there is a need to look at the intent of the text and relate new information to the already known. Jean Piaget has identified three major cognitive learning processes. They are assimilation, accommodation, and equilibration. Through these three cognitive learning processes, learning expands in each step. The cognitive learning processes help learners apply the learned skills in real-life situations. When learners use these cognitive learning processes in learning a new language, they store, adjust, add, and balance new language concepts to the already known. Thus, learners learn more efficiently in a new language (Tyler, 2012).

Figure 1: The integration of cognitive learning theories into reading comprehension



The above figure demonstrates the integration of reading comprehension to the core principles of cognitive theory. The principle of assimilation applies first when readers face new information from the reading text and they put the incoming knowledge to the existing cognitive schema. This process is followed by the next stage, accommodation, the process of combining the existing schema with the new information to get something new and fresh knowledge. Finally, there is equilibrium, the state of cognitive balance between assimilation and accommodation.

2.15. 2 Meta-cognitive Learning Theory

Meta-cognitive theory of learning focuses on self-regulated and self-monitored learning. It is concerned with how learners monitor, control, and evaluate their thoughts. This strategy is at the center of reading performance, as metacognition directly impacts the ability of a reader to comprehend, process, and remember information from what he or she reads. Gaining metacognitive knowledge allows students to enhance their reading strategies, comprehension, and memory (Zare, 2007).

Students with stronger meta-cognitive abilities actively monitor their comprehension. They pause and think to clear up any confusion and relate new information to the information they have previously learned. Strategies such as previewing, regulating reading speed, monitoring for comprehension, setting a purpose, and summarizing have been proven to significantly enhance students' reading comprehension performance.

Figure 2: The interaction between Metacognitive learning theory and Reading comprehension performance

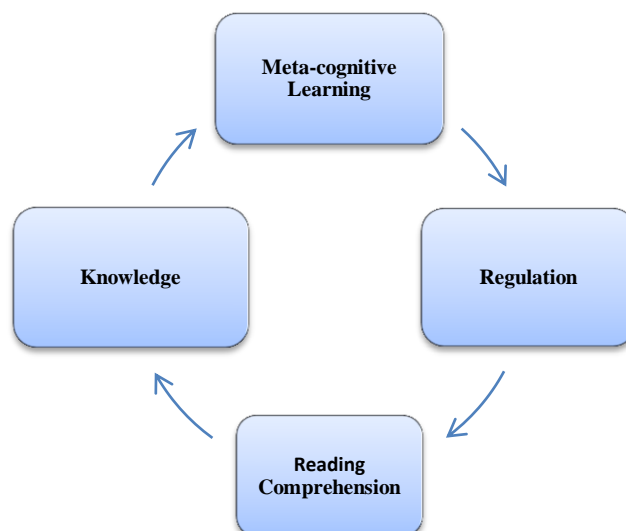


Figure 2 describes the interaction between meta- cognitive learning theory and reading comprehension activities. The model shows that meta-cognition is the core issue, divided into two major constituents: meta-cognitive knowledge and meta-cognitive regulation. These two features directly influence reading comprehension performance. Knowledge and regulation (the ability to actively plan, monitor, and evaluate) lead to improved reading comprehension performance.

2.15.3 The Affective Filter Hypothesis

According to Krashen's influential theory in the field of second language acquisition, psychological and emotional factors have major effects on language learning. They are motivation, anxiety, and confidence, which serve as a "filter" and function as an interaction of a system to enable or hinder language acquisition. When the affective filter exists at a "low" state, a state defined as high motivation, ease, and high self-confidence, the probability that the learner can successfully receive and process language input is greater. But when the affective filter is "high," usually due to stress, anxiety, or low self-confidence, then it will block the learner's capacity to accept and process valid input. It will seriously affect the whole process of language learning, and it will be harder for students to acquire a foreign language (Krashen, 1991).

2.15.3.1 The Relationship between the Affective Filter and Reading Comprehension

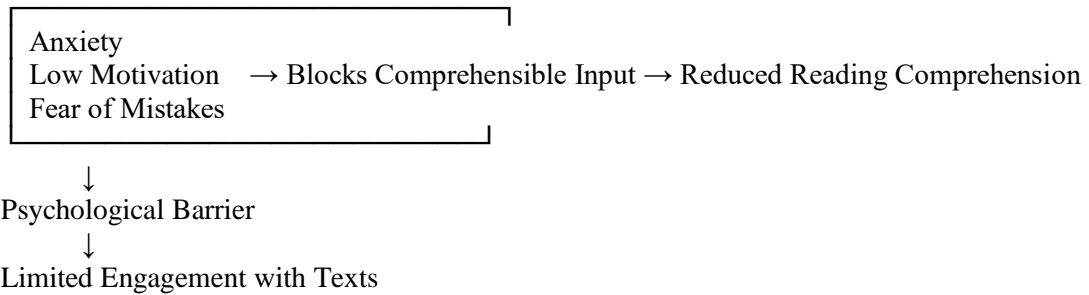
Krashen's Affective Filter Hypothesis explains that emotional factors such as motivation, anxiety, self-confidence, and attitude directly influence second-language reading comprehension performance. When learners are highly motivated, they tend to enjoy the material they read, trust their own reading ability, and experience a low affective filter. This, in turn, allows for easier intake of input, more effective use of comprehension strategies, and deeper engagement with texts (Krashen, 1982).

However, a higher level of anxiety, academic tension, and complicated grammatical structure, fear of longer passages, and challenging words and phrases bring low self-efficacy, and this gradually blocks the cognitive learning process. As a result, learners fail to decode key concepts of an exam, due to an inability to recognize vocabulary, low inference, and poor understanding (Ibid).

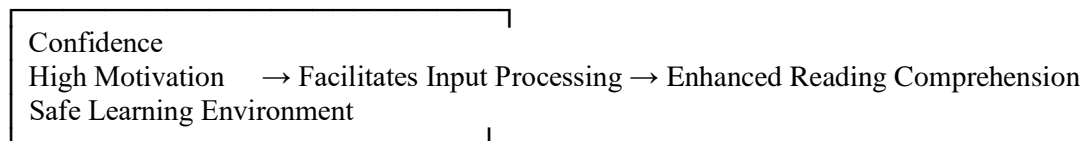
Generally, low affective filters discourage self-encouragement and risk-taking in language learning as a whole and in reading particularly. On the other hand, self-confidence and a good self-concept maintain motivation levels and gradually enhance reading comprehension performance in second language learners.

Figure 3: The relationship between reading comprehension performance and affective filters

High Affective Filter (Negative Emotions)



Low Affective Filter (Positive Emotions)



The above figure demonstrates how the affective filter affects reading comprehension performance. It compares a high and a low level of the affective filter. In a high-level affective filter, learners experience negative emotions, anxiety, low motivation, and fear of making mistakes. This acts as a psychological barrier. It prevents comprehensible input, and learners become less involved in reading. As a result, reading comprehension is impaired. In a low-level affective filter, learners experience positive emotions, high motivation, and a safe learning environment. This openness to input encourages learners to actively engage with reading texts. Thus, the learner's emotional state plays a crucial role in either hindering or supporting effective comprehension.

2.15.4 Socio-cultural Learning Theory

Another building block of the study's theoretical framework is the socio-cultural theory of learning, which argues that students learn language-learning strategies from their context. This theory emphasizes that the society has a major role in an individual's education. Learning and development are both individual and collective, but also dependent on each other. The social and psychological aspects are given priority for an individual's mental well-being. Therefore, by being involved in society, learners can change or adopt new learning styles.

For example, memorization is among the methods highly prized by the Ethiopian people, and this occurs due to the impact of the dominant religious denominations: Islam and Christianity. In Christianity and Islam, leaders and believers are supposed to memorize Holy Scriptures that may either be utilized for public preaching or prayer, and this may interfere with the formal method of learning and education among Ethiopian students.

Vygotsky's socio-cultural learning theory consists of three key components. Firstly, learning is neither biological nor cognitive but social. Secondly, the process of human learning is supported by culture that consists of values and beliefs which influence learners' cognitive development. The third is the zone of proximal development principle, i.e., the difference between what can be done alone by the student and what can be done with the help of the guidance and advice of other knowledgeable people (Rahmatirad, 2020).

Concerning learning strategy, one can easily witness the students undertaking the three stages of socio-cultural learning theory. Students can make use of simple language acquisition strategies from various social and cultural backgrounds, and the mediated process is meant to oversee, monitor, and control their learning process, which is a common aspect of meta-cognitive language learning strategies. The theory of zonal proximal development is also applied in the language learning strategy of students in the hope that students will be able to construct their language learning strategy if they are better trained.

Figure 4: The application of reading strategies and socio-cultural learning principles



Figure 4 shows the practice of socio-cultural learning principles towards reading comprehension and language learning strategies in general. According to the model, students acquire strategies for reading and language learning from their immediate social environment through interaction with other knowledgeable people, such as family, teachers, peers, or society in general. This kind of socially acquired knowledge is then mediated, monitored, and controlled by the learners themselves while internalizing and regulating these strategies. Vygotsky's Zone of Proximal Development is the center of the learning process, where appropriate instruction, scaffolding, and guidance help move the learners from socially learned strategies toward independent learning. This eventually enhances language proficiency and the overall reading comprehension performance. The figure, in general, indicates that language learning is not a solo process but is socially constructed and mastered gradually with the learner's ZPD.

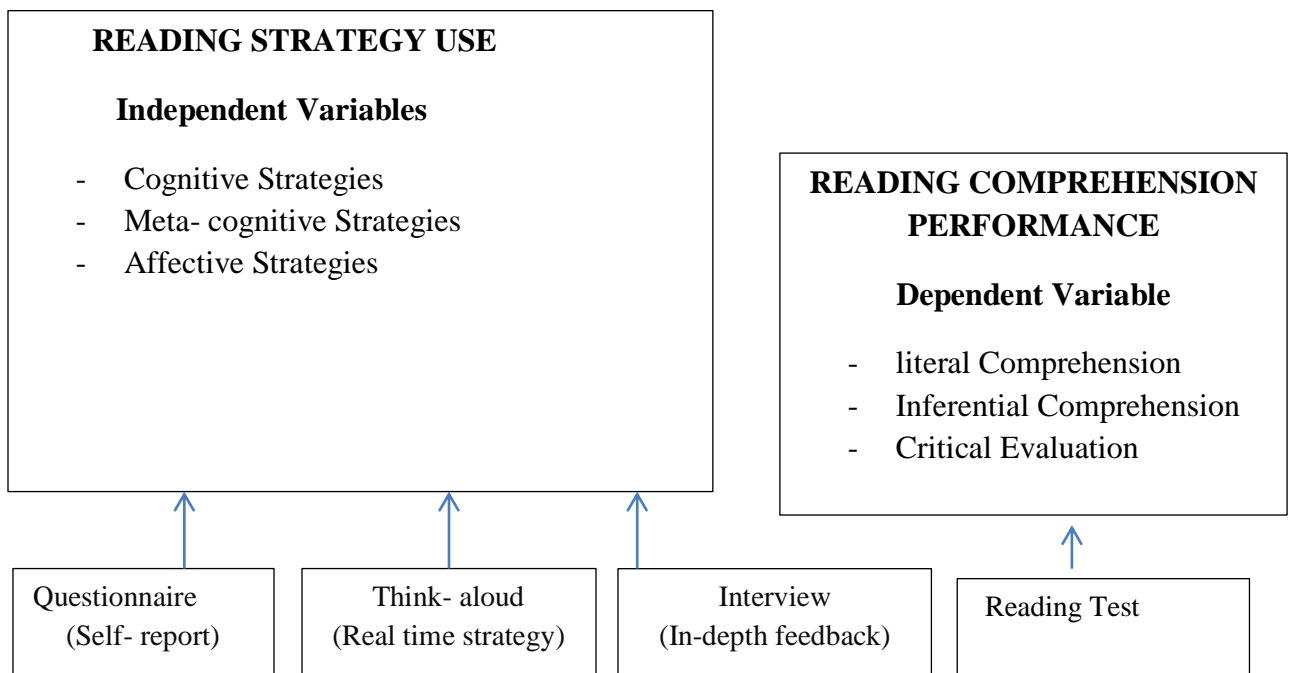
Although four different learning theories are presented as a theoretical framework, the cognitive and meta-cognitive theories are the two main ones most associated with the current research on reading strategy and comprehension. The cognitive learning theory is more prominent because reading is primarily a cognitive skill. It seeks to explain the mental process involved in reading, such as attention, encoding, memory, making inferences, and understanding what is being read.

Meta-cognition is also the major theory that guides this research, as it attempts to address the question of how different strategies can be best utilized to promote learning. This

theory has various components. Planning refers to the process that occurs before reading, such as previewing the title to get a general idea of the content of the text to be read. Monitoring, on the other hand, refers to the process of constantly checking one's understanding of the text read, such as asking questions to clarify understanding. Regulation is another important component of this theory. It refers to how the reader handles situations that may arise in the process of understanding the reading text. For example, in cases where the reader fails to understand certain parts of the text, they may seek to understand it better by using other sources of information.

2.16 Conceptual frame work of the study

Figure 5 illustrates the link between the students' use of reading strategy, reading comprehension success, and the research tools used, i.e., a questionnaire, reading test, think-aloud protocol, and interview.



The conceptual framework illustrates the relationship between independent and dependent variables. The independent variables, which are cognitive, metacognitive, and affective strategies, are predictors of reading strategy use and reading comprehension performance of students. The dependent variable, however, which is the reading

comprehension performance of students, is influenced by the independent variables, the types of strategies employed, and the reading comprehension test.

Moreover, data collection instruments such as, a questionnaire, a reading test, a think-aloud protocol, and an interview provide data determining to the research analysis. While the questionnaire employs a Likert scale to survey students' utilization of reading strategies, the think-aloud protocol provides a verbal report during reading, in which students' cognitive and metacognitive processes are recorded. The reading test aims to quantify students' performance in comprehension, whereas the semi-structured interview aims to understand more closely students' attitudes towards the application of reading strategies. Employing all the above quantitative and qualitative instruments results in the triangulation of the findings.

Chapter Three: The Research Methodology, Design of the Study, and the Pilot Study Report

Introduction

This chapter briefly explains the design and methodology of the research, which was taken from the ideas identified in the literature review. The overall aim of this chapter is to explain why particular strategies or methods have been chosen and to demonstrate that they are better suited for the research than alternatives. In addition, it elaborates at length on the reasons for adopting the specific data collection tools used in the study. An overview of the pilot study was also presented, highlighting the validity and reliability of the research instruments used.

3.1 The Research Design

As stated in chapter one, the study focuses on three key concepts: identifying the major and minor reading strategies used by the students; comparing and contrasting the reading strategies used by high and low achievers, and determining the relationship between the students' reading strategies and their learning outcomes.

Since the research has both a quantitative and qualitative nature, a combination of descriptive and correlational research methods was utilized. A descriptive research design was implemented because the purpose of the study was to identify and classify the various types of reading strategies. According to Chawla and Sodhi (2011), descriptive research is used to accurately and systematically describe a population, phenomenon, or situation. They help describe the what, where, when, and how of the research problems.

Moreover, the study examined the different ways in which students read and comprehend texts. It specifically aimed at strategies that occurred while reading, the frequency of strategies, and the patterns how the students consistently using these strategies. For example, some may tend to care much for the overall ideas in general, others scan to get specific points, others are interested in marking a text, note-taking, re-reading parts of a text, etc.

The other highly essential consideration for applying a descriptive research method is that it gathers in depth details of information about students' behavior and not as a means to

manipulate variables. It presents a clear understanding about various conventional methods and approaches for reading, making it easy to observe regular practices.

Thus, with this method, it becomes possible to analyze different reading strategies adopted by various groups of students, including high, average, and low-achieving ones. The method enables them to identify what students do, why they select a particular strategy, and why they select some and not others. Thus, it permits a profound understanding and observation of natural reading behavior among students, which would be employed effectively for reading strategy and educational programs.

Correlation is another research design used in this study. Students' reading comprehension performance and the strategies they employed were examined using a correlational research design. The rationale for adopting this research approach is that it enables both the prediction of outcomes and the explanation of relationships among variables. As it is believed by, Manion and Marrison (2007), correlation means obtaining two sets of data, one of which shall be previous to establish their relationship. In addition, Weyant (2022), suggests that a correlation research design is implemented to find out and quantify the strength of the relationship (or association) between two or more variables.

It is also important to know the fundamentals of a correlation coefficient to understand how to investigate the relationship between two quantitative variables. The correlational coefficient is a statistical index that indicates the strength and direction of a relationship between two variables (Johnson & Christensen, 2014). It determines the relationships between the two variables. More precisely, the correlation coefficient is a value between -1 and 1, wherein 0 indicates that there is no relation at all. When the value is above zero, there is a positive correlation. When the number is below zero, there is a negative relationship. Zero indicates that the two variables do not have any relation to one another. The relation is considered to be perfect if the value is +1.00 or equals -1.00.

Although the study utilized both descriptive and correlational research designs, the descriptive research design is more dominant than the correlational research design. Research Questions 1 and 2 are descriptive in nature because they deal with the 'what' type of research questions that focus on the characteristics, frequency, and type of reading strategies that the students use.

On the other hand, Research Question 3 appears to be more correlational in nature because it aims to examine relationships between variables. Nonetheless, it is informed by the findings of research questions 1 and 2.

Therefore, in this study, the descriptive research design is of paramount importance. This is because two out of three research questions are based on description. Specifically, the study examines the differences between high achievers and low achievers.

3.2 Research Context and Justification

3.2.1 Setting

The research was conducted across seven high schools in Addis Ababa: Ewket Chora, Tikur Anbessa, Derartu Tulu, Medhanialem, Dejazmach Wondyirad, Kelemework, and Menilik II, which the researcher thought to be the most representative samples among various high schools in the city. To enhance the diversity of the sample, the selection of these high schools considered the key areas of the city's administration. For example, Dejazmach Wondyirad High School is situated in the eastern part of Addis Ababa, while Medhanialem is found in the western part. Menilik II is located in the city center, and Derartu Tulu and Kelemework are positioned in the southern and northern regions, respectively.

3.2.2 Population

The target population of the study was grade 12 students in Addis Ababa high schools who attended their education in the academic years 2014 and 2016 (Ethiopian calendar). There are 11 sub-cities in Addis Ababa, and among these sub-cities, there are 80 high schools. The pilot study was conducted in two high schools in 2014, and the main study was conducted in five high schools by 2016. Grade 12 students were chosen in a belief that, since these students are about to graduate from high school, it would be pertinent to look into their reading strategies.

3.2.3 Rationale for choosing the high schools

The research was carried out in the public high schools of Ewket Chora, Tikur Anbessa, Derartu Tulu, Medhanialem, Wondyirad, Kelemework, and Minilik II for several reasons. First, I taught English for several years in some of the aforementioned high schools,

namely Tikur Anbessa, Menelik II, and Medhanialem. It was relatively easy to get the necessary data from the sample because these were my previous workplaces. Dejazmach Wondyirad and Ewket Chora were specifically convenient as I reside and work in the area. Additionally, I managed to interact with most of the administrative and academic staff in Derartu Tulu and Kelemework High Schools.

Therefore, I decided to conduct my study in the aforementioned seven high schools with the assumption that the data would be representative of all types of learners and for convenience in carrying out the study.

3.2.4 Rationale for conducting the study on grade 12 students

Grade 12 was selected for this study because it was thought that, in comparison to students at lower levels, these students would have received abundant reading instruction already. It would also be beneficial to know what reading strategies these students typically use and how well they currently interact with a reading text. Since grade 12 is a springboard to post-secondary education, it is imperative to know the current reading ability of students and to identify any major weaknesses that are evident among them.

Another reason for choosing grade 12 students as a sample is the likelihood that high school students tend to volunteer, be cooperative, and willingly share information, compared to those in higher education. University students often have lots of academic and social commitments, which may limit their effective participation in data collection, and this may hamper the effectiveness of the study.

3.3 Sample size and sampling technique

Addis Ababa has eighty high schools, and I have conducted my research in merely seven of the city's major high schools: Ewket Chora, Tikur Anbessa, Derartu Tulu, Medhanialem, Dejazmach Wondyirad, Kelemework, and Minilik II, to serve as a cross-section of sub-cities of the city's administration. Since the main target of the study was reading strategies, a high number of students were needed to get precise data for the analysis. With this in perspective, 267 grade 12 students were given questionnaires and reading tests from the total population, assuming that 10 percent of the total population of the five high schools was covered. However, this number did not include subjects of the

pilot study, which were taken from the two high schools, namely: Tikur Anbessa and Ewket Chora.

Students were randomly chosen from the social science and natural science streams to obtain a group of students who differed in reading strategy use and comprehension achievement. To ensure balanced representation across groups, a proportionate number of participants were selected from each category using a stratified random sampling technique.

In addition, based on their reading test performance, high and low achievers were chosen for participation in the interview and think-aloud protocol. This was because one of the issues in the research was to compare the reading strategy used by the high and the low achievers.

According to Rahi (2017), the use of a simple random sampling technique has several advantages, especially when working with large populations. Since individuals from the small subset of the large population will be selected randomly and each student from the general population set will have an equal probability of being selected, this process should initially eliminate all possibilities of bias.

A purposive sampling technique was also employed to sample from both the high and low achievers. It is the deliberate selection of informants based on their capacity to clarify specific theme, concept, or phenomenon, as noted by Cresswell and Plano (2011). If the researcher wishes to pick a sample that is representative of the characteristics, he or she wishes to examine and has a good idea of what those characteristics are, this method is appropriate. Therefore, through purposive sampling, samples were selected in the current study to carry out an interview and a think-aloud protocol to closely observe the difference between the application of reading strategies by high and low achievers.

3.4 Research Instruments

This section outlines the range of tools employed throughout the research process, combining both quantitative and qualitative approaches to ensure effective data collection. Questionnaires were used to gather numerical data, while reading comprehension tests measured participants' understanding of texts. In addition, semi-structured interviews allowed for in-depth discussions, and think-aloud protocols provided insight into readers' cognitive processes. Together, these varied methods contributed to a comprehensive understanding of the relationship between reading strategies and overall reading achievement.

3.4.1 Questionnaire

The questionnaire is a proven instrument in language research and social science for gathering data on participant characteristics, present and past behavior, standards of behavior or attitudes, and their convictions and justifications for an action on the subject of the study; however, the aim of administering a questionnaire in my research was to gather extensive information about the reading strategies learners employ with varying frequencies. Specifically, I was interested in identifying the strategies used most often and those used least often.

In addition, the questionnaire was designed to examine significant differences in reading strategies among high and low achievers. I was motivated to explore the relationship between students' use of these reading strategies and their overall reading achievement; accordingly, I sought to gain insight into how the use of these strategies may influence reading achievement.

Selinger and Shohamy (1989) suggest that a questionnaire is effective in gathering information regarding things which are difficult to observe, such as attitudes, motivation, and self-concept. Questionnaires are also designed to gather information consistently from different respondents, groups, or institutions.

Seliger and Shohamy (1989) also propose four key benefits regarding the strengths of the questionnaire, which may be well known. Compared to other instruments, the questionnaire could be administered to a wider range of respondents at once, which is not feasible with other instruments. The second benefit is that when privacy is needed, it

enables the subjects to reveal highly confidential yet crucial information. In addition to this, it is also possible to conduct questionnaires with any type of people at the same time since they are very easy, thus providing an opportunity for researchers to collect the same type of information and maintain standards. The benefit of increasing data accuracy when it is administered simultaneously is the final benefit.

Since the research focused on reading strategies, a larger population was engaged through an independent questionnaire that allowed the researcher to eliminate outliers in random samples and reduce errors when testing; large sample sizes also enabled the researchers to accurately calculate the average value of the data.

In order to get clear information from the responses of the students, as well as to avoid any language barrier in responding the self-administered questionnaire, I decided to translate the English version of the questionnaire into the local Amharic language, which can be easily understood by the students at a similar level of proficiency. The translated questionnaire shared with other teachers in high schools and universities in order to accurately capture the intended meaning of the original English version. In addition, I incorporated the feedback obtained from other teachers in the translated questionnaire.

An application of Oxford's (1990) Strategy Inventory for Language Learners, or commonly known as SILL, was used in this research to evaluate the efficiency of different reading strategies being practiced by the students. The SILL is a very important tool that most researchers employ when they are carrying out studies on how students learn a second or a foreign language. It helps to gather information about the strategies used by learners in improving their language competency, especially in reading.

Relying on its extensive use and the fact that the SILL is measuring a substantial number of language learning strategies, I decided to use it as the research tool in the current study, particularly to assess the reading strategy use among grade 12 students. The worth, reliability, and validity of the Oxford Strategy Inventory for Language Learning (SILL) have been acknowledged and authenticated by several studies (Bessai, 2018; Oxford & Burry-Stock, 1995).

Therefore, the questionnaire used in this study includes 36 items, which are adapted from Oxford's (7.0) Strategy Inventory for Language Learning (SILL), which is designed particularly for second or foreign language learners. The questionnaire items are divided into three major strategies: cognitive, metacognitive, and affective. These 36 items are on a five-point Likert scale of frequency of reading strategy use, ranging from 1 as 'Never/Almost Never', 2 as 'Rarely', 3 as 'Sometimes', 4 as 'Usually', and 5 as 'Always'

3.4.2 Interview

Interviewing was another valuable method employed in the present study to obtain credible information regarding the issues experienced by students. The researcher utilized an interview to get answers to the questions about “why”, which other quantitative approaches cannot determine. For instance, it is essential to the study's findings and conclusions that the researcher becomes aware of why high and low achievers commonly use and neglect specific reading strategies when they read.

Regarding the benefits of interviews, Creswell (2009) contends that in the qualitative research approach, interviews are used to get the meanings of important themes and that most of the job in interviews is finding out what the interviewee says. While conducting interviews, normally, open-ended questions are asked with the hope of receiving genuine responses. In addition, an interview offers researchers a chance to intercept an interviewee and ask questions that can lead to the desired information.

Similarly, Selinger and Shohamy (1989) introduce the benefit of semi-structured interviews, claiming that the interviewer will gain more information about the respondent while he/she attempts to understand from his/her perspective. Further, the interviewer's next question will be derived from the interviewee's response, where there is a chance to find out more.

With regard to the respondent, he/she will feel much at ease in a semi-structured interview because it is more conversational than a formal interview. Moreover, a semi-structured interview, leaves the respondent, with space to clarify the interview content, in a much less formal manner and express his/her real understanding than a formal explanation. At the same time, the interviewer can clarify any questions the respondent may have on a principle in the course of an interview session.

Therefore, the study focused on the application of reading strategies by students; data relevant to the study were collected from semi-structured interviews with open-ended questions. An interview allowed the researcher to have a closer understanding of students' experiences and provided rich information about how students apply different reading strategies in different tasks. With the application of this method, the researcher was able to acquire an extensive range of individual experiences that show different methods applied by students in their reading practice.

The interviewees were asked to respond to a list of nine questions aimed at examining reading strategies in detail. These questions covered issues pertaining to cognitive, metacognitive, and affective dimensions so that it would be possible to assess in detail how they affected the efficiency of reading comprehension exercises. To make sure that the respondents felt free to voice their opinion, all the questions put to them were worded in such a way that no restrictions were imposed on their answers.

Thirty students from seven high schools were selected for the interview session using a purposive sampling technique. Of these, ten students participated in the pilot stage, while the remaining twenty students were involved in the main study. The interviews were held in school libraries and pedagogical centers; hence, the process could take place under favorable conditions. The time taken for these interviews amounted to 454 hours and 36 minutes (i.e., 18 days, 22 hours, and 36 minutes).

Moreover, students whose academic performance was high or low were invited to be interviewed so that the researcher could gather credible data as to the existence of any differences in the application of reading strategies. Selection of these students was made on the basis of their results in the reading comprehension tests during the pilot and main investigations.

3.4.3 Reading test

The purpose of the reading assessment was to measure the students' knowledge of what they had read, to classify them into high, medium, and low, and to explore the correlation between reading strategy use and comprehension ability. Hence, I tested 76 students during the pilot stage and 267 students during the main stage with the reading

comprehension test. The sample of the main study covered 10 percent of the overall number of students, taken from five high schools assigned to this study.

The reading comprehension test was designed with maximum care in line with the current student text format that would be capable of determining students' reading comprehension performance and the utilization of reading strategies. The questions contained aspects such as passage comprehension, references, and main idea detection, which are typical reading activities included in the current English curriculum for twelfth-grade students.

In addition to that, I also made an effort to relate the reading tests and the text to an aspect of discourse that I felt would interest all the students. Furthermore, attention was given to the time allotment for the exam, the difficulty level of the assessment, and the ethical procedures for conducting the test in the classroom.

3.4.4 Think Aloud Method

The think-aloud protocol is one of the most effective methods for collecting data that is reliable to use for reading strategy research. It is a process during which students give their opinions while reading. Students who are involved in the think-aloud protocol read a text and provide their reflections, and the method has several benefits for language researchers, particularly for reading strategy. Moreover, the method is a bridge between teachers and students in that they can collaborate to establish a shared understanding of a reading text, and students become strategic readers through this method (Oster, 2001).

The method assists the researcher to know the reading strategies of the students that cannot be seen using other research instruments, questionnaires, and interviews. The think-aloud method, together with the questionnaire and interview, may assist the researcher in triangulating or validating the responses of the students so that it becomes simple for the researcher to understand the outcome of the study.

Oster (2001) further confirms that think-aloud processes enable reading enhancement and improve the capacity of students to organize their ideas when reading. It also offers students chances to evaluate whether they can understand the subject and increase readers' cognitive processes meaningfully through increased metacognition as students pay attention to their thinking.

Due to this, eight students were selected to involve in the think-aloud protocol. The group consisted of four high achievers and four low achievers, which provided an equal representation of different levels of academic performance. Every participant was given the responsibility of performing a reading passage test under controlled and quiet conditions, where they were asked to verbalize their thoughts as their responses were recorded for later analysis. To preserve the integrity of the test and enable the students to focus, certain steps were taken to avoid any possible distractive sound when the students read. After consulting with the vice directors, the think-aloud protocol was conducted in the schools' pedagogical centers to ensure that students were not distracted. After the think-aloud task was completed, the students' verbal recordings were carefully transcribed, changed into a written copy that could be analyzed for further findings.

3.5 Validity of Research Instruments Prior to the Pilot Study

3.5.1 Validity of the questionnaire

The first step towards ensuring the process validity was to confirm face validity as well as content validity. To get useful feedback on the items shown, I initially gave them to my advisor. Then I shared the questionnaire to a group of experts in applied linguistics and English language teaching for analysis. These specialists carried out the necessary analysis to assess whether the questions adequately addressed the topic of the study. After careful evaluation, my colleagues in the English language teaching made effective suggestions on the three areas of the reading strategy questionnaire: cognitive, metacognitive, and affective dimensions of reading. From the remarks of my advisor and colleagues, I made the necessary amendments and changes.

Psychometricians, experts in questionnaires, provided extremely valuable feedback in making the survey restructured to avoid errors. They helped ensure the survey had no usual errors, such as leading questions with a high likelihood of biasing answers; loaded questions that would provoke emotional reactions; and the use of complex language and jargon that would intimidate respondents. Moreover, they assisted me in avoiding double negatives that obscure meaning, vague questions that could lead to multiple responses, double-barreled questions that ask about two issues simultaneously, and questions that

invite respondents to give too many responses that would be overwhelming to them. Their expertise was invaluable in creating a straightforward and effective survey.

In conducting the test's reliability, Cronbach's Alpha (CA), ranging from 0 to 1.0, was employed. Cronbach's Alpha (α) is a reliability measure that estimates the internal consistency of a test or scale. It measures the proximity between the set of items (questions or statements) as a whole. Accordingly, Cronbach's Alpha indicates, whether the tests reflect consistency in measuring the same construct. This measure assists researchers in deciding whether to drop, modify, or delete a scale. Particularly during initial testing, it assists researchers in identifying weak questionnaire items and lower reliability, facilitating easier survey instrument refinement before full-scale data are obtained. Typically, a Cronbach's Alpha value of 0.60 – 0.70 is acceptable to test questionnaire items' internal consistency (Taber, 2018).

3.5.2 Validity of reading comprehension tests

In the process of constructing a reading comprehension test, an effort was made to include the essential elements of evaluating reading comprehension that are beneficial for the study. The assessment contained questions that help students to recognize both major and secondary ideas, which support students in enhancing their understanding of the text and allow them to identify specific details within the reading text.

In addition, the assessment contained reference and inference questions to enable the students to build their hypotheses as well as draw conclusions. The assessment is a good indicator of students' performance in reading comprehension in the future because it consists of numerous important aspects of the reading comprehension test.

Apart from that, a questionnaire for validating the test was also developed and administered to teachers having enough experience in teaching English in preparatory schools and college level to determine the content validity of the test and expert opinion as well. The experts gave valuable feedback after thorough consideration, and I made certain changes in some items like the true/false items in particular which may create some confusion among the learners while answering those questions. However, as per the expert opinion, the coverage of the required skills and content representation were quite appropriate for the specific grade level. (See Appendix 3 for the validation form).

3.6 Method of data analysis

The strategy questionnaire and reading score were evaluated using statistical techniques. A correlation analysis was conducted to analyze the relationship between students' reading comprehension performance and their application of reading strategies. The results of the correlation test and the coefficient values indicate the strength and direction of the linear relationship between students' reading strategy use and their reading comprehension performance.

Repetition of students' responses in the various reading strategies, that is, the frequency of strategy use in the high and the low achievers, was measured using percentages and frequency distribution. All the aforementioned quantitative data analysis issues were performed using SPSS, while a verbal transcript was generated for the interview and think-aloud protocol analysis. Open coding and thematic analysis, the qualitative data analysis techniques, were also employed while handling students' interviews and think-aloud protocols.

As Clarke and Braun (2017) stated, qualitative research techniques, such as coding and thematic analysis, are broadly applied to analyze different kinds of data, for instance, interviews, focus groups, and written texts. These techniques allow researchers to look for patterns, themes, and meanings within the data. Coding is the procedure of organizing and categorizing qualitative data into labels or concepts, which allows a more systematic analysis. This can be categorized into three broad types: open coding, axial coding, and selective coding. Open coding entails the fragmentation of the data into individual elements, axial coding entails reassembling the data by finding relationships between different categories, and selective coding entails integration and refinement of the analysis around a central idea. In this study, open coding was utilized to systematically analyze the students' think- aloud protocols.

3.7 The Pilot Study

Introduction

This section provides a concise summary of the goals and results of the study and a short discussion on the topic of the study. Furthermore, it evaluates the validity and reliability of the research tools, which are the questionnaire, reading comprehension test, interviews, and the think-aloud protocol.

An explanation of the study's subjects, the survey, the reading comprehension test, the interview, and the think aloud procedure

3.7.1 The study's participants

Two schools, which were, Ewket Chora secondary school in Addis Ababa's East and Tikur Anbessa secondary school in the city's center had been chosen to test the study's instruments. The profiles of these schools and the research subjects are provided in the table below.

Table 3.1: Schools and Sample Selection

Name of the school	Grade level	Number of students selected for the pilot study	Gender	Total
Ewket Chora	12	41	Male = 23 Female = 18	
Tikur Anbessa	12	35	Male = 11 Female = 24	76

Attempts were undertaken to cover all levels of students and sexes. Accordingly, 76 students from each of the schools were selected from two sections that comprised high, average, and below-average students, and this was done to make the findings credible and comprehensive. Consequently, it became clear that the volunteers who participated in the pilot study, representing both genders and diverse academic backgrounds, held varying perspectives.

3.7.2 The reading comprehension examination

There are several types of questions in this test, including short answers, inferences, references, multiple choice, and true-false. True-false questions were designed to measure the surface reading of students on the reading text and their reading speed, while inference and reference questions were included in the reading comprehension test to evaluate the inference capability of the students. Besides, passage summary questions were included in the form of multiple-choice questions to measure how well students assimilate the main ideas and how they disregard unnecessary details.

Profile of the Reading Comprehension Test

Reading test 1: A reading test used to assess students' reading comprehension performance

Table 3.2: The components of the reading examination

Type of reading questions	True- false questions	Multiple choice	Short answer
Number of questions	5	14	6

Reading test 2: A reading test conducted for the think-aloud protocol

Type of reading questions	True- false questions	Multiple choice	Short answer
Number of questions	5	10	5

In general, an effort was made to make the test a measure of the students' overall comprehension of the reading test, as well as their ability to infer and state their points logically. It's assumed that the tasks are not more difficult than the ones in their textbook. Moreover, the test is conducted in one sitting for an hour, more than enough time for the students to complete all questions. All of the examinees completed their reading tasks within the schedule. To model a classroom setting, the test was given during a regular English language class.

With respect to the weights, 25% was allotted for the first reading test, which measures the students' ability in reading comprehension. (Multiple choice items out of 14%, true-false items out of 5%, and short answer items out of 6%, respectively) The multiple-choice questions, naturally, include reference, inference, and summary questions.

The think-aloud protocol, the second reading test accounts for 20% (True/False: 5%; Multiple Choice: 10%; Short Answer: 5%, respectively). The distribution of marks was determined by the number of questions and the weight assigned to each item. Four students from the two high schools were selected under the think-aloud protocol. They were asked, in the process, to verbalize their thoughts as they responded to a series of questions. This took place in a silent room that was intentionally fitted with a voice recorder to capture their verbalizations.

3.7.3 Reliability of the reading comprehension test

The reliability of the reading comprehension test was determined using a test-retest approach. This is when the same group took the reading comprehension test twice within one week. Pearson correlation was employed to examine the actual correlation between the two tests, the first test, and the test-retest scores. The statistical outcome of the SPSS thus determined that the Pearson correlation coefficient between the two sets of scores is 0.824.

Since this correlation coefficient is higher than 0.70, it can be said that the test is of good test-retest reliability. Essentially, the test produces consistent results that are duplicable at different time intervals.

3.7.4 The questionnaires

A 36-item questionnaire incorporating three broad categories of cognitive, meta-cognitive, and affective reading strategies was developed for the pilot study. The students were given a questionnaire to determine the primary and secondary reading strategies they use, and the most and the least preferred reading strategies of the high and the low achievers. The relationship between the students' employment of reading strategies and their reading comprehension performance was also analyzed.

The questionnaire items were developed using five-point Likert scales to express frequency (1 being never/almost never, 2 being rarely, 3 being sometimes, 4 being usually, and 5 being always). Therefore, a 36-item students' cognitive, meta-cognitive,

and affective reading strategy questionnaire was thus administered to them. The profile shows the nature and type of the questionnaire that was used.

Table 3.3: Surveys given to students

No.	Type of questionnaire	No. of questionnaire item	Total
1.	Cognitive	20	
2.	Meta cognitive	10	
3.	Affective	6	36

3.7.4.1 Cognitive reading strategy questionnaires

These questionnaires were designed to gather information on mental processes that are directly relevant to learning through reading text, retaining knowledge, and retrieving it for later use. The questionnaires primarily focus on the strategies that students employ to directly influence their reading comprehension.

Parallel to this, O'Malley and Chamot theorized that the learning process is sustained by a set of cognitive strategies. These strategies include repetition, which aids memory strengthening; translation that aids understanding of new knowledge; and grouping, which helps organize knowledge for enhancing retention. Most pertinent, they focus on resource utilization, where they make optimal use of available resources, existing knowledge, and equipment to enhance knowledge.

Note-taking is also among the most important strategies that assist learners in capturing and organizing information, while deduction and elaboration allow for close engagement with the text. Imagination and inference are also an important component as they enable the learner to form mental images as well as make inferences based on the information given within the text. All these cognitive skills are very intimately linked with specific learning tasks and are imparted throughout the learning process from start to end, thus making learning more efficient and balanced (O'Malley & Chamot, 1990).

3.7.4.2 Meta-cognitive reading Strategy questionnaires

These questions were designed to assess a range of issues, including the reading strategy employed by learners, specific approaches they plan to employ to interact with the content, and their levels of understanding. Besides, the metacognitive strategy also deals with how individuals reflect on and assess their learning processes.

According to Brown (1994), metacognitive strategies include a range of processes that are vital for successful learning. These include testing understanding, adjusting learning strategies, and revising learning strategy effectiveness. Moreover, they include evaluating the result of problem-solving, planning subsequent actions on the basis of these judgments, and constantly judging the success achieved through these actions. Therefore, metacognitive strategies have an important role to play in organizing, controlling, and directing the reading process so that learners can adjust and improve their understanding and retention of information.

3.7.4.3 Affective reading strategy questionnaire

These questionnaires were designed to examine students' attitude toward reading, their frequency of reading practice, the importance they engaged in e reading activities, and their self-assessed capability to read. Besides, the role of positive and negative emotions on students' reading comprehension was explored by affective reading strategy questionnaires.

Affective learning strategies are also vital in reading comprehension as they address to the emotional, motivational, and attitudinal aspects affecting students' interest in reading texts. The strategies support learners to control their emotions, boost their confidence, and sustain their interest, thereby improving their capacity to comprehend and memorize what they read. The use of affective learning strategies includes heightening motivation and interest, minimizing anxiety and stress, improving self-confidence, raising persistence, increasing metacognitive awareness, and fostering a positive reading attitude (Banditvilai, 2020).

In short, affective strategies serve to mediate between cognitive skills, like vocabulary and inference, and effective comprehension by emphasizing the emotional dimension of the learning process. Learners who are motivated, relaxed, and confident engage more intensely with what they read. This deeper engagement leads to more understanding of content and longer-term retention of information.

3.7.5 Reliability of the questionnaire

The survey tool in this study was a 36-item questionnaire that was used in the measurement of students' use of affective, metacognitive, and cognitive reading strategies. It was applied to 76 students in two public secondary schools, and the

Cronbach alpha statistical measure was used to determine the internal consistency of items in the survey.

According to Chen (2010), Cronbach alpha is a significant indicator that shows the internal consistency of a set of items and how highly correlated such items are with one another. Such a measure has been used extensively as a criterion to assess the reliability of a scale. In case the average item correlation is low, then the ensuing Cronbach's alpha will also be low. On the contrary, as the inter-item correlation mean rises, the alpha value also increases, reflecting a higher internal consistency among the items.

According to the results from SPSS, alpha measures for cognitive, meta-cognitive, and affective questions of the reading strategy questionnaire were 0.688, 0.757, and 0.536, respectively. Since a good alpha coefficient for a questionnaire is recommended to be between 0.60 and 0.70, the internal consistency of cognitive and meta-cognitive reading strategy questionnaires is acceptable. Incidentally, the items for the meta-cognitive reading strategy questionnaire are extremely high in internal consistency, with an alpha value of 0.757.

However, the alpha value for the affective reading strategy questionnaire items of 0.536 indicates that there is some weakness in the items' internal consistency (See Appendix 12 for the result of the internal consistency of the questionnaire).

3.7.6 Interview questions

The interview questions were later presented to the students after analyzing the questionnaire, reading comprehension test, and think-aloud protocol. The objective of the interview was mainly to identify possible solutions to the "Why?" questions, i.e., why the students adopt certain strategies regularly and avoid others and to ensure the validity of the information gathered using the other, three study measures.

3.7.7 Quantitative Data Analysis

3.7.7.1 Analysis of students' questionnaire

Table 3.4: Mean of reading strategies

Reading strategies	Mean	Reading strategies	Mean
Taking an overview before reading	3.20	Guessing what will come next	2.93
Guessing contextually	2.92	Guessing the overall content	3.33
skipping unknown words	2.95	Checking the guess	3.18
Translating word for a word	2.55	Deciding what to read and ignore	3.08
Using text features	3.66	Using loud reading for difficult texts	3.17
Using typographical features	2.92	Paying closer attention for difficult texts	3.33
Giving attention to the first line of each paragraph	3.39	Trying to get back on track when losing concentration	3.18
Paying attention to key words	3.32	Classifying words in their grammatical categories	2.07
Using prior knowledge	3.33	Translating concepts in native languages	3.66
Taking notes	2.18	Analyzing and evaluating the information	2.29
Generating questions	2.55	Making summary	2.16
Going back and forth in a text	3.36	Determining purpose of the text	2.70
Underlining main points	3.07	Using progressive relaxation	3.43
Reading slowly and carefully	3.70	Taking deep breath	2.95
Adjusting reading speed	3.36	Meditating while reading a text	3.42
Pausing and thinking about the reading process	3.39	Taking a risk to answer difficult comprehension questions	3.12
Visualizing information	3.46	Self-encouragement to avoid fear and inferiority	3.36
Checking the overall understanding	3.14	Sharing feelings and experiences	2.36
			Grand Mean 3.07

According to statistical findings of the SPSS, reading strategies like translating ideas into native languages, skimming a text, reading slowly and carefully, using features of texts, visualizing concepts, using progressive relaxation, and reflecting on concepts while reading are the most used ones; whereas translating word for word, note-taking, generating questions, categorizing words according to their grammatical function, analyzing and evaluating information, sharing feelings and experiences, and summarizing while reading are the least used reading strategies among students.

In addition, students tend to use most reading strategies at a moderate level. These strategies include taking an overview before engaging in detailed reading and predicting

the context of a text. They also involve skipping unfamiliar words when necessary and using typographical cues to aid understanding. Many students underline key ideas and assess their overall comprehension as they read. Furthermore, they anticipate the content of upcoming paragraphs and check their predictions along the way. They make decisions about what to focus on and what to disregard, and they sometimes read aloud when the text becomes difficult. When they lose concentration, they attempt to regain focus, while also trying to identify the purpose of the text. In challenging situations, they may pause, take a deep breath, and take risks when answering difficult comprehension questions.

The reported findings were supported by other studies as well. For example, Nazari & Nikneja (2014) confirm that students usually encounter problems when they learn second language, language other than their mother tongue. To manage the difficulties, these students go through two phases when learning a second/foreign language: comprehension and translation. Students naturally find themselves explaining words in their native language when reading and inferring meanings from the context. Additionally, while they read a text, they visualize the concept to build up mental images. This process helps the student's comprehension of the text they are reading and supports long-term memory.

Beyond this, students also implement several text features to increase their understanding and identify the main ideas, keywords, and concepts covered in the reading text. By employing these text features, learners can respond to the text more effectively, create mental pictures of ideas, make inferences about main ideas, and summarize what they read (Harris & Mason, 2003).

While the recommendation to take notes and paraphrase ideas when reading to improve reading comprehension is made, quantitative analysis of data strongly points to the fact that the majority of students did not. Most scholars' view is uniform that note-taking while reading is essential. Taking proper notes during a reading activity, for example, would benefit readers by organizing the thoughts in the text, remaining alert and engaged, watching out for what they read, and thinking about what they read. The main points of the text can also be understood by readers once they are done (Patricia, 2008).

One of the reading strategies that students should use to advance their grammatical ability is classifying words into their respective grammatical categories. Most of the students, however, demonstrated the tendency to fail to apply the strategy. As cited in Rubin (1981), grammatical categories provide the foundation for the language. It provides students with relevant linguistic information that enables learning a new language. It also encourages readers to learn about the structure of language and to interact with one another.

3.7.7.2 The most prevalent and the least employed reading strategies by high and low achievers

High achievers use a set of reading strategies more often than low achievers. They apply strategies such as taking an overview, using text features, paying attention to keywords, using prior knowledge, skimming a passage, reading at a slow and careful pace, adjusting reading speed, slowing down to reflect on the reading process, visualizing the reading content, determining the purpose of the text, and progressive relaxation more often. However, some strategies like taking notes, organizing words according to their grammatical function, assessing and analyzing the reading text, omitting unknown words when reading, coming up with questions as they read, choosing what to read and disregard, and sharing feelings and experiences are used on a moderate basis, whereas making summaries are still used less frequently (*Refer Appendix 9 for the strategy count of high achievers*).

On the other hand, low achievers tend to use most key cognitive and meta-cognitive reading strategies moderately, in contrast to high achievers. Reading strategies like note-taking, generating questions, categorizing words according to their grammatical function, and analyzing and evaluating the information are the least used by the low achievers. The only reading strategies consistently employed by low achievers include the use of typographical features, attending to the first line of each paragraph, and reading slowly and attentively (*Refer to Appendix 11 for the strategy count of low achievers*).

Table 3.5: Overall correlation between students' reading strategy use and reading score

Overall reading strategy use	N	Correlation (r)	Level of significance sig (2-tailed)
Students' reading strategy use vs. their reading performance	76	.972**	0.000

** . Correlation is significant at the 0.01 level (2-tailed).

Data from the above table shows that the use of reading strategies and students' reading scores have a strong positive association, with $r = (0.972^{**})$. This correlation is close to positive 1 and it indicates that there is a strong relationship between strategy utilization and reading achievement. Furthermore, the p-value (0.000), which is less than (0.0), shows that the existed result between the two variables is statistically significant.

Table 3.6: Correlation between students' use of reading strategies and their rank-based reading scores

Types of strategy	Students' rank	N	Pearson correlation coefficient (r)	Level of significance sig (2-tailed)
cognitive reading strategy vs. students' reading score	high achievers	9	.946**	.000
	Average	34	.918**	.000
	low achievers	33	.930**	.000
metacognitive reading strategy vs. students' reading score	high achievers	9	.832*	.005
	Average	34	.903**	.000
	low achievers	33	.810**	.000
Affective reading strategy vs. students' reading score	High achievers	9	.613	.079
	Average	34	.705**	.000
	Low achievers	33	.650**	.000

** . Correlation is significant at the 0.01 level (2-tailed).

This table increases our understanding of the relationship between different reading strategies and students' reading comprehension abilities. There is a significant relationship between the usage of cognitive reading strategies by students and their reading comprehension in the high, average, and low achievers ($r = 0.946, 0.918, 0.930$), respectively. Although average learners are not the main focus of my research, the data is included merely to observe how the high achievers and the low achievers differ from the averages and to determine whether this information can improve the study as a whole.

Similarly, the data presented in the above table reveals a strong positive correlation between the students' meta-cognitive reading strategy use and their reading score with a Pearson correlation values ($r = 0.832, 0.903, \text{ and } 0.810$), respectively for all categories of students: high, average, and low. This indicates that as students use meta-cognitive reading strategies, their performance in reading comprehension improves significantly across these different achievement levels.

The students' reading scores and their usage of affective reading strategies, however, have been found to have a distinct correlation coefficient. The usage of affective reading strategies by high achievers is correlated with their reading score in a modest way ($r = 0.613$), although not statistically significant (sig value = 0.079). However, the person correlation coefficient result ($r = (0.650^{**})$) and the sig value ($p = 0.000$) for the low achievers show that the correlation is statistically significant.

3.7.8 Qualitative Data Analysis

3.8.8.1 Analysis of the think- aloud protocol

The think-aloud method was utilized to determine which cognitive, meta-cognitive, and affective reading strategies were most frequently used by high and low performers, as well as to investigate whether students were using any additional strategies not revealed by their answers to the questionnaire items. Moreover, the think-aloud method was employed to cross-check the validity of findings which are gained through the questionnaire and the reading comprehension test. In light of this, four students were selected to conduct the think-aloud protocol: two students from each sample, representing the high and low scorers.

The outcome of the think-aloud method demonstrates that both the high and the low performers approach the reading comprehension questions using a variety of reading strategies. For instance, the high achievers do not read the entire passage to complete the comprehension questions; instead, they start with the questions, borrow some concepts from them, and attempt to infer the answer from the text. They also frequently use background knowledge, one of the key reading strategies for carrying out comprehension exercises. For example, they guess the answer to vocabulary questions before reading the paragraphs or looking at the options.

I also realized from the think aloud protocol that the high achievers do not stay on difficult questions. They instead skip them, respond to the other questions, and then return to the difficult questions to review them once again. The high achievers also monitor their works, while they are completing the reading questions. For example, after responding to the true-false questions and multiple-choice questions, they check their performance by reviewing corresponding paragraphs.

In addition, the high achievers could easily use every paragraph line to carry out reference questions, as well as inference questions, such as searching for context, guessing, or assuming the meaning of words and phrases, and recognizing the logical extension of ideas in a particular reading text.

Conversely, low achievers attempt to read the whole passage before reading the comprehension questions. They spend a lot of time trying to guess answers from the paragraphs and read unrelated parts of the passage. Due to this, they work slowly and inefficiently during comprehension activities. In addition, low achievers often skip questions without attempting to find the correct answers, and they do not tend to revisit the more difficult questions to find solutions.

3.8.8.2 Analysis of the students' interview

Interview questions were asked after a review of the questionnaire, reading comprehension test, and think-aloud protocol. The interview was conducted to better understand the problems raised by the first three study instruments and to know why students have a tendency to employ a specific set of reading strategies and disregard other ones.

The semi-structured interview facilitated getting a great amount of information from the participants. For the pilot study, therefore, out of the entire population, 10 students were interviewed, five high achievers and five low achievers. A semi-structured interview was conducted with the students for flexibility and to get more data for the study. The interview of the students was recorded and transcribed and then analyzed.

Based on the assessment of students' interview analysis, it seems that most students use cognitive reading strategies more than meta-cognitive reading strategies. The reason is

that they have been using this strategy from lower grade levels. Yet, they have shown less likelihood to use meta-cognitive reading strategies, e.g. monitoring the flow of activities, evaluating the ongoing work, making interpretations, and determining the purpose of the reading text. This is happened, because the strategies were initially disregarded in the earlier grades.

Regarding self-motivation, high achievers were found to have greater self-esteem in answering questions and controlling the flow of the activity as a whole than low achievers. Low achievers, however, have lower sense of self-esteem in answering questions and controlling the flow of the activity. Moreover, low achievers rarely go back and review their answers especially encountered with complex questions.

3.8.9 Summary of Major Findings

The quantitative data analysis shows that the most common cognitive reading strategies employed by students are: visualizing abstract concepts, using text features, reading slowly and attentively, translating concepts to their native language, and making contextual inferences. In terms of metacognitive and affective reading strategies, the most common strategies utilized by students are reading slowly and attentively, using progressive relaxation, and meditating while reading a text.

The most infrequently utilized reading strategies by the students, however, are classifying words on the basis of grammatical function, summarizing, note-taking, evaluating and analyzing information, discussing feelings and experiences, word-for-word translation, and asking questions while reading. Considering the overall use of reading strategies, the use of metacognitive strategy is found to be the least among the students. The learners consistently use only two of the metacognitive strategies, reading slowly and carefully and adjusting the speed of reading.

There is also a difference in the reading strategies used by the high and the low achievers. Most reading strategies are used frequently by high achievers, but sharing feelings and experience, summarizing, choosing what to read and what not to read, paying attention to the first line of each paragraph, translating word for word, analyzing and judging the information, categorizing words based on grammatical functions, generating questions,

note-taking, and skipping unknown words are used moderately and infrequently by high achievers.

Except for some of the strategies that can be ranked as high and least utilized by the low scorers, e.g., utilizing typographical features, paying attention to the first line of each paragraph, slow and careful reading, note-taking, translating word for word, classifying words in their grammatical functions, and analyzing and judging the information, the low achievers apply most of the reading strategies at moderate scales.

Regarding the overall correlation between students' use of reading strategies and achievement in reading comprehension, there is a very high positive correlation with a correlation coefficient ($r=0.972$). Thus, there is a positive and significant correlation between students' performance at reading comprehension and their use of cognitive, meta-cognitive, and affective reading strategies. The positive, strong relationship shows that students' reading performance increases with a rise in the use of reading strategies.

Quantitative and qualitative data analysis findings are also similar. High achievers are focused and evaluate their works during exam time. They keep on questioning themselves whether the answer is correct and moving with an ideal pace. This is exactly the same as the finding revealed by researcher like Shang (2010) that high achievers are more determined and employ meta-cognitive reading strategies. They are employing varieties of strategies, such as, keeping reading pace, pausing and thinking the progress of reading, trying to regain attention when losing focus, and evaluating the text.

Conversely, low achievers make little use of meta-cognitive reading strategies, thus likely to be their poor performance in reading comprehension activities. However, their poor tendency in performing meta-cognitive reading strategies, researches in the area confirm that the use of meta-cognitive reading strategies helps students improve their reading performance and facilitates the entire learning. Students will more likely make deliberate decisions on how to enable their learning if they have a better practice in metacognition. Hence, it is vital to emphasize meta-cognitive reading strategy ability in second/foreign language learning classrooms (Mokhtari & Reichard, 2002).

In addition, the interview data analysis reveals strategies, which are infrequently used by the students; such as, note-taking, categorizing words according to their grammatical function, asking questions, evaluating and analyzing information, writing summaries, and sharing feelings and experiences regarding the challenges of reading comprehension. The majority of students indicated during the interview sessions that the inability to use the above strategies resulted from lack of experience starting in the earlier grades.

3.8. 10 Post pilot study improvements

During the pilot study, a careful evaluation was done to examine the validity of research instruments. Additionally, data gathered from the questionnaire, reading comprehension test, think-aloud protocol, and interview was strictly analyzed, including the students' attitude towards the exam process and issues encountered while responding to the questionnaire. Accordingly, a few changes and refinements were made in the instruments based on what was obtained from the assessment to strengthen the instrument's effectiveness and validity for the future main study. Therefore, the following areas were observed for the study improvement.

3.8.10.1 The questionnaires

Minor adjustments were done on affective reading strategy questionnaires. Once I completed the pilot project, I discovered that a few of the questionnaire items under the category of affective reading were ambiguous and open to misinterpretation by the students in several ways. To ensure that the students could understand the concept in the right way, I reconstructed the questionnaire items. Two of the questionnaire items were combined into one question since they suggested the same issue, and two more questionnaire items were introduced, which were about coping with test anxiety and keeping a checklist or language learning diary. This was done to elicit more discussion among students, about the challenges of using reading strategies and other issues related to reading comprehension. Moreover, two items from the overall strategy questionnaire, one from the cognitive reading strategy questionnaire and another from the metacognitive strategy questionnaire, were removed due to their lack of significance.

3.8.10.2 Order of the questionnaire items

During the pilot study, I noticed that there was inconsistency in how some of the reading strategy questionnaires for cognitive and metacognitive dimensions were combined and ordered. Recognizing this issue, I took the initiative of reordering the items within the questionnaires. Thus, I differentiated and grouped the items related to cognitive reading strategies separately from those associated with metacognitive strategies in a clear and precise manner. This rearrangement aimed to make the questionnaires more effective and enable a more accurate assessment of the respective strategies (*See Appendix: 16 for the post –pilot improvements made on the questionnaire*).

3.8.10.3 Regression analysis

As a result of feedback received from the pilot study by the examiners, I included regression analysis in my quantitative data analysis phases of the study. This aligns with the existing literature that addresses the advantages of regression analysis in correlation studies. This method has two advantages: it indicates causal relationships among variables and allows researchers to predict how variations in an independent variable can impact a dependent variable. Regression analysis is highly applicable to this study as it indicates how every strategy of reading affects the achievement of reading comprehension among students. In doing so, I attempted to provide a better explanation of how different strategies might complicate or simplify students' understanding of reading comprehension activities.

3.8.10.4 The advantages of following a mixed research approach

Another insight gained from the pilot study is that employing a mixed method, a combination of quantitative and qualitative research tools, makes the researcher gather accurate data for the study. This is because social science and language research require not only the answer to the question of what, but it is also essential to know why something has occurred. Understanding why something has occurred enables the researcher to analyze data, draw conclusions, and even offer potential solutions to issues encountered.

In my study, for instance, quantitative data analysis of responses to the questionnaire indicates that students are not using particular reading strategies, such as taking notes, summarizing, and monitoring against their assumptions. Because the data were numerical, they didn't tell us why the students were unable to perform effectively on those strategies. However, using the qualitative technique and open-ended interviews, I could determine valid reasons for the current problems, like why students are not well-versed in using such strategies because of a lack of knowledge and experience that starts right from lower grades.

3.8.10.5 Quality of instruments

I also came to know that some techniques are more effective at identifying the desired information for the study, although they require too much time for analysis. Think-aloud, for example, is a useful method for identifying the exact strategies employed by high and low achievers. Yet the inappropriateness of classroom settings, the students' feelings throughout the performance phase, and even their willingness to perform in the study were among the difficulties I encountered in conducting the think-aloud protocol.

3.8.10.6 Managing external factors that may disrupt the study's results

The reliability of data is affected by external variables, such as poor administration of questionnaires, seating arrangements for students, and copying, which eventually lead the researcher to draw false conclusions and analyses.

If the examiners do not take care of the exam process and the students' sitting arrangement, low achievers will sit near to the high achievers and merely copy the answer rather than doing it on their own. Thus, it will negatively impact the reliability of the test, particularly when the researcher conducts the test –retest phase; students may fail to replicate their first- round test score. Therefore, it is important to implement a systematic seating arrangement when testing students with different levels of academic performance.

Chapter Four: Data Analysis of the Main Study

Introduction

This chapter sets forth an overall quantitative data analysis on reading comprehension tests and a self-administered questionnaire, as well as a qualitative data analysis on conducted semi-structured interviews and a think-aloud procedure. Jointly these analyses provide a comprehensive understanding about participants' experiences and results obtained while applying reading strategies.

4.1 Procedure of the main study

In the five selected high schools, there are approximately 2,672 students enrolled for the academic year 2016 in the Ethiopian calendar. Since it was not practical to include all students in this research, the researcher decided to select only 267 students from the total of five schools (48 from Derartu, 23 from Kelemework, 70 from Medhanialem, 64 from Menelik, and 61 from DJ. Wondirad), representing 10% of the overall sample population. Therefore, a random table was utilized to randomly select a portion of the population from each school.

Hence, 267 students were selected to participate in both the reading comprehension test and the questionnaire. Besides, the study was centered on two general subject areas: social sciences and natural sciences. In an attempt to further boost the diversity of the study, it also included both female and male students, thus promoting gender representation in the participant group. This method elevates both data gathering and outcomes, making them more reflective of the general student population.

Once the process of selection had been completed, students were formally invited to be involved in the study. Many students were highly enthusiastic about participating since they understood that it would have great value for their academic development, especially in the area of reading proficiency. Thus, almost all the high school students volunteered to take part in the study, showing that they were serious about improving their academic achievement.

A think-aloud protocol was given to the students a week after measuring their reading tests. The general aim of the reading comprehension test was to categorize students into two distinct groups: high achievers and low achievers. After this test, 8 students from the five high schools, four high achievers and another four low achievers, were chosen for the think-aloud protocol on the basis of purposive sampling. The think-aloud protocol was carried out using a voice recorder, after which the recordings were transcribed and analyzed.

In the same manner, the interviews were held after data analysis from the data obtained using the questionnaire, reading tests, and think-aloud protocol. Some of the items in the questionnaire required more investigation, particularly, those that arose during the initial assessment. The questions were discussed in a semi-structured manner with the participants. 20 students across five different schools participated in the interview sessions. Similar to the think-aloud protocol, interviews were recorded and transcribed for in-depth analysis (See Appendix 22).

4.2 Statistical measurements

In the main study, a number of important statistical tests were used to ensure effective analysis of the data. These tests included correlation, which is used to establish the correlation between two variables; mean, which helps to identify the average of a set of data; frequency, which measures the occurrence of particular strategies; percentage, which expresses numbers as parts of one hundred; and Cronbach's alpha, which evaluates the internal consistency of the items.

Moreover, linear regression analysis was conducted to examine how changes in one variable might influence another. It should be noted that this technique plays an extremely significant role as it helps researchers in identifying and interpreting the relationship between causation and effect, founded on the usage of reading strategies by students and their performance with reading comprehension. The utilization of regression analysis will enable the research to have extra perspective on student reading comprehension and retention as it relates to selected reading strategies.

Having the above situations in mind, I continued my study to find answers to the following questions:

1. What are the most and the least frequently used reading strategies among the students?
2. What reading strategies do the high and the low achievers use when they read academic texts?
 - (a) What differences are observed between the two groups in reading strategy use?
 - (b) What are the existing similarities between the two groups in reading strategy use?
3. To what extent does the students' reading strategy use correlate with their performance in reading comprehension?
 - (a) Is there any correlation between students' reading comprehension performance and their cognitive reading strategy use?
 - (b) Is there any correlation between students' reading comprehension performance and their emotional aspects (affective reading strategy use)?
 - (c) Is there any significant relationship between students' reading comprehension performance and Meta- cognitive reading strategy use?

Table 4.1 Participants of the main study

The table below shows the school, number and gender of the subjects in the main study.

Schools	Grade Level	Total number of students in each school	Number of students selected for the main study	Gender
Dagmawi Menelik	12	641	64	Male = 19 Female = 45
Derartu Tulu	12	480	48	Male = 22 Female = 26
Dj. Wondirad	12	614	61	Male = 24 Female = 37
Kelemework	12	236	23	Male = 7 Female = 16
Medhanialem	12	701	70	Male = 34 Female = 36
Total		2, 672	267	

4.3 Quantitative Data Analysis

4.3.1 Analysis of the reading strategy questionnaires and the reading comprehension performance

This section discusses students' responses to the reading strategy questionnaire to determine the most and least common reading strategies employed by students. It also investigates whether or not there are significant differences between reading strategies employed by high- and low-achieving students. Finally, this part examines how the reading strategies of students relate to their performance in reading comprehension to reveal how these strategies could impact the overall results of comprehension.

Table 4.2: Descriptive Statistics of the Overall Reading Strategy Use

N = 267
Mean (X) = 3.33
Std. Deviation = 1.13654325

Table 4.2 highlights the descriptive statistics on the overall reading strategy used by the students. The mean value ($X = 3.33$) shows that the use of the reading strategy among the students is moderate. It shows that they use the reading strategies partially but not on a regular basis. The standard deviation ($SD = 1.13654325$), approximately 1.14, represents the variability of students' scores. A few of them make frequent use of the reading strategies compared with average, and others use them infrequently.

Table 4.3 Mean Scores of Cognitive, Metacognitive, and Affective reading strategies

Strategies	Samples	Mean scores	Rank	Std. Deviation	Strategy use
Cognitive	267	3.3317	2	1.116498125	Moderate
Meta cognitive	267	3.4812	1	1.1410425	Moderate
Affective	267	3.1335	3	1.17085875	Moderate

Table 4.3 shows the ranking of reading strategy categories most frequently used by the students in this current study. Among the three categories of reading strategies, metacognitive reading strategies were the most frequently used with the highest mean

score ($X = 3.4812$) and standard deviation ($SD = 1.1410425$). The students applied metacognitive strategies to plan, monitor, evaluate, and check their reading achievement during reading comprehension activities.

Besides, cognitive strategies were the second most favored among students with the mean result ($X = 3.3317$) and a standard deviation ($SD = 1.116498125$) that greatly help students process and comprehend the reading text. The least used were the affective strategies with a mean score of ($X = 3.1335$) and the standard deviation ($SD = 1.17085875$), which enable students manage their emotions in carrying out reading comprehension.

Table 4.4: Distribution of strategy use

	Highly used reading strategies	Strategy type	Mean	Std. Deviation
1.	Translating ideas to native language	Cognitive	4.4682	0.57018
2.	Reading attentively and slowly to get the main idea	Metacognitive	4.0524	1.00238
3.	Reducing anxiety during exam sessions	Affective	3.9588	1.15451
4.	Changing reading pace based on the nature of the reading text	Metacognitive	3.8801	1.11410
5.	Focusing on the opening line of each paragraph	Cognitive	3.7940	1.02903
6.	Going back and forth	Metacognitive	3.7828	1.12290
7.	Inferring the text's main content	Cognitive	3.7566	1.07111
8.	Employing text features	Cognitive	3.7341	1.13409
9.	Visualizing information	Cognitive	3.7341	1.11065
10.	Taking an overview of a text	Metacognitive	3.7228	1.31717
11.	Self-encouragement to avoid anxiety	Affective	3.7154	1.21142
12.	Focusing on important words, phrases, and sentences	Cognitive	3.7116	1.04916
13.	Paying attention to challenging concepts	Cognitive	3.6779	1.14757
14.	Using background knowledge	Metacognitive	3.6629	1.07547
15.	Taking a risks to answer difficult questions	Affective	3.6367	1.22284
16.	Getting immersed while reading a reading text	Affective	3.5805	1.16822
17.	Pausing and reflecting opinion regarding the text	Metacognitive	3.5618	1.12679
18.	Verifying assumptions about the accuracy of the text	Metacognitive	3.5281	1.10457
19.	Trying to get back when losing concentration	Metacognitive	3.5094	1.20576
	Moderately used reading strategies			
20.	Developing assumptions based on	Cognitive	3.4757	1.22719

	previous paragraph			
21.	Highlighting or circling key terms and phrases	Cognitive	3.4607	1.24806
22.	Making double-check whenever across new information	Cognitive	3.4532	1.11072
23.	Inferring meanings of unknown words and phrases	Cognitive	3.4382	1.02914
24.	Choosing what to read carefully and what to overlook	Metacognitive	3.4007	1.25375
25.	Pay attention to the positive and negative physical responses	Affective	3.1835	1.22629
26.	Practicing progressive relaxation strategies before reading	Affective	3.0824	1.41977
27.	Interpreting each word while reading	Cognitive	3.0112	1.11545
28.	Making summary of a text	Metacognitive	2.9326	1.25774
29.	Omitting any unfamiliar word	Cognitive	2.7940	1.26502
30.	Determining purpose of the reading text	Metacognitive	2.7041	1.18516
31.	Generating questions	Cognitive	2.5843	1.24884
32.	Making notes and rephrasing concepts	Cognitive	2.5393	1.32406
33.	Making critical analysis of the given data in the text.	Metacognitive	2.5169	1.07374
	Least used reading strategies			
34.	Categorizing words based on parts of speech	Cognitive	2.1948	1.03668
35.	Discussing thoughts with peers regarding the usage of reading strategies	Affective	2.1948	1.19817
36.	Using checklist to remember challenges	Affective	1.7191	0.76565
	Grand Mean			3.33

The figures presented in the table confirm that the students at all levels of proficiency: high (mean score range: $X=3.5281-4.4682$), moderate (mean score range: $X=2.5169-3.475$), and low (mean score range: $X=1.7191-2.1948$) employ a wide variety of reading strategies. More specifically, among all the reading strategy items assessed, on a very frequent basis, the students reported using 19 strategies, which account for 52.778% of all the items. Moreover, 14 strategies, representing 38.889%, are read with a moderate frequency. On the other hand, the least frequent strategies comprise 3 items, representing 8.233% of the total. Overall, the findings show that students predominantly use reading strategies at frequencies ranging from moderate to high.

4.3.2 Frequently used reading strategies

The results based on the information gathered from the questionnaire indicate that the students applied cognitive reading strategies to a great degree. From the results, the students dominantly apply three strategies: translating ideas into the native language with the mean value ($X = 4.4682$) is the strategy that students utilized most. This strategy helps students to upgrade comprehension, memory, and language learning by making students engage with the reading text at a deeper level and identify areas they need further understanding. Focusing on the opening line of each paragraph with the mean value of ($X = 3.7940$) is the second most utilized cognitive reading strategy by the students, which helps them to review the topic sentence quickly and to get the sense of what the reading text is referring to.

Another cognitive strategy, that assists learners a lot in gaining access to a deeper meaning of reading text, is the ability to infer the gist with a mean score of ($X = 3.7566$). Besides this strategy, learners frequently use several other cognitive reading strategies. These strategies include the employment of text features, visualization, highlighting keywords, and paying attention to challenging concepts with mean scores of ($X = 3.7341, 3.7341, 3.7116, \text{ and } 3.6779$), respectively. All of these strategies are important when improving students' reading ability as well as their understanding of the texts they read.

Additionally, the students use different metacognitive reading skills for better comprehension of the text. The metacognitive skills include concentrating and learning on the text to grasp the underlying information, adjusting reading speed based on the text being read, going back and forth, generalizing concepts about the text, and making use of background knowledge.

The mean scores of these strategies are respectively: ($X = 4.0524, 3.8801, 3.7828, 3.7228, \text{ and } 3.6629$). The use of these strategies plays a major role in boosting reading comprehension because they help achieve proper planning, monitoring, assessment, and evaluation of the progress made during the reading process.

Furthermore, the students have shown a high tendency to use other metacognitive strategies. For example, they tend to pause and reflect opinion at their mind about the text, with a mean value of ($X = 3.5618$). They also verify their assumptions, showing a

high rating of ($X = 3.5281$). Through these efforts, students are thus able to make more correct inferences from their readings.

Apart from these, the finding also explored the importance of affective reading strategies. It plays an extremely vital role in developing feelings of encouragement, motivation, involvement, and overall performance among students. It confirms that affective reading strategies were often adopted by the students. These include overcoming stress and anxiety associated with testing, self-encouragement, taking a risk response to some tough questions, and immersing oneself while engaging with a reading text. Their achieved mean values were ($X= 3.9588, 3.7154, 3.6367, \text{ and } 3.5805$) for these factors, respectively.

Overall, the findings show that students use a wide variety of reading strategies that work together to boost their understanding and engagement in reading comprehension. Cognitive strategies were the ones they relied on the most, such as, translating ideas into their own native language, paying close attention to the beginnings of paragraphs, and figuring out the central idea of a passage. These approaches played a major role in helping them grasp information more deeply and remember it better. Students also employed other strategies that included visualizing, pointing out text highlights, and emphasizing important information. All these strategies enabled them to better process and make sense of written information.

The result also indicates that students actively employ metacognitive strategies to plan, monitor, and evaluate how they read. Strategies such as reading with varying speed, going back for repeated readings, using background knowledge, and evaluating assumptions helped them have a better interaction with the text and improve their analytical skill.

Moreover, the research underlines the significant role that all affective strategies play in strengthening students' motivation, confidence, and emotional comfort during reading. Actions such as anxiety lowering, self-encouragement, risk-taking, and engaging with a text enable higher quality learning.

.4.3.3 Least used reading strategies

Statistical analysis reveals that students rarely use some reading strategies. Among the strategies is the use of a checklist to remember the challenges they face in reading, which

falls under socio-affective reading strategies. Though this strategy is helpful for self-reflection and increased understanding, its average usage score is just ($X = 1.7191$), indicating that it's hardly ever put into practice.

Besides from the checklist, other affective strategies, including discussing ideas with peers, also have minimal usage, with a mean score of ($X= 2.1948$). These reflect the possibility that students are not fully utilizing the peer learning potential to improve their reading experience and better comprehend the subject matter. On the cognitive side, the method of classifying words based on their grammatical categories is similarly underused, with the same mean score of ($X= 2.1948$). This approach is necessary for enhancing a deeper understanding of the language structure and building vocabulary abilities, but it seems not to be widely utilized by students.

On average, there are 14 strategies employed at a moderate frequency, accounting for 38.889%, and 3 strategies that are employed at a less frequent rate, constituting 8.33%, while 19 strategies are employed at a higher frequency, accounting for 52.778% in total. Notably, the statistics suggests that there is a real need for improving those strategies performed by the students at a moderate and lower level. By promoting more varied reading strategies, teachers can help improve students' comprehension skill and their overall engagement with the text.

Table 4.5: Reading strategies used by high and low achievers

reading achievement					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	47	17.6	17.6	17.6
	Medium	118	43.8	43.8	61.4
	Low	102	38.2	38.2	99.6
	22.00	1	0.4	0.4	100.0
	Total	267	100.0	100.0	

The above table shows the students in the high, average, and low achiever categories as per the scores on a self-completion questionnaire and a reading comprehension test. After checking the scores obtained in the reading comprehension, 47 students were identified as high achievers, 118 were average achievers, and 102 were low achievers. These are by the research criteria that differentiate scores between 80 and 100 as high achievers, 50 to

79 as average, and scores below 50 as low achievers, based on the evaluation standards for high school students by the Ministry of Education. Although average achievers are not the focus of this study, they were included to obtain a more complete picture of strategy use, avoid oversimplifying achievement differences, and enhance the study's validity and general applicability.

Table 4.6: Cognitive reading strategy use of high and low achievers

Cognitive items	High achievers = 47						Low achievers = 102						
	Frequency of Responses						Frequency of Responses					X	
	A.N	R	S	US	AL	X	AN	R	S	US	AL	X	
Item 1	0	2	13	16	16	3.978	5	17	43	26	11	3.205	
Item 2	6	4	20	14	3	3.085	10	27	34	20	11	3.343	
Item 3	3	15	11	15	3	3.00	18	27	21	26	10	2.833	
Item 4	1	3	8	16	19	4.042	6	8	25	34	29	3.705	
Item 5	1	2	11	19	14	3.914	6	11	25	38	22	3.578	
Item 6	0	2	5	27	13	4.085	2	11	28	38	23	3.676	
Item 7	17	9	13	5	3	2.890	26	16	26	22	12	2.784	
Item 8	10	12	12	9	4	2.680	23	24	26	18	11	2.705	
Item 9	0	4	8	14	21	4.106	4	13	24	36	25	2.509	
Item 10	3	7	15	11	11	3.425	9	7	30	28	28	3.578	
Item 11	2	5	8	22	10	3.702	13	14	20	32	23	3.372	
Item 12	0	0	7	23	17	4.212	5	16	17	36	28	3.647	
Item 13	2	4	6	13	22	4.042	4	11	31	35	21	3.568	
Item 14	8	17	16	4	2	2.468	26	30	34	8	4	2.352	
Item 15	0	0	1	25	21	4.425	1	0	2	46	53	4.470	
Item 16	6	7	15	15	4	3.085	17	20	24	28	13	3.00	
	Average						3.786	Average					3.270

The self-completion items 1-16 were developed to measure the students' employment of cognitive reading strategies. As indicated in Table 4.6, high achievers excel over low achievers in using most cognitive reading strategies, such as inferring the meaning of unknown words and phrases, utilizing text features, paying attention to the first sentence in a paragraph, focusing on keywords and phrases, visualizing information, underlining

and highlighting key terms and phrases, inferring the main content of the texts, paying better attention to challenging concepts, categorizing words based on grammatical function, and taking notes and summarizing with mean values ($X = 3.978, 4.042, 3.914, 4.085, 4.106, 3.702, 4.212, 4.042, 2.468, 2.890, \text{ and } 3.085$), respectively.

On the other hand, low-achieving students use certain reading strategies more than high-achieving students. This is specifically notable in the use of cognitive reading strategies, a set of strategies for improving comprehension and remembering of information. To illustrate, low achievers would most likely focus on translating unfamiliar words, formulating questions tied to the text, and translating ideas into their native language. The mean frequency in these strategies, ($X= 3.343$) for interpretation of unfamiliar words, ($X= 2.705$) for asking questions, ($X= 3.578$) for constructing assumptions, and ($X= 4.470$) for translation indicates that the low achievers employ these thinking strategies somewhat more than the high achievers.

In conclusion, high-achievers continually exceed their performing peers in the application of cognitive reading strategies, which most likely contributes to their academic achievement. By contrast, low achievers frequently utilize specific strategies, indicating their intention to engage with the text, although their effectiveness may vary. These findings highlight the necessity for providing focused instruction in cognitive reading strategies to facilitate improved reading comprehension and academic achievement for all students.

Table 4.7: Meta-cognitive reading strategy use of high and low achievers

Meta-cognitive items	High achievers = 47						Low achievers = 102					X	
	Frequency of Responses						Frequency of Responses						
	A.N	R	S	US	AL	X	AN	R	S	US	AL		
Item 17	3	3	6	10	25	4.085	7	12	29	21	33	3.598	
Item 18	0	2	13	21	11	3.872	7	7	28	38	22	3.598	
Item 19	0	1	6	17	23	4.319	7	10	28	31	26	3.578	
Item 20	1	0	3	25	18	4.255	1	7	20	30	44	4.068	
Item 21	0	0	5	20	22	4.361	6	12	18	33	33	3.735	
Item 22	0	1	16	17	13	3.893	3	13	31	33	32	4.058	
Item 23	0	4	11	20	12	3.851	7	16	31	33	15	3.323	
Item 24	0	4	11	19	13	3.872	7	13	33	33	16	3.372	
Item 25	4	2	17	14	10	3.510	10	17	20	28	27	3.441	
Item 26	2	2	10	16	17	3.978	7	15	26	35	19	3.431	
Item 27	7	13	19	4	4	2.680	21	23	34	23	1	2.637	
Item 28	4	5	19	13	6	3.255	31	13	27	31	0	2.568	
	Average						3.827	Average					3.450

Questions 17 to 28 of the questionnaire were developed to measure the frequency with which students utilize metacognitive reading strategies. The above table indicates that academically talented students use metacognitive skills more often than their lower-achieving peers. Note that aside from question 22, inquiring whether one takes additional time to comprehend the reading text, high achievers performed better on the other reading strategies that were being measured. Metacognitive reading strategies of high achievers incorporate many techniques, including previewing the text, using prior knowledge, going back to parts of the reading text, reading carefully at a controlled pace, managing their own reading pace, making checks, checking assumptions, making conscious decisions on what to read or not to read, regaining focus, and making critical analyses. These strategies

resulted in higher mean values of ($X = 4.085, 3.872, 4.319, 4.255, 4.361, 3.851, 3.872, 3.510,$ and 3.978), respectively.

In general, the data presented in the table point out that there is a significant difference between high and low achievers in terms of utilizing metacognitive strategies. High achievers employ these strategies more consistently, obtaining an average mean of ($X=3.827$), particularly getting the best scores in items 19, 20, and 21 that inquire about looking over the reading text, reading slowly and carefully, and maintaining a consistent rate in reading a text. In contrast, low achievers, with a mean average of ($X=3.450$), exhibit selective engagement and avoidance of specific strategies. They performed significantly better only in item number 22, which is about pausing and reflecting upon important ideas in the reading text, with an average mean of ($X = 4.058$).

Table 4. 8: Affective reading strategy use of high and low achievers

Affective items	High achievers = 47						Low achievers = 102					X	
	Frequency of Responses						Frequency of Responses						
	A.N	R	S	US	AL	X	AN	R	S	US	AL		
Item 29	10	6	14	6	11	3.042	21	15	25	25	16	3.00	
Item 30	5	7	18	14	3	3.063	11	23	20	26	22	3.245	
Item 31	0	2	11	16	18	4.063	9	16	21	33	23	3.441	
Item 32	3	1	4	12	27	4.255	7	10	26	34	25	3.588	
Item 33	0	0	6	10	31	4.531	4	12	15	32	39	3.882	
Item 34	4	6	14	12	11	3.425	7	8	32	24	31	3.627	
Item 35	27	12	8	0	0	1.595	39	39	24	0	0	1.852	
Item 36	22	11	12	1	1	1.893	33	23	18	22	6	2.460	
	Average						3.233	Average					3.136

The survey items 29 to 36 aim to assess how often students engage in affective reading strategies in the practice of reading comprehension. As shown in Table 4.8, high-achieving students frequently employ various affective reading strategies, including the

practice of progressive relaxation, maintaining full involvement when reading, stimulating self-motivation by engaging in comprehension tasks, and managing anxiety towards exams, with mean ratings of ($X = 3.042, 4.063, 4.255, \text{ and } 4.531$), respectively. Similarly, low achievers employ certain affective reading strategies to good effect, such as listening to their body responses, which suggest a readiness to deal with challenging questions and taking risks to answer difficult questions, with mean scores ($X = 3.245, 3.627$). However, they showed a weak tendency to apply in two socio -affective reading strategies: using a checklist to remember difficulties and engaging in discussions with the mean values ($1.852 \text{ and } 2.460$), respectively.

In general, the results indicate variation in responses among high and low achievers on affective items measured. High achievers show strong agreement on Items 31, 32, and 33, related to self-immersion and encouragement while reading, as well as the lessening of anxiety during examinations, with mean ratings of ($X = 4.063, 4.255, \text{ and } 4.531$), respectively. In contrast, the low achievers show stronger engagement for items 30 and 34, which concern awareness of positive and negative bodily reactions and taking risks to answer difficult questions, with mean scores of ($X = 3.245 \text{ and } 3.627$).

Both groups are less inclined to accept items 35 and 36, which rely on a checklist to recall difficult ideas and sharing feelings and experiences with peers, with mean scores of ($X = 1.595 \text{ and } 1.893$ for high achievers and $X = 1.852 \text{ and } 2.460$ for low achievers), respectively. Both the average scores of high achievers ($X = 3.233$) and low achievers ($X = 3.136$) are very close to each other, showing that these two groups make use of affective reading strategies to a similar degree; however, high achievers reveal a slightly wider range of responses.

Table 4. 9: A summary of reading strategy use by the high and the low achievers

Strategy type	Students' rank	Level of strategy use (Mean value)	Number of students	Percentage
Cognitive	High achievers 47	High: 3.5 - 5.00	29	61.702
		Moderate:2.5 – 3.49	18	38.298
		Low:1.0 –2.49	0	0
Metacognitive	High achievers 47	High :3.5 - 5.00	37	78.723
		Moderate:2.5 – 3.49	10	21.277
		Low:1.0 –2.49	0	0
Affective	High achievers 47	High: 3.5 - 5.00	14	29.787
		Moderate:2.5 – 3.49	30	63.83
		Low:1.0 –2.49	3	6.38
Cognitive	Low achievers 102	High: 3.5 - 5.00	45	44.12
		Moderate:2.5 – 3.49	51	50.00
		Low:1.0 –2.49	6	5.882
Metacognitive	Low achievers 102	High: 3.5 - 5.00	50	49.02
		Moderate:2.5 – 3.49	47	46.08.
		Low:1.0 –2.49	5	4.90
Affective	Low achievers 102	High:3.5 - 5.00	36	35.29
		Moderate:2.5 – 3.49	54	52.941
		Low:1.0 –2.49	12	11.76

The data in the table indicate a significant difference in the use of cognitive reading strategies by high-achieving and low-achieving students. Out of the high-achieving students, an enormous 61.7% make use of a variety of cognitive reading strategies, and these strategies play a vital role in adding better understanding and memory while reading a text. Along with this, 38% of them use these strategies moderately, and none of the high-achieving students use these strategies less than at the highest level, which shows a homogeneous level of competence in their reading strategy.

Further, the data for low- achieving students show a less favorable picture. Only 44% of the low-achieving students use cognitive reading strategies at an advanced level, and this percentage varies greatly compared to that of high-achieving students. Moreover, 50%, or half, of low-achieving students use these strategies at a moderate level, and a negligible percentage, 5.8%, uses these strategies at a lower level. The difference brought about by classification underscores the fact that low-achieving students have been struggling with using cognitive reading strategies compared to high-achieving students.

The same differences are observed in the application of Meta-cognitive reading strategies, in monitoring and assessing reading comprehension tasks. The high achievers apply meta-cognitive reading strategies at a higher frequency of 78.7%, and 21.2% of them apply meta-cognitive reading strategies at a moderate level, and none of them apply them at a lower level. In low achievers, 49% apply metacognitive reading strategies at a higher level, 46% at a moderate level, and 4.9% apply them at a lower level.

The most striking outcome of this research is that low-achieving students employ affective reading strategies at a higher rate than high-achieving students. Specifically, 35.29% of low achievers employ affective reading strategies at a higher level compared to only 29.7% of high achievers at a higher level. For moderate and lower use of affective strategies, high achievers demonstrate a minimum usage frequency of 6.3% and a moderate usage frequency of 63.8%. Low achievers, in contrast, have 52.9% utilizing affective reading strategies moderately and 11.7% utilizing them at a lower rate.

4.3.4 Correlation between the students' overall reading strategy use and performance in reading comprehension

Table 4.10: The Scores of the Pearson Product Moment Correlation Correlations

		reading achievement	overall mean of strategies
reading achievement	Pearson correlation	1	.148*
	Sig. (2-tailed)		.015
	N	267	267
overall mean of strategies	Pearson Correlation	.148*	1
	Sig. (2-tailed)	.015	
	N	267	267
		267	

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.10 shows the Pearson product-moment correlation coefficients that explain the relationship existing between the overall application of reading strategies and the respective reading scores achieved by the students. The value obtained for the correlation coefficient ($r = 0.148^*$) indicates that there is a very weak and slightly positive relationship. An increase in the average use of reading strategies is slightly linked to the

students' reading scores. The significance value ($p = 0.015$) shows that the correlation is statistically significant, which falls below the set threshold of 0.05. This implies that there is a low likelihood this observed correlation happened by chance.

Table 4.11: The correlation with the cognitive, metacognitive, and affective reading strategies with the students' reading achievement

Correlations			
Types of strategy	N	Pearson correlation	sig. (2- tailed)
cognitive reading strategy vs. students' reading achievement	267	.120*	.050
Metacognitive reading strategy vs. students' reading achievement	267	.200**	.001
Affective reading strategy vs. students' reading achievement	267	.024	.702

The information in this table presents an overview of how various reading strategies, cognitive, metacognitive, and affective are related to students' reading performance. Similar to the overall correlation coefficient, there is a noticeable trend in which an increase in reading strategy use is slightly correlated to the students' reading comprehension performance. Overall, the findings indicate the potential effect of strategic reading activities on the ability of students to understand, even if the correlation was relatively weak.

Regarding the significance value, the cognitive reading approach presents a p-value of 0.050, depicting that the results are significant. Such a finding is indicative of the fact that there is a 5% chance that the given correlation could be a result of random change and not a signal of a real relationship between the variables. On the other side, the metacognitive reading approach presents a statistically significant relationship, with a significance value of $p = 0.001$. The lower the p-value, the stronger the correlation between the two variables, meaning this found relationship is very unlikely to occur at random.

The affective reading strategy shows a clear contrast with cognitive and metacognitive reading strategies in the correlation coefficient and the significance value. There exists a very weak positive correlation ($r = .024$) between the reading scores of the students and

the use of affective reading strategies. This is an indication that there is no linear relationship between the two variables. In fact, this is suggesting that the mean of the affective reading strategies is not changing significantly with increased reading scores. The significance value, ($p = 0.702$), being greater than 0.05, reflects no statistical significance for the observed correlation.

Table 4.12: Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	40.721	8.308		4.901	0.000		
	mean of cognitive reading strategies	-0.855	3.588	-0.022	-0.238	0.812	0.423	2.366
	mean of meta cognitive reading strategies	7.803	2.760	0.249	2.827	0.005	0.468	2.139
	mean of affective reading strategies	-2.418	2.306	-0.074	-1.048	0.295	0.722	1.386

The table above describes regression coefficients and p-values for cognitive, metacognitive, and affective reading strategies. The values are as follows: for cognitive strategy, $b = -0.855$ with a p-value of -0.022 ; for metacognitive strategy, $b = 7.803$ with a p-value of 0.249 ; and for affective strategy, $b = -2.418$ with a p-value of 0.074 . These findings reveal that cognitive and affective reading approaches have no statistically significant impact on the dependent variables in this research. On the contrary, the metacognitive reading strategy with a regression coefficient of

$b = 7.803$ and a p-value of 0.249 indicates a statistically significant relationship with the dependent variable. This would imply that metacognitive strategies would be more effective in influencing the outcomes of research than the other two types of reading strategies.

4.4 Qualitative Data Analysis

4.4.1 Analysis of the students' interview and think -aloud protocol

This sub-section explains in detail the responses of the students gained from the think-aloud protocol and the semi- structured interview. It focuses on the various reading strategies employed by the students and exhibit variations in their frequency of use. Moreover, the analysis tries to find any significant difference in reading strategies employed by high-achieving and low-achieving students. Therefore, the study aims to provide insights that could inform reading instruction and improve targeted interventions for struggling learners.

4.4.2 Analysis of the students' think- aloud protocol (TAPs)

The in-depth think aloud protocol (TAP) analysis provides rich data regarding the cognitive, metacognitive, and affective strategies employed by learners during reading tasks. The analysis reflects general reading strategies applied by students and specific strategies employed by high and low achievers. By considering these different types of strategies, one will be able to understand the various manners in which students read and respond to texts and, which in turn obtain a more clear picture of the way they behave as readers and of the variables leading to their success or failure in an academic setting.

4.4.3 Translation and coding procedures of the think- aloud protocols

I translated the think-aloud protocols of eight students, four high achievers and four low achievers. The low achievers verbalized in their native Amharic language nearly all the time, so I translated their utterances into English. However, the high achievers had much more fluency in their second language, attempting to speak in English entirely. I merely proofread grammar errors and replaced any words that were not appropriate for proper synonyms that fit the context of their verbal responses.

After translating the whole think-aloud process, I presented both the verbal translation and the voice recording to two of my colleagues in the English Language Department at Civil Service University and Kotebe University of Education. This was a measure for ensuring the validity and accuracy of my translations through expert confirmation. After taking their input, I then contrasted their comments against my original translation. This contrasting allowed me to spot a number of words and expressions of which I was not

certain about their applicability to the original audio file. Thus, I needed to make those adjustments to make my translations the best reflection of the intended meaning of the source text.

As I transcribed these protocols, I carefully followed a coding process with a focus on three main reading strategies ideally linked with examination conditions: cognitive, meta-cognitive, and affective. These steps included a careful review and consideration of the students' verbal responses and systematic listening and tracing of these responses line by line. To improve clarity and efficiency in coding and categorization, I used an inductive coding approach, in which themes emerged from the students' actual verbalizations (See Appendix 21 for details).

Table 4.13: Reading strategies reported by both the high and the low achievers

1. Back check
2. Confirmation
3. Defining terms
4. Inferring
5. Correct-answer satisfaction
6. Focus on topic sentence
7. Pause and think
8. Reading slowly
9. Native-language paraphrasing
10. Using reference (anaphoric)
11. Repeating words and phrases
12. Retrieving information
13. Self-encouragement
14. Reading for detail
15. Going back and forth
16. Using text features
17. Highlighting key parts
18. Skipping challenging questions
19. Rereading for challenging texts
20. Revisiting difficult questions

The table emphasized 20 reading strategies identified by high and low achievers during the think-aloud protocol. The strategies fall into cognitive, metacognitive, and affective, which are all various means of enhancing reading comprehension. The cognitive type requires direct engagement with the text to retrieve and process information. These activities include functions like reading or rereading earlier parts of the text, defining terms to describe unfamiliar words or phrases, making inferences to draw conclusions based on implicit information, emphasizing topic sentences, and paraphrasing ideas in one's own words to improve comprehension.

Secondly, cognitive strategies involve the utilization of anaphoric references to allow students to connect pronouns or phrases to their corresponding detailed elaborations in a text. Other strategies also involve repeating certain phrases and words, a strategy that facilitates retention in memory and improves overall comprehension of content. Furthermore, by using information, students are able to remember particular aspects of the text, as they read with the intention of gathering details that contribute to their understanding. Students also use various characteristics of the text, such as headings, boldface words, and italics, which considerably facilitate the act of reading and increase the reader's understanding of the content effectively.

Low and high achievers use a variety of metacognitive reading strategies that aim at evaluating, monitoring, and controlling their reading processes. One of the strategies is confirmation, which is the process of verifying if one's interpretations are supported by the textual content. Moreover, readers spend time thinking about the meaning of what they have read, slow down their reading speed to improve comprehension, and reread certain sections to connect ideas and identify the main ideas of the text. By adopting these reading strategies, readers improve their understanding and memory of the text, irrespective of their level of achievement.

Besides these, other strategies such as skipping difficult questions, a strategy in which challenging sections are avoided temporarily to return to them later, repeating difficult questions after initially attempting them, practicing words and phrases to strengthen memory or understanding through repetition, remembering facts from the text, and focusing intensely on specific details are the most frequented metacognitive strategies.

For affective learning approaches, an achievement feeling, positive feedback obtained from comprehending the text, and self-motivation, i.e., encouraging oneself so that one can keep progressing with challenging content, are motivational and emotional aspects common to both. (*Refer Appendix 21 for the transcriptions of students' think-aloud protocol*).

Table 4.14: Reading strategies reported only by the high achievers

1. Using background knowledge
2. Concluding a paragraph
3. Controlling the flow of activities
4. Relating each word with another
5. Relating one sentence with another
6. Relating ideas in between and among paragraphs
7. Reasoning out the correctness of an answer
8. Using lexical clues for guessing
9. Reading for gist
10. Scanning
11. Beginning form questions
12. Paraphrasing in own word in L 2
13. Taking quick decision to answer questions
14. Identifying key words
15. Identifying the theme
16. Omitting wrong responses
17. Sustaining on similar performance
18. Giving instant reflection for what they read
19. Comparing and contrasting multiple choices
20. Doing similar questions at the same time
21. Evaluating the overall work
22. Taking an overview

Table 4.14 is a list of 22 strategies employed only by high achievers. Out of the 44 strategies identified from the think-aloud protocols, nearly all were employed by high achievers, whereas low achievers used only two strategies: reading word by word and reading the entire passage first.

High achievers' strategies can be divided into several essential dimensions: cognitive and metacognitive strategies, text processing and integration, critical thinking and reasoning, efficiency and flexibility, linguistic and lexical consciousness, involvement and reflection, and strategic testing.

Cognitive and metacognitive strategies are techniques that span a list for promoting language learning and understanding. Among these strategies are applying prior knowledge in a new situation, organizing tasks in an orderly and systematic way, and evaluating overall performance to determine areas of improvement. Text processing and integration involve being able to connect ideas within and between sentences and among paragraphs, as well as summarizing. This skill is necessary to have a better grasp of the topic at hand. With critical thinking and evaluation, those who achieve high success levels typically use certain strategies. These strategies involve checking their responses for accuracy and validity, comparing and contrasting different options to make soundly based decisions, and crossing out wrong responses to narrow down their scope of understanding and concentrate on the most applicable information.

Apart from this, high achievers also employ strategies that represent linguistic and lexical consciousness, for example, inferring through the use of lexical cues, identifying keywords, and paraphrasing their responses in the target language. The level of engagement and reflection during examinations differentiates them from other student groups; they tend to offer instant reflections on what they have read and also maintain their performance level throughout the examination. They also skim for gist, looking for particular information, making rapid judgments to answer questions, and collaborating on comparable questions; that is, they tend to address related questions simultaneously. Such questions can be inference, reference, or comprehension.

Additionally, the high achievers are normally noted to have well-organized approaches in the context of examinations. They will typically begin by examining the questions asked before reading the entire text. This is the first step they take to identify major themes and highlights that may be beneficial in answering the questions asked.

Apart from this, they also analyze the organization and structure of the content before they read it, which serves to significantly advance their comprehension and facilitate a more active reading experience of the reading text. With the use of these strategic approaches, high performers are better able to process the reading text, which eventually changes into effective performance and better comprehension of the exam contents.

(See Appendix 21 (Samples 1–4) for transcriptions of high-achieving students' think-aloud protocols).

4.4.4 Triangulated results from questionnaire and think-aloud data

The data obtained from the self-reported questionnaire is cross-validated and boosted by the real-time, actual strategy use obtained from the think-aloud protocol. The differences between high and low achievers obtained from the survey are not only perceived but also actual in nature.

The triangulation is most evident in the domain of cognitive and metacognitive reading strategies. As revealed in the questionnaire (see Tables 4.6 and 4.7), high achievers scored significantly higher in their use of strategies such as inferring meaning from context, focusing on keywords and topic sentences, visualizing information, taking notes/summarizing, previewing the text, using prior knowledge, reading carefully at a controlled pace, making comprehension checks, and going back to difficult parts of the text.

These self-reports show a similar pattern to the strategies that high achievers uniquely or more frequently reported in the think-aloud protocols (Table 4.14) such as the use of background knowledge, relating ideas across sentences and paragraphs, key words and themes, reading for gist scanning, paraphrasing in the target language, evaluating the whole work, and instant reflection.

On the contrary, low achievers in the questionnaire demonstrated more translation to native language, formulating questions, and pausing to reflect ideas. These are similar to the limited strategies that low achievers demonstrated in the think-aloud, such as paraphrasing in native language, reading word by word, and reading the whole text first, which are more surface-level and less integrative.

For the affective strategies, the support is partial but positive for triangulation. In the questionnaire results (Table 4.8), it was found that both groups made use of affective strategies to a similar extent, but with slightly stronger self-motivation, immersion, and handling of anxiety for the high achievers, and awareness of bodily responses and risk-taking for the low achievers. This is confirmed in the think-aloud results (Table 4.13), where self-encouragement and satisfaction with a correct answer are shared in the affective domain, but the variety and complexity of the high achievers' strategies, e.g., maintaining performance and quick decision-making, reflect their advantage in the questionnaire results for self-regulation and motivation.

Overall, both distinct methodologies in research strategies, the quantitative data analysis through the questionnaire and the qualitative method through the think-aloud protocol, reach a similar conclusion: while, high achievers show a more diverse and efficient repertoire of cognitive and metacognitive strategies both in self-perception and in actual practice, low achievers show a greater dependence on less efficient strategies such as translation or linear reading.

This convergence not only validates the results of the questionnaire study from a behavioral perspective but also provides an explanation for the phenomenon of high achievers' outperforming others, since think-aloud provides us insight into what actually causes such differences in frequency. Even though there are small discrepancies between the two approaches (e.g., in affective questions), such findings play a supplementary rather than contradictory role. Overall, in this research, these two approaches to research offered us a more comprehensive picture of reading strategy use than either one of them alone would have been able to provide.

4.4.5 Analysis of the students' interview

I developed interview questions for the students to answer the 'why' questions and to verify the data gathered from the self-administered questionnaire and reading comprehension test. The interview questions focus on the use of the three primary reading strategies: cognitive, metacognitive, and affective. Since interviews were conducted after the students completed the questionnaire and reading comprehension test, it served me a great advantage in identifying more issues related to the use of reading strategies by the students (See Appendix 13).

4.4. 5.1 Analysis of the students' interview in relation to cognitive reading strategy

Practically all the interviewed students had clear and strong views on how cognitive reading strategies could be applied to reading activities for improving reading comprehension. The predominant cognitive reading strategies that the students use are making inferences, using prior knowledge, predicting probable outcomes, highlighting important words, and visualizing concepts. These are all essential to their strategies for comprehending and making sense of texts and demonstrating a reflective engagement with the material they read.

Although I interviewed 20 students, typical responses to my questions were obtained only from the first eight interviewees. Beginning from the ninth interviewee, it was a repetition of the first eight students, so I prefer to include only the first eight interviewees in the sample for the study.

Below are the responses of some participants when asked whether they use cognitive reading strategies in their reading comprehension activities:

- I try to guess the meaning based on the context (S1).
- I write the main idea of each paragraph on the side of the paper (S1).
- And then, most of the time, there are some bold words, and I perceive those as, they may be the words that I could be asked later as vocabulary questions (S1).
- If there are any relative pronouns that confuse me in the reading comprehension, I try to relate them to some subjects and objects in the reading text (S1).
- I outline the main ideas of each paragraph (S1).
- I also underline vocabulary that I think I will be asked later on in the questions (S1).
- I focus on each paragraph to understand the main idea (S2).
- I like to underline the main points (S2).
- When I read a passage, I like to assume what type of questions could be asked (S2).
- I usually think about the main idea of the text (S2).
- I also generate questions that help me to understand the passage (S2).
- I usually circle or put Mark up on specific lines so that I can immediately check my answers at the end (S3).
- I refer to specific lines of the passage in order to be sure about the answer (S4).
- As I go through the questions, I try to remember where to find the specific lines (S4).
- I skim each paragraph and see what the main idea is about (S5).
- I usually circle and underline key terms and phrases, and this helps me answer comprehension, reference, and inference questions (S5).
- Understanding the core idea of each paragraph helps me in understanding how ideas are transitioned between and among the overall reading passage (S6).
- Underlining key term is a must, especially when reading passages. The reason is that it helps me when I go through the whole passage (S6).
- I always underline key terms and phrases because, in most instances, the words I either underline or circle assist me in comprehending the text and also in answering the questions (S7).
- I just dive into the passage and try to grasp the concept (S8).
- I simply try to summarize the main idea of the entire text (S8). (See Appendix 22)

4. 4. 5. 2 Analysis of the students' interview in relation to Meta-cognitive reading strategy use

Concerning the application of metacognitive reading strategies, most of the interviewees had a positive perspective regarding their application. Students are actively involved in planning and monitoring activities while carrying out their reading comprehension exercises. Meta-cognitive reading strategies have multiple advantages for students' reading comprehension and assist in the facilitation of their learning process by allowing them to monitor, assess, and change their cognitive strategies effectively. Also, it was observed that confident students who believe they will learn the language are the most frequent users of metacognitive reading strategies.

The following are the reactions of some of the interviewees when asked if they apply metacognitive reading strategies:

- I start by reviewing kinds of questions that are included in the exam paper, like true-false questions, inference or vocabulary questions, reference or questions that concentrate on relative pronouns etc. (S1).
- I would go back to the passage and check the notes that I have made on passages (S1).
- First, I look at the length of the passage. If it's short, like two or three paragraphs, I read it twice (S2).
- In the meantime, I manage the time given to do the reading comprehension (S2).
- As I said, I first look at the length of the passage. If it's two or three paragraphs, I just read it quickly and go to the questions (S2).
- I regularly reconsider questions, especially those that create challenges (S2).
- At first, I try to observe what the passage is about. I try to observe the topic, what the passage is talking about, by looking at the first sentence of each paragraph (S3).
- Yes, first I try to get a general overview of the passage (S3).
- I usually double-check my answers after I finish the whole question (S3).
- I usually evaluate my work while the exam is underway, which helps me re-check some of the difficult questions I might have missed.

- I follow different techniques to answer the questions. For example, the technique I follow to answer multiple-choices questions will be different from inference and reference questions (S4).
- I will come back and fix those challenging questions at the end (S4).
- The first thing I do is take a rough look at the entire passage (S5).
- I usually review my responses twice (S5).
- I regularly assess and analyze my progress on the exam and the extent to which I am addressing the questions (S6).
- I will likely review the questions a minimum of two times to verify the answers (S6).
- I frequently assess my progress by evaluating how well I am answering the questions (S6).
- I would be happy to review my answers for accuracy, but I only engage in this practice if I have sufficient time (S7).
- If I have enough time to finish the test, I might decide to go over the questions that I'm unsure about again (S7) (See, Appendix 22).

4. 4. 5. 3 Analysis of the students' interview in relation to affective reading strategy use

Concerning the application of affective reading strategies in performing reading tests, some of the students indicated that they typically perform reading comprehension exercises without becoming stressed or anxious. Others, however, always become nervous during examination periods and attribute this to the test itself. When the questions seem hard, they tend to feel overwhelmed, and this hinders their ability to respond accordingly. On the other hand, the majority of the students expressed that they feel at ease, explaining that their confidence results from the gradual achievements they have experienced in reading comprehension activities. Apart from their existing ability in reading comprehension, the students learn some strategies to reduce anxiety. These strategies involve pre-viewing questions, management of time under the test, maintaining a focus on positive attitudes, usage of psychological avoidance to overcome fear, taking a deep breath, relaxing the muscles, and sufficient intake of water. Other students, on the

other hand, explained that emotional responses occur naturally, and reactions to these feelings happen spontaneously.

The following are students' reflections on their experiences when responding to reading comprehension questions under emotional pressure, and how they cope with stress and anxiety during exam periods:

- I do feel at ease. I don't usually get anxious (S1).
- Typically, I review the exam paper as a whole prior to attempting any questions (S1).
- I always drink water when I'm taking an exam (S1).
- I feel like I'm not even doing the test (S2).
- I have read a lot of books, beginning from my early school years (S2).
- Before I begin an exam, I take a moment to drink water and engage in deep breathing (S2).
- I stretch my feet and my hands more because I feel tightened when I'm reading (S2).
- To be honest, it depends on the passage. I'm not always at ease while doing the passage questions (S3).
- I manage emotional stress by proclaiming positive statements to myself (S3).
- I always feel comfortable with reading comprehension (S4).
- I don't allow myself to feel anxious because I am aware that it worsens my performance as a whole (S4).
- I feel fairly confident in my ability to understand (S5).
- I've been engaging with reading comprehension exercises since I was in lower grades (S5).
- I begin by reviewing the questions to assess the exam's difficulty level, which significantly contributes to lowering my anxiety level (S6).
- Whenever I engage in a reading test, I monitor the remaining minutes (S7).
- I regularly take a deep breath and practice progressive relaxation during exam hours (S8 (Refer to Appendix 22)).

4.4. 6 Triangulation of questionnaire and interview data

The triangulation of the two sources of data, the interview and the questionnaire, enables a holistic understanding of the cognitive, metacognitive, and affective strategies used by

the students in reading, including convergence, complementarity, and divergence between the two sources of data.

As far as cognitive reading strategies are concerned, the interview and questionnaire data show considerable convergence. The interview data showed that students were actively using various cognitive reading strategies such as making inferences, using prior knowledge, predicting the outcome of their reading, and underlining key points. This is consistent with the results of the questionnaires, which indicated that high-achieving students often used similar approaches such as inferring meaning, focusing on key words, summarizing, and visualizing information, as indicated by relatively high mean scores. This indicates a level of alignment in the students' understanding of the cognitive strategies and their application in improving their reading comprehension. However, the questionnaire complements the interview findings by identifying the high and low achievers. The high achievers showed more effective application of advanced cognitive strategies, whereas the low achievers were more inclined towards the use of translation and processing strategies. These differences were not explicitly clear in the interview.

In the aspect of metacognitive reading strategies, there is again a strong overlap between the two data sources. The interview data showed that the majority of the students practiced planning, monitoring, and evaluating their reading process. It was also found that confident readers used these strategies more often. The questionnaire data showed that high achievers consistently outperformed low achievers in the application of metacognitive reading strategies such as previewing the texts, controlling the reading speed, checking the understanding of the texts, and making decisions while doing reading comprehension activities.

Both sources of data serve to reinforce the importance of metacognitive awareness in reading comprehension success. In addition, the interviews add depth to the study by making connections between strategy use and learners' confidence and beliefs about language learning, while the questionnaire helps quantify the extent of strategy use and reveal significant differences in strategy use between achievement groups. A slight difference is observed in some low achievers' strategy use, such as pausing to think.

Regarding the affective reading strategies, the triangulation method indicates some convergence and divergence. For instance, from the interview result, it is evident that although some students feel confident and calm during reading, some feel nervous, especially during examinations. In addition, some affective strategies, like deep breathing, positive thoughts, and planning time, help learners control their emotions during reading. This is similar to the questionnaire study, which indicates that both high and low achievers used similar levels of affective strategies, as shown by the closeness of the two mean scores.

On the other hand, high achievers showed stronger involvement in strategies concerning motivation, immersion, and anxiety control, while low achievers demonstrated a stronger awareness of physiological responses and a stronger tendency to take risks. There was a divergence in the application of socio- affective strategies such as sharing difficulties with classmates or using a checklist, which was evident in the questionnaire but was not emphasized in the interviews. This might indicate that, while students acknowledge the necessity to control their emotional state, they might not be using socio-affective strategies.

Generally, the findings from the triangulation increase the validity of the study by providing consistency between self-reported behaviors and interview-based insights, while at the same time highlighting some differences between high and low achievers. The combined findings of the study reinforce the importance of cognitive and metacognitive strategies in reading achievement and the positive contribution of affective strategies in managing emotions and staying engaged.

Chapter Five

Discussion

5.1 Introduction

This research aimed to investigate the reading strategies employed by learners, particularly determining the most and least used strategies, comparing the use of these strategies between the high and the low achievers, and analyzing the correlation between the application of students' reading strategies and their performance in reading comprehension. Data that was collected from the questionnaire were analyzed by descriptive statistics, which provides mean and standard deviation scores of the overall reading strategy application: cognitive, metacognitive, and affective. It is calculated with the assistance of the standard measure developed by Oxford (1990), in which a mean of 3.5 and above is considered to be high, a mean score of (2.5 to 3.49) is considered moderate, and the score is low where the mean score is below 2.5. Besides, the mean scores of all reading strategies used by the students were also analyzed by descriptive statistics.

Hence, the chapter presents the key findings of the research, making connections with the same findings that have been established in the literature. It also makes conclusions from these findings and gives detailed responses to the research questions. There is also an outline of the research questions to provide context and clarity regarding the aims and findings of the research.

5.2 Research Question 1: What are the most and the least frequently used reading strategies among the students?

The result reveals that the most commonly used reading strategies by the students are the cognitive strategies. Translating concepts into the native language is becoming the leading strategy (mean value = 4.4682). It suggests that students use their native language extensively to cover gaps in understanding, which enables more intensive engagement with the reading text and enhances memory and language acquisition. Other frequently used cognitive strategies include focusing on the opening lines of paragraphs (mean = 3.7940), which helps students to quickly understand the organization of the text and its

key points, and Inferring the main idea (mean = 3.7566), which contributes to critical thinking and better understanding.

Moreover, employing text features, visualization, and focusing on keywords and phrases (mean values ranging from 3.6779 to 3.7341) represents a systematic strategy for decoding and understanding texts. These findings show that students actively engage with reading texts and improve their comprehension by utilizing memory, attention, and problem-solving skills, as well as using linguistic and contextual cues to aid comprehension.

In addition, metacognitive strategies of planning, monitoring, and assessing one's reading process are also regularly used. Some of the most notable strategies include: Notice underlying information (mean = 4.0524) and regulating reading pace according to content (mean = 3.8801), showing the awareness on the part of students that the complexity of content requires a varying pace of reading and focus. Going back and forth in a text (mean = 3.7828) and using background knowledge (mean = 3.6629), both of which reflect attempts to connect new information to the existed, pausing to think (mean = 3.5618) and checking assumptions (mean = 3.5281), which indicate students' critical and reflective strategy when reading.

Thus, the application of these strategies makes it a strong verification of the notion that self-regulation plays an instrumental role in boosting reading comprehension. The moment students embark on monitoring progress, goal-setting, and strategy changes, they become better learners and develop skills within reading comprehension.

Besides the cognitive and metacognitive strategies, the affective ones, which involve the emotional and motivational aspects, also seem significant. The mean results show students often use the following strategies: Anxiety reduction during the tests (mean = 3.9588) and self-encouragement (mean = 3.7154), which are important techniques for emotional control aimed at educational success.

Taking a risk to answer difficult questions with means of 3.6367 and engaging with texts with means of 3.5805 are indicative that the students are up for the challenges which might occur in the text and have the very capacity to sustain their attention. These strategies depict students' awareness of the bidirectional relationship between emotional

well-being and learning effectiveness through the use of strategies to keep an individual motivated and confident.

Generally, the findings show that students use a variety of cognitive, metacognitive, and affective strategies in enhancing their reading comprehension and improving academic achievement. Cognitive strategies are used for decoding and interpretation processes, metacognitive ones for monitoring and controlling learning processes, and affective ones to support motivational needs.

In addition, the students can learn to set goals, monitor their progress, and change their strategies to achieve the desired outcome through the language practice and other academic achievements. Language teachers can use these findings to design teaching methods that foster these strategies and thus advance students' lifelong learning experiences.

This finding is in line with the study of Zhang and Wu (2009) and Nguyen and Trinh (2011) in an ESL and EFL setting. Their findings indicate that second or foreign-language learners actively employ various reading strategies to enhance their comprehension and retention of the reading text.

Similarly, Chen (2015) concurred with this notion by noting that students in second language acquisition employ various thinking and planning strategies as they attempt to make sense of what they read. These strategies enable students to make sense of the text and hence become better readers. By employing cognitive strategies, such as summarizing what they read, and metacognitive strategies, such as checking their comprehension, second language learners become better readers.

The findings of this research are also supported by other research studies (e.g., Mokhtari & Sheorey, 2002), which emphasize that the use of cognitive and metacognitive reading strategies plays an important role in the process of language learning of EFL learners. They underline the importance of these strategies in achieving maximum understanding and ease of learning in general. They also justify the argument that effective reading strategies are crucial to successful language acquisition by EFL learners.

Oxford (1990) also suggested that mental processing and monitoring the target language in action are more directly associated with cognitive and metacognitive learning strategies. Students can create rich processing connections, analyze and categorize new knowledge, and relate the incoming concept to prior existing schemata through the use of cognitive and metacognitive learning strategies. Students also create messages in the target language and modify internal mental models.

Even though students showed higher frequency in most strategies, they also exhibited a lower tendency towards the use of some socio-affective reading strategies, such as utilizing a checklist as a reminder of reading comprehension task difficulties (Mean value: 1.7191) and talking with classmates about how they felt regarding reading strategies (mean value: 2.1948). Specifically, employing a checklist as a reminder of problems is nearly forgotten by each student. This might mean that the research participants were not knowledgeable about the significance of indirect learning strategies involving emotions, process coordination, and social connection to successfully support reading skills. The learning environment and learners' cultural background might be some of the factors affecting their low tendency towards adopting affective learning strategies. Additionally, learners may neglect socio-affective reading strategies while prioritizing the use of cognitive and metacognitive reading strategies.

Besides, the poor utilization of affective learning strategies comes from inadequate development of self-awareness, social awareness, self-management, interpersonal skills, and responsible decision-making. Self-awareness is the capacity to be aware of one's ideas and emotions. More competent language learners, particularly during times of failure, are individuals with more developed emotional intelligence. Being socially aware means knowing how to communicate with other individuals with different backgrounds. It is usually thought that learning foreign languages involves going to language classes to gain proficiency in the foreign language; thus, students are advised to engage with their classmates in foreign language classes to enhance language proficiency.

Additionally, there were 14 strategic items representing 38.889% of the total that were utilized on a moderate basis with a mean score of (2.5 to 3.49). This indicates that students are exposed to many strategies, but their use is not consistent when quantified in

terms of depth and frequency. Possibly, this inconsistent strategy use can be enhanced through targeted teaching approaches or support systems that can enable improved usage of strategies.

Overall, it can be shown from the research that students employ various learning strategies involving cognitive, metacognitive, and affective components for enhancing reading comprehension and academic success. As noticed, cognitive strategies play the most vital role in helping the students decode and interpret the reading text effectively, thus enabling them to gain specific knowledge about the subject.

At the same time, metacognitive strategies empower the learners to regulate and make changes in their ways of learning, introducing further levels of self-awareness and adaptability into their studies. Affective strategies also play a key role in the sense that they focus on the affect and motivation element of learning and strive to keep learners motivated and engaged in the learning process. Such comprehensive applications of strategies help learners to solve the complex nature of learning and to improve the learning outcomes.

Language teachers should prioritize implementing the least used reading strategies by the students, such as discussing with peers and self-monitoring checklists, to foster socio-affective and collaborative learning environments. By focusing on these elements, teachers can enhance students' reading practice more intensively and effectively. Furthermore, the inadequate application of those strategies by the students indicates a fundamental need to conduct further research into how such barriers can be identified and how the implementation of these strategies can be improved at advanced levels. This study should also aim to improve language pedagogy in teaching such strategies and achieve maximum integration of these strategies within the learning mechanism.

5.3 Research Question 2: *What reading strategies do the high and the low achievers use when they read academic texts?*

2.1 *What differences are observed between the two groups in reading strategy use?*

2.2 *What are the existing similarities between the two groups in reading strategy use?*

There exist significant differences regarding reading strategy competencies between high and low achievers, which have been seen to impact academic performance considerably. High-achieving students use more effective types of cognitive strategies, which involve predicting the meaning of words, using text features, visualizing, and summarizing. Their mean scores for these strategies are between 3.702 and 4.212, indicating high performance in these strategies. The implementation of these strategies will improve students' critical thinking abilities and contribute to their academic achievements.

Conversely, low achievers, whose achievement is of a lower order, tend to use some cognitive strategies more regularly. Significantly, they translate ideas to their native language with an average mean value of 4.470 and show a higher tendency to interpret each word in a passage with a mean score of 3.343. This trend reveals the presence of reliance on compensatory and lower level cognitive strategies, which could be a result of issues with understanding or a second language limitation.

Moreover, low achievers focus on generating questions and making assumptions about the text, with mean values of 2.705 and 3.578. The results of these strategies show students' focused response to the difficulties they face in being able to process information and to the challenges of understanding a target language.

Students who are consistently good in academics excel their peers who have lower achievement levels in the majority of metacognitive strategies. These strategies include reviewing texts to familiarize oneself with the reading text before focusing on the details, using their existing knowledge to form relationships and make the content more understandable, and changing the speed of reading according to the complexity of the text.

The study confirms that mean scores for these strategies range from (\bar{X} =3.510 to 4.361).

Frequent use of planning and monitoring strategies and better self-regulation skills possessed by high-achieving individuals make them more proficient at reading

comprehension. This extra level of engagement not only creates a higher level of understanding but also contributes significantly towards the success achieved at school.

Successful students who employ affective reading strategies have shown a great ability to employ techniques suited for regulating their emotions during an examination. Notably, these students make extensive use of coping with examination anxiety with a mean of (4.531) and self-motivation with the average rating of (4.255.).

This suggests that they can cope with stress and remain motivated throughout the exam process. Low achievers, however, depend on using affective strategies such as "monitoring physical reactions" with a mean of (3.245) and "taking risks to answer difficult questions" with a mean score of (3.627). This experience may indicate that low achievers experience higher levels of anxiety or prefer to use trial- and error methods when faced with difficult questions.

The analysis of reading strategy between the two groups finds that high-achievers possess more advanced cognitive and metacognitive strategies, whereas low-achievers would need additional intervention regarding these issues. Language teachers should explicitly teach the strategies of summarization, reference, inference, and self-monitoring. Moreover, a balanced approach to instruction that addresses both cognitive and affective dimensions of reading is needed to enable all students to learn critical thinking and self-regulation skills. Low achievers further develop their skills by adopting strategies typically employed by high achievers.

As per the discussion of related literature, in various studies, it is identified that more successful learners use more strategies to a higher degree in comparison with less successful learners (Oxford, 2016; Oxford & Burry-Stock, 1995; Janzen, 2002).

In addition, the high achievers use meta-cognitive reading strategies more frequently in comparison with the other two reading strategies, cognitive and affective. This is also supported by other researchers, for example, Oxford (1992) confirmed that gifted learners use metacognitive reading strategies more than cognitive and affective. This can be linked to the fact that most gifted learners are thoughtful and have a tendency to monitor and evaluate their reading comprehension.

Additionally, high-achieving students use metacognitive reading strategies to enhance retrieval of information from long-term memory through improved encoding. By planning how to engage in a text; such as, activating prior knowledge and setting goals, information is encoded more meaningfully, facilitating easier retrieval for later use (Anderson, 2005; Salataci & Akyel, 2002; Shokrpour & Nasiri, 2011).

With respect to similarities between the two groups, both high and low achievers showed a lower tendency to use socio-affective learning strategies, such as using a checklist to remember difficulties while performing reading comprehension activities and conducting scholarly discussion with their classmates regarding the concept of strategy usage, with the mean scores below 2.5 ($X = 1.595, 1.893, 1.852, 2.460$). This evidence reveals that students recognize these strategies as less effective for improving their reading comprehension activities. Besides, the standard deviation ($SD = 1.19817$) also indicates variation in the responses of students, showing that such strategies, especially using checklists to remember challenges with reading comprehension activities, are generally not favored. Low peer discussion use may reflect a lack of adequate structured time for them to work in pairs or students' preference to work individually. Similarly, the low mean score on the use of checklists could mean that students find them irrelevant or that they are in some way incompatible with their reading process.

The qualitative data analysis, particularly the think-aloud protocol, has revealed the diverse reading strategies employed by the students labeled both high and low achievers. This can make it possible for researchers to access the students' raw and instant thoughts, providing authentic information from the sample group. By requesting the participants to verbalize while reading, it is possible to know how different students approach, understand, and interpret a reading text. In addition, this procedure identifies the specific strategies used by the students with varying achievement levels and the cognitive processes involved in reading activities.

Analysis of the students' verbal protocol shows that both high and low achievers made use of various cognitive reading strategies. Rereading a text, defining key words, making an inference, and emphasizing topic sentences are some among the several cognitive reading strategies that help gain direct access into a text for information and retrieval.

Key word defining will enable these students to gain knowledge about a new word/idea and will result in an increase in knowledge.

On the other hand, inference helps students realize implied meaning rather than explicitly mentioned facts, demonstrating their higher-order thinking skills. By focusing on the topic sentence of each paragraph, they can identify the main points, which also develop their overall understanding.

Furthermore, the low achievers and high achievers use a variety of cognitive strategies that facilitate learning. These strategies involve translating concepts to their native language, using references, repeating particular words and phrases, remembering details, and making deep readings. Translating ideas to a native language is a valuable concept-based cognitive strategy that many second or foreign-language learners use, and the process has been shown to work successfully in building comprehension.

Moreover, students tend to utilize anaphoric references when answering reference-related questions. This is generally achieved by making connections between pronouns and their antecedents, significantly improving coherence and students' understanding of the reading text.

On top of that, students repeat specific words and phrases when performing reading comprehension exercises. This method, according to their verbal feedback, significantly increases their comprehension of the reading text as a whole and also their memory recall. The repetition process strengthens students' understanding of the reading text, and it becomes useful for them to recall the main points. To ensure that they understand the content fully, students also perform close reading, paying attention to specific details, so that they can read and understand more effectively. They also make good use of different text features like bold print, italics, and headings using as visual hints.

The think-aloud protocol made known a wide range of metacognitive reading strategies' employed by the high and the low achievers. These include the utilization of checking for understanding, pausing and reflecting on the content of the reading text, changing the speed of reading to enhance understanding, rehearsing sections of the text, skipping over particularly challenging questions, and returning to those challenging questions afterward and moving back and forth through the reading text. All these techniques show key

principles of metacognitive reading strategy, such as planning, self-regulation, monitoring, and evaluation. Through the application of these strategies, learners can increase their reading efficiency and overall performance.

The students frequently check the correctness of their answers to test interpretations and to determine the accuracy of the text. They take time to reflect, judge, and estimate their overall comprehension. By using the key strategy 'pausing to reflect,' they control the pace of their reading, slowing down or speeding up, and this naturally differs according to the complexity of the reading text. In addition, they move back to parts of the text in which they have difficulties, allowing them to connect ideas and improve understanding. Moreover, students also tend to temporarily abandon difficult questions and text sections to prevent frustration. Finally, they return to those difficult questions after their minds have been refreshed, which progressively leads them to right answers.

Students also demonstrated the use of some common affective reading strategies, such as feelings of achievement, positive reinforcement, and self-motivation. As the students understand the text and the comprehension questions to a great degree, their success in understanding boosts their confidence, which triggers a stronger intrinsic motivation to read the text in depth. Verbal reports also indicate that the students are more capable of self-encouragement, enabling them to sustain when they read challenging reading content. Each of these strategies underlines the importance of affective engagement in the reading process.

The noted similarity between the high and the low achievers in the utilization of reading strategies further suggests that the two opposites have something in common in second language learning, particularly in reading proficiency. The finding highlights the need to implement a holistic reading instruction program that encompasses all elements of strategy development, including cognitive, metacognitive, and affective domains. Teachers must give priority to the explicit instruction of these strategies, provide demonstrations of their daily application, and set up environments in which students can actively practice and reflect upon their application. By doing so, teachers can build reading comprehension skills in students and foster a more informed understanding of the learning process.

Though the high and the low achievers use different reading strategies in similar ways, they differ in the extent to which they are effective; this influences their academic performance. Their degree of success in reading comprehension can be influenced by a variety of other variables, including the frequency with which they apply these strategies, how successfully they manage to transfer them to new contexts, and how engaged they are when applying these strategies. So a more frequent and deliberate reading comprehension strategy can have a powerful effect on overall levels of students' attainment.

Generally, students' verbal feedbacks reflect the complexity and multi-dimensionality nature of reading comprehension. This suggests that the use of multiple learning strategies is important to improve both reading comprehension and memory. Students' insights suggest that reading comprehension encompasses several factors, including knowledge of words, inferential thinking, and the capacity to create associations among ideas. Therefore, employing multiple learning strategies can best serve to help students addressing these issues, ultimately producing a more complete comprehension of reading texts.

High-achieving students' reading strategies are also reported to have important differences from the reading strategies of lower-achieving students. High achievers employed a complete set of metacognitive, cognitive, and procedural strategies, which were remarkably absent in the reading strategies of lower-achieving students. This finding suggests that the use of these advanced strategies can be a key factor in the school performance of high achievers, and the implication is that if low achievers adopt similar practices, it may increase their reading skill and overall academic achievement.

High-achieving students also frequently use cognitive reading strategies. These include a variety of strategies that involve using background knowledge, associating words, sentences, ideas, using lexical cues, and expressing thoughts in the second language. High achievers use their existing knowledge successfully to relate new information to what they already know from the past. This strategy significantly develops their comprehension of reading text, as it allows them to utilize their background knowledge. Besides, through word, sentence, and idea linking, students gain a sense of coherence in the text. This

coherence is achieved by linking various elements, such as key words, sentences, and entire paragraphs which consequently results in a deeper understanding of the reading text.

High achievers assess the accuracy of answers using lexical cues to extract meaning from the surrounding context or the arrangement of words. This empowers them to engage in a critical assessment of responses instead of relying exclusively on their intuition.

In addition, they are also able to demonstrate a better understanding and engagement with the text of what they read using their opinions in the target language, or L2, in a way that reflects what they already know. In doing this practice, students can significantly improve their output and their ability in the second language use. The application of these critical reading strategies illustrates their information-synthesizing ability and critical thinking, which are more prevalent among skilled readers.

What's more, data gained from the think-aloud protocol reveal that high performing students actively monitor and evaluate their reading processes. High achievers employ metacognitive strategies, such as making an overview, managing the flow of activities, making overall judgments of their performance, providing immediate reflections, and maintaining consistent performance.

By controlling the flow of activities, high achievers regulate their pace and adjust their strategies wherever required. By making an assessment on their overall reading skills, they acquire the capacity to make an appropriate judgment on their own efforts. From immediate reflections, they can process information on a real time, thereby enhancing their understanding. By applying these reading skills effectively, they acquire consistency and maintain an equal level of performance on reading comprehension exercises. Moreover, applying metacognitive skills helps them acquire adaptive learning skills, and they can strengthen gaps within their understanding effectively.

High achievers employ a unique approach in their work through the application of a set of procedural and task management strategies. These greatly improve their ability to manage reading tasks effectively. A few of these include the strategies of scanning for critical information, reading to understand the gist of it, identifying key terms and themes,

eliminating the wrong answers, comparing the various options, and quick decision-making. All these strategies help to make their reading process easy.

By implementing a scanning method and the awareness of how vital the text is, students can easily identify key information and comprehend overall ideas. Moreover, this method helps them with the identification of the overall concepts and focuses on the most relevant points in the text. Besides, their ability to identify keywords and themes later enhances their general comprehension of the reading text. Through employing such strategies, high achievers can approach challenging reading tasks with greater ease and efficiency.

High achievers take a systematic approach to ruling out incorrect choices. They like to rule out the incorrect choices in the multiple options so that they can pinpoint the correct choice directly. In addition, they actively compare various options to judge the possibility of alternatives. This combined strategy use improves both their decision-making and their effectiveness in reading comprehension significantly. By evaluating each option and eliminating those that fail to qualify, they can make the most informed choices with increased speed and efficiency. This tactical assessment ultimately has a central role in their overall success at comprehending and interpreting complex texts.

Furthermore, successful students implement a set of strategies that demand higher-level thinking abilities. One of the most successful strategies is summarizing paragraphs independently. Not only does this method prompt students to recognize essential information, but it also enhances comprehension and interconnectedness of concepts. As a result of this, students can incorporate key concepts, recognize the connections among various elements of information, and reinforce learning, thus enhancing their comprehension and memorization of the content.

The other procedural strategy employed by high achievers is starting the process of reading with targeted questions, adopting an inquisitive approach to promote increased critical reading of the text. By addressing complementary questions simultaneously, they can identify patterns and establish coherent consistency in their analysis. This means of engagement supports improved understanding of the reading text and allows them to think more critically beyond the surface meaning of the text. Therefore, they can pick up

recurring patterns and conduct in-depth analysis, eventually enriching their overall understanding and interpretation of the reading text.

Overall, the results confirm that high achievers use more than one strategy both dynamically and interactively. They are able to use a number of strategies in attempting to address the complexity of the text and the particular requirements of the task.

The adaptability of the strategies is especially significant in order to assist those who are struggling academically. Strategies such as, paraphrasing, note taking, and self-questioning should be explicitly taught to support those in need of academic support. Apart from this, exposure to the second language (L2) is needed on a regular basis for reading comprehension development since it activates higher-level comprehension and active engagement with the text.

The findings of the interview emphasize students' firm intention to apply basic reading strategies like, cognitive, metacognitive, and affective in performing reading comprehension activities. Students are observed to apply strategies such as inferring, using background knowledge, guessing what will happen next, underlining key words, and visualizing ideas, as well as managing exam anxiety. These are indicative of the careful and targeted approaches adopted by students in engaging with texts, which are an imperative for successful understanding. Nevertheless, there are significant differences in the implementation of other strategies including question generation, note-taking, and reading the passage or question first. This points towards some students being very proficient in specific strategies, yet some might need support so as to apply them on a consistent basis.

With regard to the implementation of metacognitive reading strategies, it has been observed that confidence level in language skills plays an important role because students with high confidence perform better.

This has been accompanied by the existing literature, which has emphasized the role of metacognition in supporting self-regulated learning and strengthening comprehension processes. In addition, the positive correlation between the self-confidence of a student and the application of metacognitive strategies justifies the self-efficacy theory in language learning. This positive self-correlation encourages the students to take charge of

their learning process and to create an independent culture of learning where learners feel they can explore their learning paths with more independence and effectiveness.

Students react with a variety of emotions when answering reading comprehension questions. Some students use their past experience to overcome obstacles; they control their emotions to remain calm. On the other hand, difficult questions cause anxiety in some students, which negatively impacts their performance. Effective time management, psychological avoidance, body relaxation, and maintaining a positive attitude are few of the coping strategies that students use. All of these assist the students in controlling their emotional reactions and enhancing their performance.

Overall, the students' interview revealed that there is no explicit instruction on certain reading strategies, including question generation, note-taking, and changing strategies according to the questions' nature and type. Therefore, strategy training would make students use reading strategies more. In addition, boosting strategies; such as, planning and self-monitoring through guided activities would benefit all of the students, particularly those who lack confidence. Think-aloud protocols would be a suitable way of conducting these activities.

Moreover, the incorporation of stress-reducing techniques, i.e., mindfulness activities, into the curriculum while fostering a growth mindset is also crucial. This kind of strategy helps the students to minimize examination stress, normalize challenges, reduce emotional blocks, and build their overall affective learning capacity.

As per their emotional state, students experience a lot of emotions. While some manage to remain calm, with awareness of body sensations, less anxiety, and acceptance of positive experiences, others become overwhelmed by challenging questions, which affect their performance negatively.

5.4. Research Question 3: *To what extent does the students' reading strategy use correlate with their performance in reading comprehension?*

3.1 *Is there any correlation between students' reading comprehension performance and their cognitive reading strategy use?*

3.2 *Is there any correlation between students' reading comprehension performance and their emotional aspects (affective reading strategy use)?*

3.3 Is there any significant relationship between students' reading comprehension performance and meta-cognitive reading strategy use?

In determining the correlation between the use of reading strategies by students and reading comprehension achievement, the study makes evident a weak positive correlation ($r = 0.148^*$) between the two variables. That is, with increasing average reading strategy use, there is a weak tendency for reading scores to increase too.

A similar result is observed with each reading strategy and its corresponding reading score. The weak positive correlation ($r = 0.120$) for cognitive reading strategy with a p-value of (0.050) shows that there is a slight tendency for an increase in reading score with higher implementation of cognitive strategies. However, it is a marginal relationship; the p-value shows statistical significance.

The strongest correlation pointed out among the three strategies was the metacognitive reading strategy and reading scores of students, with a correlation coefficient of ($r = 0.200$). The Pearson correlation coefficient ($r = 0.200$) and p-value of (0.001) indicate a relatively high level of statistical significance, and this shows that metacognitive strategies such as planning, monitoring, evaluating, and checking understanding are more obvious in their influence on reading comprehension activities, though still have a modest, positive impact on reading scores.

On the other hand, the Pearson correlation with the affective reading strategy is extremely low, with a correlation coefficient of ($r = 0.024$) and a p-value of (0.702), showing that the correlation is so minimal it could never be statistically significant. That means the given research context presents affective strategies as having low linear correlations with reading scores.

Weak correlations in general suggest that although reading strategies can play a role in academic performance, the direct impact on reading scores is limited.

According to Scarcella and Oxford (1992), students' lower reading comprehension levels might be influenced by a number of additional factors. These include factors like language ability, linguistic proficiency (e.g., vocabulary and grammar), background knowledge and quality of instruction, educational background, and effective use of strategies, and personality differences.

I also explored the same variables while interviewing the students, especially with the low achievers. The low achievers mentioned that their reading skills and linguistic ability are major obstacles to their reading comprehension skills.

Students seem to have a lot of trouble understanding the reading passages and questions; this could be due to their limited vocabulary and grammar knowledge. Secondly, they admitted being inconsistent and ineffective in strategy use; they stated that they are unaware of the need to employ a particular strategy for a given question type.

5.4.1 The role of language proficiency and linguistic knowledge for better reading performance

Language ability and linguistic knowledge are important variables which are directly involved in the process of reading comprehension to establish the basis of a reader's skill in interpreting and making sense of written texts. Language performance is the ability of an individual to use a language and can include aspects of vocabulary, grammar, syntax, and fluency (Babayigit et al., 2021).

Improved language ability allows a reader to cover the text rapidly and recognize patterns of sentences, and understand the meanings of new vocabulary and complex sentences. For example, good readers can readily identify phrasal verbs and idioms or derive the meaning of words and phrases from context, but poor readers cannot easily identify even simple words and cannot understand relationships between sentences, which ultimately lead to failure in reading comprehension (Ibid).

Studies have continually demonstrated a significant relationship between the capacity of a reader's vocabulary and reading comprehension. Individuals with greater knowledge of vocabulary have a greater ability to read complex texts, as well as to develop links between opposing concepts.

Even in the think-aloud protocol, I had observed that low achievers are struggling to define and understand the meaning of unfamiliar words literally rather than using their linguistic competence and contextual clues found in the text. However, the high achievers mostly employ their background knowledge and linguistic competence to infer the meaning of unfamiliar words, phrases, and expressions.

Koda (2004) agrees with the fact that language ability, vocabulary, grammar, syntax, and fluency are areas that require attention by academic readers. A good vocabulary makes it

easy for readers to recognize and understand words immediately, thereby reducing mental effort. The knowledge of grammar and syntax allows the students to separate compound sentences and comprehend them. Fluency is about quick word recognition and decoding, hence a simpler process of reading.

Linguistic ability involves language knowledge in the form of structures and systems, such as phonological awareness, morphological ability, discourse and pragmatic ability, and metalinguistic awareness. Phonological awareness assists readers in reading words, whereas morphological ability helps readers in reading parts of words (e.g., roots, prefixes, and suffixes) and in making informed guesses about unknown word meanings. Conversely, pragmatic and discourse knowledge allow the reader to recognize text structure (i.e., cause-effect or compare-contrast relationship), thus facilitating greater understanding (Ibid).

This relationship between these two components contributes to comprehension. Language proficiency provides the convenience required for understanding a text, and knowledge of language provides the syntax required for interpretation. In reality, they cooperate: a reader might possess a proficiency to read a text quickly, but a gap in linguistic knowledge definitely hinders comprehension. Deficiencies in either area can negatively impact reading efficiency. The fact is that limited vocabulary can obscure meaning, and poor syntax can interrupt the ability to connect ideas.

5.4.2. The impact of individual differences and learning styles in reading comprehension

The role of learning styles and individual differences is significant in reading comprehension. This is so because individual differences have a significant impact on how a learner processes and interprets information in reading comprehension. According to Sadeghi et al. (2012), individual differences are exhibited in different forms while a learner is undertaking a reading activity. These include cognitive ability, prior knowledge, motivation, and personality.

For instance, cognitive operations, in this case, working memory capacity, play a central role in maintaining and processing information during reading. Students with high working memory are better at integrating concepts between sentences or paragraphs. Knowledge of words is similarly central to understanding; individuals with broad

vocabulary are better at decoding and understanding challenging texts compared to individuals with a limited vocabulary.

How quickly students read and process text also affects comprehension. Background knowledge is also an important area of individual differences. Individuals with higher background knowledge of a subject have the ability to relate new information to what they previously know and therefore advance comprehension. For instance, students with a social science background can comprehend a passage about the Second World War, better than students without background information in this regard.

Moreover, a reader's motivation and interest in the subject are most important to comprehend. Students who are intrinsically motivated or who truly have an interest in the subject will read deeper, reread difficult sections, and struggle beyond challenges, with greater comprehension. Different attention spans and vulnerability to distraction also come into play when considering how well readers absorb information. Readers with better self-regulation skills are better in comprehension than other readers who are unable to maintain concentration during reading (Lin et al., 2016).

Learning styles, or the various means through which individuals process information, such as visual, auditory, or kinesthetic approaches, are instrumental in determining how readers understand texts. Literature suggests that an individual's learning style can indirectly affect reading comprehension. Visual learners, for instance, work effectively with texts that contain diagrams, charts, or bolded words because they retain information more effectively when it is presented visually or graphically.

On the other hand, auditory learners will perform better at reading aloud or in class from the text since listening to it may support their comprehension. Kinesthetic or tactile learners may struggle with regular reading except as a passive process, like recording notes or marking off major points. In addition to this, some students use a reading-writing technique by which they write down what they read, and it assists them in comprehending the content even more deeply (Eskey, 2005).

Some of the items asked on the questionnaire, like making notes and rephrasing concepts to ensure comprehension, highlighting or circling key words and phrases, and making a summary, are directly related to the above-mentioned concept.

In general, personal factors such as cognitive abilities and levels of motivation have a larger and more direct impact on reading comprehension. Such factors have a direct connection to how far an individual can understand and memorize a piece of writing. Learning styles, however, can impact the way an individual processes reading texts, and thus potentially affect the ease and effectiveness of students' understanding. Consequently, language teachers can enable students to understand more effectively by providing multiple readings and encouraging the habit of applying different strategies of reading.

5.4.3 Effective strategy use

The implementation of strategies in a practical context is needed to improve reading comprehension ability. The application of an appropriate strategy can significantly influence the ability of the reader to analyze, understand, and remember information.

In this current research, findings show that the students use reading strategies at moderate to high levels in the majority of instances, but their reading scores cannot justify such ability; the observed correlation is notably weak ($r = 0.148$), though it has statistical significance (p value = .015). This imbalance can be caused by the failure to apply these strategies effectively. The majority of students perceive that they are using strategies, yet this might be founded upon an illusion of ability.

Upon the interview sessions, it was clearly observed that there is an inconsistency in strategy use among the students. For example, when they were asked about the basic guidelines they follow during reading activities, various irregular patterns were forwarded by the students.

Some students make a preview of the reading text while others directly dive into the questions. High achievers usually begin the reading exam by reading the question first, while others fully grasp the reading text first. Others follow a mixed approach; reading questions and going through the passage and vice versa (See Appendix: 22).

Research indicates that proficient readers usually start by skimming the reading text, such as viewing headings, titles, or summaries, to activate their prior knowledge and set a purpose for reading. This process also helps them comprehend the information and organize their thoughts more efficiently. For example, asking questions like "What do I already know about this content?" or "What might this text be about?" enables a

foundation for understanding. Strategies such as analysis, summarizing, and questioning make readers engaged with the text. Experienced readers also take time to clarify unclear sections, reread challenging sections, or visualize concepts, which improves comprehension and reduces the likelihood of misinterpretation (García & Cain, 2014).

Furthermore, proficient readers are always aware of their reading speed and understand the steps they take. They recognize when they start to lose focus and intentionally use strategies to address these gaps. For example, they might glance at unfamiliar words, break difficult sentences into smaller parts, or relate new ideas to something they already know. This is a self-monitoring skill because it helps them overcome obstacles and stay focused for longer periods.

Generally, the systematic application of reading strategies transforms reading from a simple passive activity to an active and interactive one. This active approach makes readers engage more in a text, maximizes critical thinking, and facilitates knowledge retention. Skilled readers have to apply these strategies depending on the type of text they are reading, including fiction, nonfiction, and academic texts.

According to Banditvilai (2020), using a skillful set of reading strategies is a key to the development of good reading habits, which are essential in guaranteeing academic success and promoting intellectual growth.

Chapter Six

Summary of Findings, Conclusion, and Pedagogical Implications of the Study

6.1 Summary of findings

The quantitative analysis of data revealed that the average score for students in terms of how much they employ reading strategies is ($X = 3.33$). This mean score implies that students employ reading strategies at a modest level during reading comprehension activities.

Moreover, the means of various categories of reading strategies are as follows: cognitive strategies ($X = 3.3317$), metacognitive strategies ($X = 3.4812$), and affective strategies ($X = 3.1335$). These individual means are close to the overall mean and indicate that a significant number of students perform these reading strategies at a moderate level. Therefore, this finding highlights the importance of reading strategies to improve reading comprehension among students.

In addition, the analysis confirms that most of the reading strategies are used by students to a moderate to high level, with a mean usage rate between ($X = 2.5$ and 4.4682). It is clear from the research that a notably high, ninety-six percent of the questionnaire items, a total of 33 out of 36 were used by students to a relatively high level. However, it could also be observed that certain strategies were reported to be less used by the students. These include categorizing words based on grammatical function, keeping a checklist of issues encountered in reading, and discussing with classmates regarding the themes of the reading. These less-utilized strategies, collectively, represent only 4 percent of the total reading strategy items that were quantified in the study.

Regarding the overall correlation between the use of reading strategies by students and reading comprehension skills, there is a weak positive correlation ($r = .148$) between these two variables. It indicates that there is a positive correlation, where the overall mean of strategies increases, reading achievement also increases, but slightly. The significance level (sig. 2-tailed 0.015) being less than the conventional alpha level (0.05) implies that

the correlation is statistically significant, and this suggests that there is less than a 2% probability of the correlation observed occurring by chance.

Outcomes related to each reading strategy and the corresponding reading scores of the students are all in harmony with the overall correlation coefficient. There is a weak positive relationship ($r = 0.120$) and the sig value (0.05) between cognitive reading strategies and reading achievement. Though this result is statistically significant, the correlation coefficient shows there is a slight gain in reading achievement when cognitive reading strategies are used more often.

On the other hand, the correlation between metacognitive reading strategies and reading achievement is somehow better than the other two strategies, cognitive and affective ($r = 0.20$), which is statistically significant at the ($p < 0.001$) level. This indicates there is a positive correlation between the two variables. As students employ more metacognitive strategies, their reading achievement is more likely to be positively improved. On the contrary, the affective approach to reading reveals a different image, and it has a near-zero correlation ($r = 0.024$) with reading achievement, a finding that is not statistically significant ($p = 0.702$). This shows that the utilization of affective strategies is not a major contributing factor to students' reading performance in this research context.

In comparing the use of reading strategies among high and low achievers, the scores in the three types of reading strategies indicate that the high achievers employ these strategies more intensely and effectively than their low-achieving peers. Specifically, high achievers obtained mean values of ($X = 3.786, 3.827, 3.233$) for cognitive, metacognitive, and affective reading strategies, respectively. Low achievers, on the other hand, exhibited mean scores ($X = 3.270, 3.450, 3.136$) in the said categories.

The most commonly used cognitive strategy among high achievers is translating concepts into their native language, with a mean value ($X = 4.425$). Word classification based on grammatical functions and note-taking on ideas are the least common among high achievers, with mean scores ($X = 2.468$ and 2.680). Similarly, in the case of low achievers, the same pattern was noted and the same cognitive strategies were used, with

mean values of ($X = 4.470$) for concept translation to native languages and ($X = 2.352$) for word categorization by grammatical functions.

For metacognitive strategies, high achievers highly employed the strategy of adjusting reading pace during examinations, with a mean value of ($X = 4.361$). The least employed strategy was that of criticizing the reading text, with a mean value of ($X = 2.680$). Low achievers also had a preference for reading slowly and attentively to grasp the general idea, with a mean score ($X = 4.068$), and also scored comparably ($X = 2.680$) on critical analysis of a reading text.

With regard to the use of affective reading strategies, both groups demonstrated similar trends for their highest and lowest mean scores. The highest mean score ($X = 4.531$) was achieved by the high achievers in dealing with anxiety at examination time, and the lowest mean score ($X = 1.595$) was associated with the use of a checklist to remember difficulties. Low achievers also followed similar trends with mean scores ($X = 3.882$) on reduction in anxiety and ($X = 1.852$) on the use of checklists. Discussing reading problems with peers to find solutions is also the most neglected socio-affective strategy for both high and low achievers, with mean values of (1.893) and (2.460), respectively.

Therefore, this finding shows that both high and low achievers share similar tendencies in the reading strategies they commonly favor and avoid despite their differences in how often they utilize them. The only significant difference between high and low achievers is in the frequency with which they use these strategies, with high achievers favoring more frequent usage of these strategies. Moreover, high performers are characterized by their specific use of certain metacognitive reading strategies (See Table 4.7 for details).

In the qualitative data analysis, interviews with some high and low achievers revealed important findings for this study. Through these interviews, useful information regarding the fundamental causes of preferring some strategies and disregarding others was identified. The interview questions were also helpful in responding to questions that had not been adequately answered using questionnaires alone. Engaging directly with students, I was able to disclose wide-ranging perspectives and experiences that enriched the overall data analysis.

Most of the interviewed students had explicit and clear thoughts regarding the use of cognitive reading strategies in readings aimed at improving reading comprehension. Major cognitive reading strategies used by the students include making inferences, using their prior knowledge, generating questions, predicting outcomes, identifying key terms, and visualizing concepts, among others. These methods provide multiple ways of comprehending and interpreting texts with a focus on the active participation and engagement of the students while reading.

Further, the study finds that students who are very comfortable with reading comprehension activities use more metacognitive strategies. Strategies, such as self-regulation and self-monitoring during reading, are used frequently by high achievers, indicating a strong and positive relationship between confidence levels in language capabilities and effective application of metacognitive strategies for better understanding and memory.

While using affective reading strategies in taking reading examinations, the majority of the students reported they would typically read comprehension questions under stress-free and relaxed conditions. These students shared their perspectives freely and boldly that while working on the reading text, their emotional condition has a positive effect on their information processing and memory ability. This absence of tension is the result of their successful utilization of affective strategies, which enable them to become more engaged with the text so that they would be able to concentrate on learning and avoid negative moods. Therefore, this pleasant emotional feeling during reading comprehension activities can result in better performance and learning experience.

However, some students reported that they feel extremely uncomfortable while sitting for reading comprehension exams. They explained that this discomfort is due to various reasons associated with the testing procedure, which may lead to increased tension and anxiety. Students also reported various problem-solving strategies applied in managing the emotional matters that are always common during exam sessions.

Moreover, the students showed limited interest in some reading strategies. These include taking brief notes, summarizing ideas, making analysis, generating questions, using

checklist to remember challenging issues, and negotiating with classmates on how to apply these strategies in practice. This lack of interest is due to their limited or no experience to such activities in their previous learning contexts. Besides, students also find these strategies to be very time-consuming, and believe that engaging in such strategies wastes time.

The think-aloud protocol, administered to the high and the low achievers, showed that both groups exhibited similar performance in cognitive and metacognitive reading strategies. Major difference in strategy use was noted in the metacognitive reading strategies. The high achievers were proven to be more effective users of metacognitive strategies than the low achievers.

Metacognitive strategies such as checking the correctness of the answer, doing similar questions together, evaluating the overall work, controlling the flow of comprehension activities, and intra-textual analysis appeared to be characteristic metacognitive reading strategies employed by the high achievers but were not present in the reading performance of the low achievers. They use these strategies more often and apply them precisely in situations calling for specific needs, which in turn increase strength into their overall reading performance.

I have also found from the think-aloud protocol that high achievers possess a greater understanding of the target language and apply this linguistic knowledge when using reading strategies, which is manifested in increased accuracy in reading comprehension activities.

6.2 Conclusion

The results of the study indicate that students employ the majority of the reading strategies in a moderate to high range. The overall mean of the students' utilization of reading strategies ($X = 3.38$) confirms that students are moderate users of reading strategies in general. The grand mean of all reading strategies, cognitive, metacognitive, and affective, with the mean value ($X = 3.3317, 3.4812, \text{ and } 3.1335$), also supports the students' average use of reading strategies. However, discussing ideas with peers and

using a checklist to remember challenges in reading activities were the least used reading strategies among the students, with hardly any strategies.

When examining the reading strategies employed by high and low achievers, the high achievers score better than the low achievers in all kinds of reading strategies. The high achievers' mean scores on cognitive, metacognitive, and affective ($X = 3.786, 3.827,$ and 3.233) indicate that they use most of the reading strategies at a higher frequency level. It was only the affective learning strategy that was utilized at the moderate level by the high achievers. On the contrary, the low achievers' average scores in cognitive, metacognitive, and affective reading strategies, with the mean figures ($X = 3.270, 3.450,$ and 3.136), reveal that the low- achievers are moderate users of reading strategies. This implies that the main difference between the high and the low achievers in terms of reading strategy use is mainly at the frequency level. The reading strategies used by low achievers are not particularly poor, yet the high achievers use the strategies with more frequency in comparison to the low achievers.

From correlation analysis, it is noted that there is a positive correlation ($r = 0.148$) between the use of reading strategies among the students and reading comprehension achievement. This implies that with a rise in the general mean of the strategies, there is a slight tendency for reading scores to increase as well. The value of significance ($p = 0.015$), which is below the cut-off point of (0.05), shows that the relationship is statistically significant and there is extremely little chance of this relationship occurring by chance.

The regression analysis was also applied to check the statistical significance of each reading strategy with respect to the dependent variable. The analysis shows that the metacognitive reading strategy, as indicated by the regression coefficient ($b = 7.803$) and the p-value (0.249), is significantly related to the dependent variable. Unlike this, the affective and cognitive reading strategies with the regression coefficient and p-values ($b = -0.855, p = -0.022; b = -2.418, p = 0.074$) indicate that such reading strategies are not significantly influencing the dependent variables examined in this research.

Overall, the weak positive correlation between reading strategy use by students and reading score tells us that reading strategy use by students was not the only variable in determining students' reading performance. It is likely to be determined by several other variables; for instance, language ability, linguistic proficiency (vocabulary and grammar), educational background, effective strategy use, differences among learners, and learning styles.

The interview analysis also tells us that students exhibited a strong tendency toward various cognitive, metacognitive, and affective reading strategies. However, they also showed inconsistency in certain strategies. For example, generating questions and note-taking are considered to be long processes as well as time-consuming tasks for most students. Thus, the students restrict themselves to performing those strategies, while others use them to learn the general idea of each paragraph and immediately answer the questions.

In the use of metacognitive reading strategies, most of the students had a positive attitude toward their use. Students engage in planning and monitoring activities as part of their reading comprehension activities. It has also been observed that students who are self-confident in second language learning are the most frequent users of metacognitive reading strategies.

Concerning the use of affective reading strategies in reading assessments, some of the students explained that they would normally complete reading comprehension tasks without feeling anxious or stressed. Others expressed their general uneasiness and concern during the exam process, which they associated with the nature of the test.

When confronted with challenging questions, they typically become overwhelmed, which restricts their capacity to provide correct answers. On the other hand, the majority of students said that they do not get nervous as a result of their prior practice with the reading comprehension activities.

Finally, the think-aloud protocol analysis confirms that both the high and low achievers relied on various types of reading strategies. However, high achievers apply those strategies with very high-frequency levels. In addition, they employed metacognitive

reading strategies that were significantly different from those used by low achievers, and this helped them monitor and evaluate their reading comprehension activities.

6.3 The Implications of the Research for Reading Instruction

The study "Students' Reading Strategy Use and Performance in Reading Comprehension" aims to investigate the relationship between reading strategies and the reading comprehension performance of students. Further, it identifies the most and least often employed reading strategies by the students and the difference in strategy use between the high and the low achievers. The study thus pinpoints several potential pedagogical implications for language teaching, particularly in teaching reading skills.

6.3.1 Explicit Instruction in Reading Strategies

The study provides valuable information for language teachers dedicated to teaching a diverse reading strategy. The study emphasizes the need to consider cognitive, metacognitive, and affective factors when delivering instruction. Besides, the study supports learners in developing their reading competence by applying these strategies. Thus, this holistic approach equips students with vital tools for reading texts and fosters deeper understanding to reading skill.

It is very important to teach students reading strategies for several reasons, because reading strategies improve total understanding, critical thinking, and general reading skills. Reading strategies make readers engage more actively with the thoughts in a text and, therefore, retain more information. Moreover, the practice of reading strategies effectively increases the student's desire for reading, as the comprehension exercises they face require them to check, compare, and evaluate their knowledge of a reading text. Similarly, effective reading strategies equip students with thinking and evaluation skills necessary for them to fully comprehend texts and find relationships between them. As a result, they become more confident and prepared to challenge difficult texts since they are acquired the essential skills to understand them.

6.3.2 Enhancing Cognitive Reading Strategies

This is crucial, especially in situations where students have faced difficulties with memory retention and critical thinking. In this study, for example, students demonstrated

a limited tendency towards the use of strategies such as note-taking and question generation. Teachers should therefore encourage good note-taking abilities and explain how to generate questions that address the key themes of the reading text. Language teachers may advance these abilities by giving uniform tasks, which will make the activities more favorable to the students. Furthermore, practicing continually with various cognitive strategies, such as summarizing, predicting, and inferring, makes reading activities more natural.

6.3.3 Promoting Metacognitive Reading Strategies

The quantitative data analysis, particularly the regression analysis, shows that metacognitive reading strategies significantly affect students' reading performance, performing better compared to cognitive and affective reading strategies. This indicates that those students applying metacognitive strategies like monitoring their understanding and adjusting their method of reading are most likely to achieve improved reading performance. Language teachers should therefore focus on highlighting the incorporation of metacognitive reading strategies in teaching methods. Doing this may enhance reading skills among the students and help them achieve higher academic success.

In line with the present study, other studies (e.g. Ruban & Reis, 2006; Vrugt et al., 2008; Ponnusamy, 2006) confirm that students with high academic success are more likely to employ metacognitive reading strategies than low achievers. This finding highlights the necessity of instructing these strategies since they greatly improve reading comprehension and have a positive impact on the overall learning experience of the students. By empowering students with these skills, teachers can promote a better understanding of texts and support greater academic success.

Generally, teachers should incorporate metacognitive skill in their reading lessons, as it fosters students' reading comprehension activities and overall academic performance. In doing so, they can adequately promote and enable students' development of reading ability, which eventually leads them to success in academic life. Such integration not only facilitates the development of independent reading habits but also makes learners more reflective and aware readers, hence enhancing greater comprehension and appreciation of what they read.

6.3.4 Addressing Affective Factors

Affective strategies are attitudes and feelings that can potentially become instrumental in students' ways of encountering with anxiety and stress. They are essential because such practices can affect students' ability to focus and excel in their studies. When students are stressed or nervous, they are unable to focus on studying or even grasp what they study. To empower the students to manage stress, there must be favorable environment, where the students feel valued by others and experience confidence. This includes open sharing of feelings and supporting them when necessary. Moreover, positive reinforcement, i.e., appreciating or rewarding when the students do something good, and developing self-concept are major affective elements that enhance students' learning interest.

6.3.5 Enhancing Vocabulary and Language Skills

Most research verifies that vocabulary and language skills are essential factors in effective reading comprehension. Therefore, reading instruction should be supplemented with activities aimed at improving students' vocabulary and mastery of their language ability, and teachers should assist students with the resources they require so that they can interpret and interact with texts at a deeper level, which, in turn, provides a more complete learning experience.

6.3.6 Implementing Formative and Summative Assessment Techniques of Reading Strategies

Ongoing formative evaluation of the reading strategies enables language teachers to monitor students' comprehension of the reading text and offer positive feedback. Summative evaluation of the reading strategies, on the other hand, examines students' performance in reading comprehension after completion of the instructional time. Formative may include activities such as class observation of students' discussion and quizzes that help teachers to identify effective strategies employed by students and examine their progress in using reading strategies. Summative, on the other hand, include final tests, reading text assessment, projects, portfolios, and presentations where students explain how they used various strategies to comprehend a reading text. This helps teachers gather data to decide students' general proficiency in reading strategies.

6.3.7 Improving Differentiated Instruction

One of the significant aims of this research was the comparison of reading strategies used by high achievers with those that had been classified as low achievers. As students may use multiple strategies with different levels of effectiveness, teachers need to be able to adapt their methods to address certain learning needs. This may include dividing up the students based on their strategic approach and capacity to comprehend, hence giving specific support.

It would be practical for teachers to cluster students on the basis of performance, interest, and learning styles. For instance, low achievers can be grouped in a small size so that they can work with the teacher on basic comprehension skills and cognitive reading strategies. Conversely, it would be possible for high-performers to work alone or with a partner on more challenging materials.

Encouraging students to read a wide variety of reading texts significantly improves their reading comprehension skills and makes them more interested in reading goals in general. Teachers should provide reading texts that can effectively evaluate students' varying level in reading comprehension, as well as strategy use. For example, they can provide easier texts to struggling readers and complex texts for advanced readers. Such differentiated instruction not only meets individual learning needs but also provides a more challenging and inclusive reading platform for all learners in a class.

Besides, reading topics that can interest students will be utilized to maximize perceived motivation. Incorporating various essay forms, such as narrative, descriptive, expository, procedural, and persuasive, can make reading instruction more interesting and enjoyable. This diversity, in addition to engaging the students, fosters the use of a range of reading strategies. Also, it is significant to peer-to-peer conversations, which will promote comprehension, as some students may require direct teaching while others need to share what they have learned independently.

Additionally, teachers can greatly improve students' reading comprehension by providing assistance prior to engaging with a new text. One of the effective ways to do this is by previewing the reading texts for the students. Allowing the students to see the content in

advance reduces the degree of difficulty and increase familiarity. If the students are familiar with the topic or keywords beforehand, they will be more inclined to keep up and understand the key points during the actual reading class. This stage is especially useful for challenging or complex texts as it provides a generalization which psychologically conditions students.

In general, individualized reading instruction is essential to students' building confidence because they read at their own pace and level of achievement. The approach is particularly beneficial for learners with learning disabilities as it meets their specific needs. Further, the practice develops reading comprehension skills in a diverse group of students as well as ensures equity in education, guaranteeing every learner's potential for achievement and excellence.

6.3.8 Taking into account factors besides strategies

The findings of the research clearly state that using reading strategies cannot be the sole factor for better reading comprehension performance. Both teachers and students should consider other factors that could affect the students' reading comprehension performance. These could be linguistic proficiency, prior knowledge and quality of teaching, educational background, effective use of strategies, personality differences, and learning styles. Teachers should strive to advance those language factors so that students can perform better in reading comprehension.

6.3.9 Fostering Teachers' Professional Development

Language teachers need to have a greater awareness of various reading strategies and how to use them appropriately to maximize learning. This awareness is essential for both student's performance and teacher's analytical approaches to teaching. From frequent practice and professional training on a wide-ranging of reading strategies, teachers will have valuable information on cognitive, metacognitive, and socio-affective strategies, which will be specifically used to fulfill the needs of particular texts, individual students, and the broader education goals. This integrated approach prepares teachers to provide adequate support to their students' reading development in a meaningful way.

Since every student learns differently, e.g., kinesthetic, visual, and auditory, teachers should be in a position to accommodate these differences by using multiple reading strategies to guarantee that each student is helped by strategies in line with their cognitive skills, language abilities, and learning preferences. The use of a variety of strategies and approaches in reading instruction, therefore, ensures that skilled readers are adequately challenged and struggling readers receive the required assistance.

The principles of flexibility, equity, and inclusiveness in schools can be attained using different learning strategies. Employing several learning strategies enables teachers to tailor their teaching methods in response to student reactions, the classroom dynamics, and the needs of the subject being taught. Such flexibility makes the learning environment more conducive as well as ensures that there is equal opportunity and access to learning materials and tools for all students. By combining different approaches, more personalized learning process is established that corresponds to the respective abilities and issues of each student, finally resulting in diversified and integrated learning process where each learner is motivated to be an active participant.

Teachers can introduce major reading strategies to scale up reading ability among the students. Guided reading is one of the approaches where teachers work with small group of students at a similar reading level to help them read and understand texts independently. Guided reading allows teachers to provide individualized guidance and focused support, thus creating an individualistic learning setting.

Furthermore, engaging in close reading through a gradual examination of the text significantly supports students' understanding. By giving emphasis to specific sections of a reading text and examining of language structures and their meanings, students can achieve a more comprehensible understanding and improve interpretive skills. All these combined methods have a basic function to promote students' reading comprehension skills.

6.3.10 Peer collaboration

The findings of the research suggested that students were insufficiently skilled in some socio-affective reading strategies. These involve engaging in peer discussion and using checklists as a method of helping to remember and resolve problems related to reading

comprehension. Language teachers should therefore emphasize cooperative activities in English as a Second/foreign Language classes. By establishing a collaborative learning environment that encourages peer-to-peer interaction, teachers can enhance the efficiency of reading strategies along with overall student achievement.

6.3.11 Pursuing additional research

Researching reading strategies and reading comprehension issues is a very important concern in second/foreign language instruction. Exploring possible variables that could affect students' reading comprehension performance can help address problems related to reading instruction. These variables could be factors, such as culture, students' motivation, and socioeconomic status.

It would thus be beneficial to conduct more qualitative research to obtain an adequate understanding of the individual differences that affect the implementation of reading strategies. This kind of research can be conducted through case studies, in-depth interviews, and focus group discussions in analyzing complex issues regarding the implementation of reading strategies.

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Appendices

Appendix 1: Article I: Students' Affective Reading Strategy Use Vis- a-Vis Their Performance in Reading Comprehension

An Article Presented at the 32nd Annual Conference of the School of Language Studies, Addis Ababa University

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Abstract

This study investigates the use and effects of affective reading strategies among Grade 12 students in Addis Ababa, Ethiopia. It concerns a gap in the Ethiopian high school system regarding the continuous underuse of these approaches to English reading comprehension; there is disconnection between teacher instruction and student practice. A combined descriptive-correlational design was implemented to collect data through self-administered questionnaires, Cronbach's Alpha = 0.757, and reading comprehension tests from 76 randomly selected students. The results indicated that anxiety reduction strategies, such as self-encouragement, were frequently employed by students (mean=3.72), while monitoring physical responses also had a high mean of 3.68. On the other hand, they showed a low adoption for collaborative strategies such as peer discussion, with a mean of 2.19, and low for structured strategies like the use of checklists, which had a mean of 1.72. A key finding in this respect is the moderate positive correlation, $r = 0.60$, $p < 0.001$, between overall affective strategy use and reading comprehension performance. These findings, therefore, signify that affective strategies are of essence in building emotional resilience, at the same time as academic success, while there was considerable variation in student preferences. The study concluded that differentiating instructional approaches are necessary in bridging the gap in implementation and thereby fully realizing the potential of affective learning in Ethiopian English education.

Keywords/phrases: Language learning strategy, affective learning, reading comprehension, reading strategy, emotions, correlation

Introduction

Affective learning refers to the emotions, attitudes, and values of students, which many educators consider the very core of the learning process. It is not only knowledge acquisition but also how the learners feel while learning. It further contributes as a strong factor in reading comprehension. The emotions that relate to self-worth, motivation, anxiety, confidence, and risk-taking all play major roles in how students' acquisition of new skills takes place, which is very crucial in language learning (Habok & Magyar, 2017).

The integration of affective learning strategies in education makes the experiences of students more meaningful and interactive. This, in turn, goes far beyond transmitting information to developing the emotional aspects of learning. Thus, it enables students to sustain motivation, develop their self-esteem, and relate more closely to the subject matter. Affective learning strategies provide the required base to meet cognitive and emotive needs, which is crucial for success at school.

Horwitz (1995) points out many remarkable advantages of the affective learning strategy, including increased student participation, emotional stability, confidence, social skills, higher motivation towards learning, and academic success. The strategies of affective learning make the students more confident and secure; they generate enjoyable learning and provide students with opportunities for self-assessment of their achievements and adjustment to major challenges.

Gardner and MacIntyre (1993) add that it is the emotions that lie at the heart of the learning process. Further understanding in the field of affective learning may be one of the crucial elements in developing students for their emotional intelligence, critical thinking, and finally instilling self-confidence. Stander (2022) further points out that one of the major challenges for students, particularly in language learning, is to become skillful and independent learners, practicing the principle of autonomy. Teachers similarly often find the challenges in providing support to poorly performing students, especially when any affective strategies have not been used to overcome emotional barriers.

According to research by Par (2020), students who use effective affective learning strategies usually perform better than other students. Successful learners have acquired a range of emotional skills that can help them adjust their learning in different situations. Affective learning, according to Zare (2013), is helpful to students in managing their emotions, which is one of the essential elements for language improvement. Learners who employ such technique usually feel more confident and less anxious, while those who do not may lag behind in the process.

Basically, this research shows that emotion is the major component in language learning. Positive feelings and attitudes can make language learning more successful and more enjoyable, whereas negative emotions can greatly dampen students' improvement. By giving attention to affective learning, educators are able to help learners learn better and achieve a positive attitude toward teaching and learning.

2. Theoretical Framework

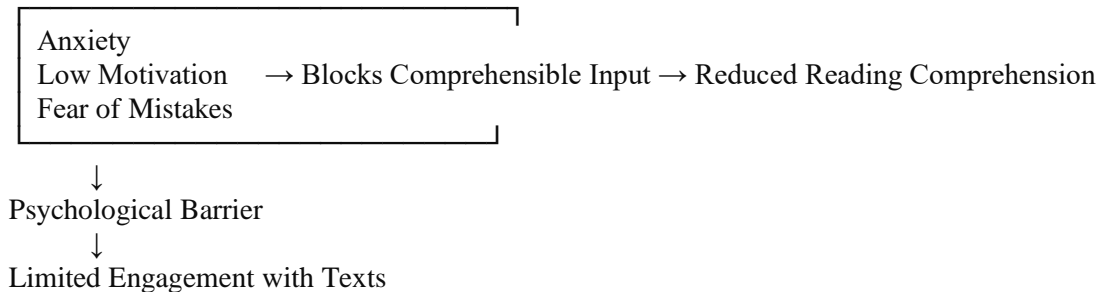
2.1 Affective Filter Hypothesis (Krashen, 1982)

This study is based on Stephen Krashen's Affective Filter Hypothesis (1982), which provides a systematic theoretical framework relevant to the investigation of the relationship between students' use of affective reading strategies and their reading comprehension performance. Krashen's theory emphasizes that emotions such as anxiety, motivation, or self-confidence play an important role in new language acquisition and the development of new skills, including reading comprehension.

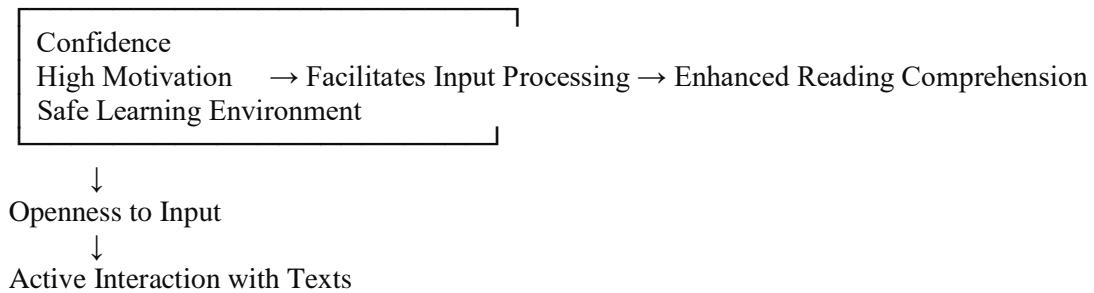
The Affective Filter Hypothesis suggests that feelings either help or hinder learning. According to this hypothesis, there exists a sort of mental "filter" which monitors the amount of comprehensible input that stimulates the language-learning mechanisms of the brain. If the learner is motivated, confident, and relaxed, the filter remains low, and the linguistic input can be processed quite successfully. But if the learner feels anxious, stressed, or insecure, the filter goes up and blocks the input, preventing learning-even if the instructional materials are of good quality and appropriately delivered.

Figure 1: Relationship between Affective Learning Strategies and Reading Comprehension

High Affective Filter (Negative Emotions)



Low Affective Filter (Positive Emotions)



3. Statement of the Problem

Despite the increase in interest, there still exists a significant gap between teachers and students in the implementation of affective learning. It becomes more evident in reading comprehension among Ethiopian high schools, where the instructional aspects of the English language have not yet taken full advantage of affective learning. Ethiopian classroom practices are usually filled with cognitive and linguistic emphases; the emotional and motivational needs of students are barely considered.

Drawing on many years of experience in teaching English language, the researcher has observed that students repeatedly have difficulties in employing necessary affective strategies, such as self-motivation, sustained concentration, and control of physiological responses to stress, basic to successful language learning.

These are complex barriers: teachers may not have sufficient training or resources, while the students often find it difficult to relate to these strategies meaningfully. Because of

such teaching practices, affective approaches cannot be aligned with the curriculum for the integrated development of language and emotions.

On this note, Karpicke et al. (2009), in brief, highlight that lack of motivational practices led to poor academic performances, and most specially in language acquisition, learners could feel a drop in motivation to read and increased anxiety and generally poor performance in comprehension.

Therefore, the present study is important in making students aware of the role of affective learning in reading comprehension, and it also builds their capacities for dealing with their emotions and classroom conditions that develop self-confidence and personality. By emphasizing the use of affective learning strategies, teachers will be able to provide a more complete educational experience that furthers language proficiency and develops the emotional resilience of students.

4. Research Questions

1. To what extent do Grade 12 students in Addis Ababa high schools apply affective learning strategies during reading comprehension activities?
2. Is there a significant correlation between students' use of affective reading strategies and their reading comprehension performance?

5. Hypotheses

The present study tests the following hypotheses:

1. H₁: Students make extensive use of affective reading strategies during reading comprehension activities.
2. H₁: There is a positive correlation between students' affective reading strategy use and their performance in reading comprehension.
3. H₀: Most students do not regularly employ various affective reading strategies when involved in reading comprehension activities.

4. H₀: There is no correlation between students' affective reading strategy use and their performance in reading comprehension.

6. Review of Related Literature

6.1 Affective Learning and Its Impact

Formal conceptualization of affective learning originally dates back to the landmark 1948 conference of the American Psychological Association, during which an assemblage of psychologists and educators advocated for an educational program that went beyond mere factual learning. Thus, this conference played a significant role in establishing the concept of affective learning domain that encompasses emotions, attitudes, and values that ultimately shape learning patterns among students. This conference, according to Gano (2009), was a remarkable event that promoted a system to reinforce instruction to better integrate learning with personal development.

Affective learning places emphasis on learners' emotions, attitudes, and values operating in the way students receive information and engage themselves with their environment. This 1948 framework was to serve as a model for educators on how to create classrooms in which emotions are recognized and valued, enabling them to tap into the unique strengths and feelings of students. It again underlines the fact that learning is not a merely cognitive process but an integrative one, involving mind and heart.

6.2 Manifestations of Affective Learning

Researchers have conceptualized affective learning across three hierarchical levels, including self-awareness, emotional regulation, and social or interpersonal strategies. Self-awareness focuses on recognizing and understanding one's own emotions, motivations, and attitudes toward learning, while emotional regulation controls the emotions and attitudes in an effort to enhance learning effectiveness. Social and interpersonal strategies, in turn, involve using social awareness to interact with others effectively during learning (Krathwohl & Anderson 2000).

At the group level, affective learning affects class dynamics and student interactions with society at large. It pertains to creating a learning environment where all students are

respected and motivated. Gardner (1985) underscored the idea that learners are not passive recipients of knowledge; rather, their feelings, expectations, and personal history actively contribute to understanding. Further, students, when aware of the respect their performance holds for both teachers and peers, will be more motivated to work, and vice-versa, have low expectations that might arise, making them frustrated.

Emotions are equally important in recalling and retention of concepts. According to List (2021), when students are in a good emotional state, that is, excited or curious or joyful, they remember concepts better. Thus, it is well established that language learning and comprehension of complex concepts are improved if positive emotional states are generated, which in turn underlines if they are in negative emotional states.

.Horwitz, (2010) goes on to indicate that emotions not only facilitate memory but also improve conceptual understanding. When students connect emotionally with learning material, they are far more likely to understand concepts fully and think creatively. On the other hand, as Hargreaves (1998) warns, the exclusion of emotions can drain the meaning of the subject matter, rendering students disconnected and disengaged from knowledge.

Self-esteem is the foundation upon which these processes rely. Altmann et al. (2012) point out that students' learning is directly impacted by their self-perception. A supportive and affirming classroom provides the avenue for risk-taking, and subsequently deeper involvement with academic tasks. Krathwohl and Anderson (2000) note that confident students are more likely to accept challenges, while insecure students are usually unable to make much progress. This accounts for early interventions in reading comprehension- such as giving students effective learning strategies-which help boost confidence before self-doubt seeps in (Dörnyei, 2005).

6.3 The Role of Emotions in Language Learning

Emotion plays a significant role in language learning. During the 1970s, linguists Dulay and Burt introduced the concepts of affective components and affective filters by suggesting that emotional factors act as gatekeepers that can facilitate or impede language acquisition. They contended that the emotional state of a student-including motivation,

confidence, and anxiety-directly influences the internalization of the new language and, therefore, creates the base for further research in the area.

Later on, this hypothesis was further developed by Stephen Krashen in 1982 as part of his theory of second language acquisition. The Affective Filter Hypothesis postulates that emotions act to filter the input that a learner can acquire in language. Positive feelings, like excitement and self-assurance, lower the filter and allow input to be processed. Negative feelings, such as the fear of failure and low self-esteem, raise the filter and impede acquisition even when the input is comprehensible. For instance, while the excited student will learn the new vocabulary more easily, the same material might be impossible for an anxious one to remember.

Krashen's work emphasizes the need to establish a relaxing or low-anxiety classroom atmosphere that is supportive of language learning. Teacher feedback and motivation, and the act of giving constructive feedback are critical to lowering the affective filter and building up the confidence needed for successful learning. As Abdolrezapour and Tavakoli (2012) point out, attention to students' feelings promotes their language acquisition process and develops their personal growth and development.

This emotional filter also influences reading comprehension directly. Generally, the stronger the emotional barriers, a high level of anxiety or low confidence students have, the more difficult it usually is for them to process and grasp the meaning of texts. On the contrary, a supported student who has self-assurance engages with the content and retains information during reading. Quite literally, emotions are central and not peripheral to the process of language learning, or indeed learning more generally.

Method

7.1 Study Design

This study adopted both descriptive and correlational research designs. The descriptive design was used to describe the kinds of affective reading strategies adopted by students, while the correlational design showed the relationship existing between the strategies and students' reading comprehension performance.

7.2 Participants

The study samples were grade 12 students in selected high schools of Addis Ababa during the 2024 academic year. In this study, the researcher chose grade 12 students because they would presumably be closer to completion of high school and would have established a strong pattern of learning strategies throughout their school years. Of these, a sample of 76 students was drawn using a random sampling method from two high schools.

7.3 Instruments

Data were collected by using a self-administered questionnaire and through administering a reading comprehension test. Eight questionnaire items were used to determine the reading strategies used by students. Students responded on a 5-point Likert scale that ranged from 1, never or almost never, to 5, always. The reliability of the affective reading strategy items was examined by a Cronbach's Alpha score of 0.757. The reading comprehension test was conducted to check the students' reading comprehension performance. Moreover, the correlation between the strategy use and reading comprehension performance was examined using the Pearson correlation coefficient.

8. Results

Table 1: Mean and Standard Deviation of Affective Reading Strategies

Strategy items	Mean	Rank	Std. Deviation
Reducing anxiety during exam sessions	3.9588	High	1.15451
Self-encouragement to avoid anxiety	3.7154	High	1.21142
Paying attention to the positive and negative physical responses	3.6779	High	1.22629
Taking a risks to answer difficult questions	3.6367	High	1.22284
Getting immersed while reading a reading text	3.5805	High	1.16822
Practicing progressive relaxation strategies before reading	3.0824	Moderate	1.14757
Discussing thoughts with peers regarding the usage of reading strategies	2.1948,	Low	1.19817
Using checklist to remember challenges	1.7191	Low	, 0.76565
Grand Mean = 2.9956			Av. SD = 1.1506

As presented in Table 1, strategies related to reducing anxiety during exams (Mean=3.96) and self-encouragement (Mean=3.72) were the most utilized, their relatively low standard deviations indicating that the students shared a common view of these factors. Strategies dealing with attention to physical responses, risk-taking, and deep immersion also represent high mean values (from 3.68 to 3.58), though their higher standard deviations indicate more variability in the use of these strategies.

On the other hand, the strategies of discussing thoughts with peers and using checklists to remember challenging concepts are the least used strategies among students, with mean values of $X = 2.19$ and 1.72 , respectively. The weak mean scores, with their respective variability, indicate that students generally perceive these strategies as relatively ineffective or unfamiliar to them.

Table 2: Overall Correlation between Students’ Reading Strategy Use and Reading Score

Affective reading strategy use	N	Pearson correlation (r)	Level of significance sig (2-tailed)
Students’ affective reading strategy use vs. their reading performance	267	0.60	0.001

As shown in Table 2, the analysis shows a statistically significant moderate positive correlation between students' use of affective reading strategies and their reading comprehension performance ($r = 0.60$, $p < 0.001$), which shows that higher use of the affective strategies correlates with better reading outcomes.

9. Discussion

The result shows that controlling anxiety and self-encouragement strategies are most liked by the students. The low standard deviations in both strategies indicate that students use these strategies regularly in a very promising manner. Deep immersion, risk-taking, and monitoring physical responses as strategies are highly practiced, showing students' interest in engaging deeply with reading texts and meeting challenges. However, higher

standard deviations in these strategies indicate that there is disparity in awareness among the students regarding the use of these strategies.

However, the use of collaborative or peer discussion and checklists to recall challenging moments is not promising. The probable cause may be a lack of structured opportunities beginning from the lower grades, cultural or individual preference for independent learning, or a perception that these methods are hard to do or ineffective.

This positive correlation suggests that students with better strategy use for emotions and engagement have higher levels of reading performance. Thus, the main result, a positive correlation between the use of socio-affective strategy and reading performance is both statistically significant ($r = 0.60$) and educationally meaningful. Therefore, this provides the basis for accepting the alternative hypotheses, H_1 , that students use these strategies extensively and the implementation of these strategies correlates with performance, while rejecting the corresponding null hypotheses, H_0 .

The overall result also confirms the established theory and previous research. It supports Krashen's Affective Filter Hypothesis in a way that lower anxiety and higher motivation probably assist in finer processing of reading input. It also verifies the work of Oxford (1990), in which it was found that the affective strategies help learners in managing self-confidence and developing constructive attitudes.

Other studies say that with anxiety reduction and heightened self-awareness, students are able to work on their concentration, critical thinking, and resilience, which in turn enhances reading comprehension. Similarly, Aydin (2008) suggests that learners who can listen to their body reaction, respond positively, and regulate their emotion can achieve better performances over time.

10. Conclusion

The findings of this study reveal the significance of using affective learning strategies to enhance reading comprehension performance. Affective learning strategies, such as anxiety reduction, risk-taking, and deep engagement, are widely used by the students and correlated significantly with the reading score.

However, the considerable variability in strategy use and the poor utilization of collaborative learning and structured methods, like using checklists to recall challenging concepts need more personalized and intensive pedagogical approaches for improvement. By focusing on those gaps and enhancing a supportive learning environment, teachers can help students develop a wider range of reading strategies, which in turn advances both academic achievement and emotional strength.

11. Recommendations

Based on the findings, the following recommendations are proposed:

1. Differentiate Instruction: Too often, teachers fall into a one-size-fits-all model. They need to provide a variety of affective strategies; in this way, students will begin to understand which approaches work best for them as individuals.

2. Model and Scaffold: Teachers should overtly model the various ways in which learners use different kinds of affective strategies (for example, think-aloud protocols to encourage themselves), with structured, guided exercise in reading lessons to build up student competence and confidence.

3. Normalize Emotional Management: Discussion of reading anxiety and emotional regulation should be part of the language classroom, framed as central skills to promote academic success.

4. Promote Collaborative Learning: The curriculum designers and teachers should provide reading activities that essentially require or value the discussion between peers, reflection, and negotiation of meaning.

5. Encourage Student Exploration: Students should be encouraged to take the initiative in exploring and mastering different affective strategies, especially those related to collaboration and structure, which are underutilized. Moreover, participating in a study group will allow them to share experiences and emotions, which further enhance their affective learning and reduce anxiety.

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Appendix 2: Article II

Ethiopian Journal of Social Sciences and Language Studies (EJSSLS)

Exploring Reading Strategies: A Comparative Study of High and Low Achievers

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Abstract

This study investigates the reading strategies employed by high- and low-achieving grade 12 students in Addis Ababa high schools during the 2024 academic year, focusing on cognitive, metacognitive, and affective strategies. Utilizing a mixed-methods approach, the research involved 267 students, with 47 high achievers and 102 low achievers identified through a standardized reading comprehension test. Data were collected via a 36-item self-filling questionnaire adapted from Oxford's Strategy Inventory for Language Learning, a reading comprehension exam, and think-aloud protocols with eight students. Findings reveal that high achievers consistently employ a wider range of cognitive and metacognitive strategies, such as inferring meanings, summarizing, and self-regulating, with mean scores ranging from 3.702 to 4.425 and 3.510 to 4.361, respectively. They also demonstrate stronger affective strategies, including stress management (mean 4.531) and self-motivation (mean 4.255). Low achievers, however, rely more on compensatory strategies like translation (mean 4.470) and exhibit less consistent strategy use, often hindered by higher anxiety and limited engagement. Qualitative data highlight high achievers' adaptive use of prior knowledge and strategic text processing, contrasting with low achievers' inconsistent application. The study underscores the need for targeted instruction in diverse reading strategies to enhance comprehension and academic performance, particularly for low-achieving students.

Key words/phrases: Reading strategy, cognitive, metacognitive, affective, high achievers, low achievers

1. Introduction

Earlier studies on reading strategies have identified that successful readers employ a wide range of strategies to facilitate comprehension. Researchers have found that skilled readers actively engage with texts by predicting upcoming information, making inferences, identifying main ideas, and relating new information to their prior knowledge. These strategies help readers construct meaning and monitor their understanding while reading. In contrast, less proficient readers tend to rely on limited strategies and often experience difficulties in comprehending texts (Erler & Finkbeiner, 2007).

Proficient readers are characterized by their ability to establish achievable goals, choose appropriate reading strategies, assess their comprehension of the material, review their advancement, and maintain a strong motivation to read and a willingness to gain new knowledge, thereby fostering a more profound understanding (Perssley, 2002; Wang, 2016; Park and Kim, 2011; Maeng, 2014).

Reading comprehension is not simply about understanding words on a page. It is influenced by many factors, including the type of texts read, the situation in which reading takes place, and the background knowledge or skills that students bring to the task.

Different texts require different strategies. For example, reading a scientific article involves understanding technical vocabulary and complex ideas, which differ from reading a story or a news article. Moreover, context, time constraints, and motivation can all affect how well a person comprehends (Gilakjani & Sabouri, 2016; Shehu, 2015; Woolley & Woolley, 2011).

In addition to text and situational variables, individual differences among students play a major role. Some students naturally use strategies such as making predictions, asking questions while reading, or summarizing information. These strategies help them understand and remember what they read. Others may

struggle because they lack the skills or knowledge to employ these techniques effectively (Anderson, 1991).

According to Serravallo (2015), developing reading skills involves mastering multiple strategies. Therefore, students need to learn how to choose appropriate strategies for different texts and purposes. For example, skimming a poem requires a different approach than closely reading a textbook chapter. Skilled readers automatically switch between strategies based on what they need to understand. They might underline key ideas, pause to think about what they have read, or look up unfamiliar words. Conversely, less skilled readers often rely on one or two basic approaches or read passively without actively engaging with the text.

The current study aimed to examine how students with different levels of reading comprehension approach academic texts. Specifically, it focused on comparing high achieving readers with those who struggle more with understanding written material. It sought to identify the types of strategies each group uses during reading.

It also explored how often and in what ways these strategies are employed while learners interacting with complex academic texts. For example some students may pause frequently to summarize parts of the text, while others might predict what will happen next or highlight key ideas. The study aimed to map out these behaviors in detail, uncovering patterns that distinguish strong readers from weak ones. This is important because understanding these differences can help teachers develop better instruction. They can teach students how to use more effective reading strategies based on what high performers do naturally.

2. Theoretical Framework of the Study

The theoretical framework of the study could center on cognitive, metacognitive, and socio-constructivist theory. This is due to the fact that reading has a

cognitive foundation and it is a skill that students develop through social interaction.

Reading comprehension largely involves decoding and linguistic analysis. High achievers likely exhibit balanced strength in both decoding (word recognition) and linguistic comprehension (analyzing vocabulary and syntax). Conversely, low achievers may show deficits in one or both domains, leading to compensatory strategy use (for example, over-relying on context clues due to weak decoding (Wang, 2016).

Reading comprehension is also highly related to metacognition. When reading, students do activities related to planning, monitoring, evaluation, and checking of concepts that usually encounter in a reading text. Skilled readers require metacognitive knowledge, awareness of task demands and metacognitive regulation, process of Planning, monitoring, evaluating, and adjusting strategies (Karbalaie, 2011).

The study is highly connected with socio constructivist theory with the fact that learning is mediated by social interaction and scaffolding. Students may internalize learning strategies through modeling and acquire the skills from the social environment. Moreover, learners may develop their language as well as reading comprehension skills through the guidance of their teachers, peers, parents, and any knowledgeable person (Jubran, 2016).

3. Statement of the problem

Many researches have studied how using different reading strategies impacts language skills and overall comprehension. They have looked at how students perform on reading exams after being trained in specific strategies. These studies show that the type of strategy, its frequency of use, and how it is adopted by the reader all play roles in determining success. Some researchers have focused on how well learners set goals before reading, while others have examined the

impact of several cognitive strategies while reading. The data collected from these studies come from a wide range of sources, including classroom experiments, interviews, questionnaires, and standardized tests. This variety helps build a clearer picture of how strategy use influences reading performance (Naseri & Zaferanieh, 2012; Shang, 2010; Park, 2010).

In Ethiopia, research highlights a serious lack of proper use of key reading strategies, especially in high schools. These strategies include cognitive, meta-cognitive, and socio-affective skills. Cognitive strategies involve understanding the text and recognizing key ideas. Meta-cognitive skills focus on planning, monitoring progress, and checking comprehension, while socio-affective strategies aim to build confidence, motivate students, and create a positive attitude toward reading. Despite the importance of these strategies for better reading comprehension, many students are not using them effectively in classrooms. Researches indicate that students often read passively or without fully engaging with the reading text, and this limits their understanding and ability to analyze texts critically (Yechale, 2017; Hana, 2012; Atakilti, 2016).

The gap becomes even apparent when comparing high achievers to low achievers. High-performing students tend to use a variety of reading strategies more frequently and intentionally. They also adjust their reading methods to fit different texts. Low achievers, on the other hand, rarely apply these strategies. They tend to read without much reflection or planning and often give up when faced with challenging texts. They might also lack confidence, which further discourages them from trying different reading strategies (Ibid).

Therefore, this study aims to identify the specific strategies that successful, high-achieving students use. By doing this, the goal is to find effective ways to help lower-achieving students. Once these strategies are clearly understood,

educators can design targeted instruction that encourages lower- achieving students to adopt the methods of their higher-achieving peers.

4. Research questions

4.1 What are the dominant reading strategies employed by the high and the low achievers?

4.2 To what extent do the two categories of students employ reading strategies?

5. Review of Related Literature

5.1 The concept of reading strategy

A reading strategy, at its core, is a conscious and deliberate plan, a carefully chosen technique employed by readers to dramatically enhance their comprehension, retention, and overall efficiency when engaging with any form of text.

This concept transcends the basic act of merely decoding words on a page; instead, it emphasizes active involvement with the material. This proactive approach encompasses actions taken before reading, such as previewing the text and setting a purpose; actions taken during reading, such as questioning and summarizing; and actions taken after reading, such as reflecting on what was learned and connecting it to prior knowledge. Ultimately, a well-chosen reading strategy empowers readers to actively extract deeper meaning from the text and effectively achieve their specific reading goals, whether for learning, enjoyment, or critical analysis (Zhang, 1993).

5.2 Classification of reading strategies

Reading strategies, crucial for effective language learning, can be broadly classified into direct and indirect approaches, distinguished by their level of engagement with the target language itself. Rebecca Oxford (1990) proposes a framework where memory, cognitive, and compensation strategies fall under the umbrella of direct strategies. This categorization stems from their active and direct mental interaction with the language being learned; for instance, actively memorizing vocabulary or consciously applying grammatical rules to understand a sentence. In contrast, metacognitive, affective, and social strategies are considered indirect learning strategies. Their function lies in supporting and facilitating the learning process without directly manipulating the language. These strategies, while less overtly involved with the target language, play a vital role in creating a conducive learning environment and managing the emotional and social aspects of language acquisition. They help learners plan, monitor, and evaluate their learning, manage anxiety, and collaborate with others.

5.3 The advantages of utilizing reading strategies

Applying effective reading strategies transcends being merely a good habit; it's a fundamentally relevant skill applicable across all stages of life and learning. By consciously employing strategies such as skimming, scanning, summarizing, and questioning, individuals transform the act of reading from a passive reception of information into an active process of comprehension. This shift not only significantly enhances the efficiency with which one processes text, allowing for faster assimilation of key concepts, but also dramatically deepens the understanding of the material, fostering critical thinking and the ability to connect ideas in meaningful ways (Wright & Brown, 2006).

Strategies like predicting, questioning, and summarizing aren't just reading exercises; they are powerful tools that transform passive readers into active

learners. These techniques encourage a deep engagement with the text, prompting readers to not only absorb information but also to anticipate its direction, challenge its assertions, and distill its core message. By actively engaging, readers can more effectively identify key ideas, bridging gaps in their understanding and solidifying their comprehension. Conversely, skimming and scanning offer a different, yet equally valuable, approach, allowing for the rapid extraction of essential information from even the most densely packed material (Cogmen & Saracaloglu, 2009).

These techniques are particularly advantageous for handling large volumes of text, quickly identifying relevant sections, and efficiently gathering vital information. Furthermore, they significantly contribute to the development of critical thinking skills. Through the processes of questioning and analysis, students are able to enhance their analytical capabilities, deconstruct arguments, identify biases, and ultimately reach independent conclusions; this allows them to progress from being passive recipients of information to becoming perceptive and informed thinkers (Ibid).

Moreover, the strategic applications of refined reading strategies extend far beyond mere decoding of text; they are instrumental in fortifying a reader's cognitive abilities, particularly memory. By actively forging connections between newly acquired information and pre-existing mental frameworks, readers create robust networks of understanding, making recall more efficient and reliable. Beyond memory enhancement, these strategies cultivate a heightened awareness of the learning process itself, empowering individuals to proactively acquire knowledge. This active engagement fosters deeper interaction with the text, sharpening focus and igniting intrinsic motivation, especially when confronting complex and challenging texts. The cumulative effect of these benefits is the cultivation of a lifelong learning mindset, enabling individuals to navigate the ever-evolving landscape of new ideas, concepts, and philosophies with

confidence and discernment. Crucially, these skills become invaluable tools in critically evaluating information and combating the pervasive threat of misinformation, promoting intellectual independence and responsible citizenship in an increasingly complex world (Küçüköğlü, 2013).

5.4 Effective reading strategy use

Good reading strategy users aren't passive consumers of information; instead, they approach texts with a clear sense of purpose, actively engaging with the material and adapting their techniques as needed. This means they consciously define their reading goals before even starting, understanding what they hope to learn or achieve from the text. To truly engage, they interact with the text directly, employing techniques like posing insightful questions, annotating key passages with their own thoughts and interpretations, and vividly visualizing the concepts being presented. Furthermore, they are equipped with a diverse toolkit of strategies, readily utilizing methods like previewing the text to gain an initial understanding and summarizing key points to solidify their comprehension. This proactive and flexible approach allows them to extract maximum value from their reading and retain information more effectively (Shang, 2010).

According to (Wang, 2016), effective reading is far more than simply decoding words on a page; it's an active and dynamic process involving a suite of interconnected skills and strategies. Skilled readers demonstrate metacognition by diligently monitoring their comprehension as they navigate a text, constantly assessing whether they truly grasp the meaning. When faced with challenging or complex material, they proactively adjust their reading approach, perhaps slowing down, rereading, or consulting external resources for clarification. Furthermore, effective readers employ critical thinking skills to evaluate the content they encounter, questioning assumptions, identifying biases, and forming their own informed opinions. Beyond these cognitive abilities, successful reading

also relies on practical skills such as effective time management to allocate sufficient time for focused reading and strategic use of vocabulary-building techniques to decipher unfamiliar words. Finally, a crucial element often overlooked is the act of reflection. Proficient readers take the time to thoughtfully consider and internalize the key ideas presented, solidifying their understanding and significantly enhancing long-term retention of the information.

6. Method

6.1 Design of the study

A combination of exploratory and descriptive research designs were employed to get the intended data. An exploratory research design was implemented to discover the type of reading strategies employed by the students, whereas, a descriptive design was applied to systematically describe the reading strategies used by the high and the low achievers.

6.2 Participants

The target population of the study was grade 12 students in Addis Ababa high schools who were attended their education in the academic year 2024. Grade 12 students were chosen on the belief that they are about to graduate from high school and had acquired enough amount of strategy skill during their stay in primary, junior, and high schools. Thus, 267 students were chosen randomly from the five high schools. Among these 267 students 47 high achievers and 102 low achievers were identified using standardize reading comprehension test.

6. Instruments

6.1.1 Questionnaire

A self - filling questionnaire consisting of 36 items, which is adapted from Oxford's SILL, strategy inventory for language learners along with a reading comprehension assessment, was utilized to collect the desired data. The items within the questionnaire are systematically categorized into three primary strategies: cognitive, metacognitive, and affective strategies. The questionnaire

items are structured using a five-point Likert scale that measures the frequency of reading strategy usage, where 1 represents 'Never/Almost Never', 2 signifies 'Rarely', 3 indicates 'Sometimes', 4 denotes 'Usually', and 5 corresponds to 'Always'

6.1.2 Reading Comprehension Exam

The goal of the reading comprehension exam was to measure the students' grasp of the content they had read and to explore the connection between their comprehension skills and reading strategies. Moreover it works as a discriminatory factor between the high and the low achievers.

6.1.3 Think- aloud protocol

Eight students were selected to take part in the think-aloud introspection group. This group comprised four high achievers and four low achievers, ensuring a fair representation of varying academic performance levels. Each participant was tasked with completing a reading passage test in a controlled and quiet setting, where they were instructed to express their thoughts verbally as their responses were recorded for subsequent analysis.

7. Data Analysis

7.1 Quantitative Data Analysis

7.1.2 Analysis of the students' self-filling questionnaire

Table 1: Reading strategies used by high and low achievers

		reading achievement			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	47	17.6	17.6	17.6
	Medium	118	43.8	43.8	61.4
	Low	102	38.2	38.2	99.6
	22.00	1	0.4	0.4	100.0
	Total	267	100.0	100.0	

The above table shows the students in the high, average, and low achiever categories as per the scores on a self-completion questionnaire and a reading

comprehension test. After checking the scores obtained in the reading comprehension, 47 students were identified to be high achievers, 118 were average achievers, and 102 were low achievers. These are by the research criteria that differentiate scores between 80 and 100 as high achievers, 50 to 79 as average, and scores below 50 as low achievers, based on the evaluation standards for high school students by the Ministry of Education. Although the average achievers are not the focus of this study, they were included for purposes of context when considering possible comparisons between high achievers and low achievers.

Table 2: Cognitive reading strategy use of high and low achievers

Cognitive items	High achievers = 47						Low achievers = 102					
	Frequency of Responses					Mean	Frequency of Responses					Mean
	A.N	R	S	US	AL		AN	R	S	US	AL	
Item 1	0	2	13	16	16	3.978	5	17	43	26	11	3.205
Item 2	6	4	20	14	3	3.085	10	27	34	20	11	3.343
Item 3	3	15	11	15	3	3.00	18	27	21	26	10	2.833
Item 4	1	3	8	16	19	4.042	6	8	25	34	29	3.705
Item 5	1	2	11	19	14	3.914	6	11	25	38	22	3.578
Item 6	0	2	5	27	13	4.085	2	11	28	38	23	3.676
Item 7	17	9	13	5	3	2.890	26	16	26	22	12	2.784
Item 8	10	12	12	9	4	2.680	23	24	26	18	11	2.705
Item 9	0	4	8	14	21	4.106	4	13	24	36	25	2.509
Item 10	3	7	15	11	11	3.425	9	7	30	28	28	3.578
Item 11	2	5	8	22	10	3.702	13	14	20	32	23	3.372
Item 12	0	0	7	23	17	4.212	5	16	17	36	28	3.647
Item 13	2	4	6	13	22	4.042	4	11	31	35	21	3.568
Item 14	8	17	16	4	2	2.468	26	30	34	8	4	2.352
Item 15	0	0	1	25	21	4.425	1	0	2	46	53	4.470
Item 16	6	7	15	15	4	3.085	17	20	24	28	13	3.00
	Average					3.786	Average					3.270

The self-completion items 1-16 were developed to measure the students' employment of cognitive reading strategies. As indicated in Table 4.6, high achievers excel over low achievers in using most cognitive reading strategies,

such as inferring the meaning of unknown words and phrases, utilizing text features, paying attention to the first word in a paragraph, focusing on keywords and phrases, visualizing information, underlining and highlighting key terms and phrases, inferring the main content of the texts, paying better attention to challenging concepts, categorizing words based on parts of speech, and taking notes and summarizing with mean values ($X = 3.978, 4.042, 3.914, 4.085, 2.890, 4.106, 3.702, 4.212, 4.042, 2.468, \text{ and } 3.085$), respectively.

Conversely, low-achieving students use particular reading strategies more than high-achieving students. This pattern is especially noticeable in the utilization of cognitive reading strategies, a set of strategies for improving comprehension and recall of information. For example, low achievers are likely to focus on translating unfamiliar terms, generating questions about the text, and translating concepts to their native languages. The mean frequency for these strategies – ($X= 3.343$) for word interpretation of unfamiliar words, ($X= 2.705$) for question generation, ($X= 3.578$) for development of assumptions, and ($X= 4.470$) for translation – indicates that low achievers employ these thinking strategies a little more frequently than their high-achieving peers.

In conclusion, high-achieving students continually outscore their performing peers in the application of cognitive reading strategies, which presumably contributes to their academic achievement. On the other hand, low achievers frequently utilize specific strategies, indicating their intention to engage with the text, although their effectiveness may vary. These findings highlight the necessity for providing focused instruction in cognitive reading strategies to facilitate improved reading comprehension and academic achievement for all students.

Table 3: Meta-cognitive reading strategy use of high and low achievers

Meta-cognitive items	High achievers = 47						Low achievers = 102					
	Frequency of Responses					Mean	Frequency of Responses					Mean
	A.N	R	S	US	AL		AN	R	S	US	AL	
Item 17	3	3	6	10	25	4.085	7	12	29	21	33	3.598
Item 18	0	2	13	21	11	3.872	7	7	28	38	22	3.598
Item 19	0	1	6	17	23	4.319	7	10	28	31	26	3.578
Item 20	1	0	3	25	18	4.255	1	7	20	30	44	4.068
Item 21	0	0	5	20	22	4.361	6	12	18	33	33	3.735
Item 22	0	1	16	17	13	3.893	3	13	31	33	32	4.058
Item 23	0	4	11	20	12	3.851	7	16	31	33	15	3.323
Item 24	0	4	11	19	13	3.872	7	13	33	33	16	3.372
Item 25	4	2	17	14	10	3.510	10	17	20	28	27	3.441
Item 26	2	2	10	16	17	3.978	7	15	26	35	19	3.431
Item 27	7	13	19	4	4	2.680	21	23	34	23	1	2.637
Item 28	4	5	19	13	6	3.255	31	13	27	31	0	2.568
	Average					3.827	Average					3.450

Items 17 to 28 of the questionnaire were designed to evaluate the frequency with which students employ metacognitive reading strategies. The table above indicates that high-achieving students generally utilize these strategies more often than their academically struggling peers. It is important to note that, with the exception of item 22, which pertains to spending additional time comprehending the reading material, the higher achievers attained superior mean scores on the other reading strategies assessed.

Metacognitive reading strategies of high achievers incorporate many techniques, including previewing the text, using prior knowledge, going back to parts of the reading text, reading carefully at a controlled pace, managing their own reading pace, making checks, checking assumptions, making conscious decisions on what to read or not to read, going back to work when distracted, and making critical analyses. These strategies resulted in higher mean values of (\bar{X} = 4.085, 3.872, 4.319, 4.255, 4.361, 3.851, 3.872, 3.510, and 3.978) respectively.

In general, the data reflected in the table report that there is a significant difference between high and low achievers in terms of utilizing metacognitive strategies. High achievers employ these strategies more so and consistently, recording an average mean of ($X=3.827$), particularly getting the best scores in items 19, 20, and 21 that inquire about looking over the reading text, reading slowly and carefully, and maintaining a consistent rate in reading a text. In contrast, low achievers, with a mean average of ($X=3.450$), exhibit selective engagement and the avoidance of specific strategies. Their performance was notably superior only on item number 22, which pertains to pausing and reflecting on the concept of the reading text, achieving an average mean of ($X = 4.058$).

Table 4: Affective reading strategy use of high and low achievers

Affective items	High achievers = 47						Low achievers = 102					
	Frequency of Responses					Mean	Frequency of Responses					Mean
	A.N	R	S	US	AL		AN	R	S	US	AL	
Item 29	10	6	14	6	11	3.042	21	15	25	25	16	3.00
Item 30	5	7	18	14	3	3.063	11	23	20	26	22	3.245
Item 31	0	2	11	16	18	4.063	9	16	21	33	23	3.441
Item 32	3	1	4	12	27	4.255	7	10	26	34	25	3.588
Item 33	0	0	6	10	31	4.531	4	12	15	32	39	3.882
Item 34	4	6	14	12	11	3.425	7	8	32	24	31	3.627
Item 35	27	12	8	0	0	1.595	39	39	24	0	0	1.852
Item 36	22	11	12	1	1	1.893	33	23	18	22	6	2.460
	Average					3.233	Average					3.136

The survey items 29 to 36 aim to assess how often students engage in affective reading strategies in the practice of reading comprehension. As shown in Table 4, high-achieving students frequently employ various affective reading strategies, including the practice of progressive relaxation, maintaining full involvement when reading, stimulating self-motivation by engaging in comprehension tasks, and managing anxiety towards exams, with mean ratings of ($X = 3.042, 4.063,$

4.255, and 4.531), respectively. Similarly, low achievers employ certain affective reading strategies to good effect, such as listening to their body responses, which suggest a readiness to deal with challenging questions and taking risk to answer difficult questions with mean scores ($X = 3.245, 3.627$). However, they showed weak tendency to apply in two socio affective reading strategies: using checklist to remember difficulties and engaging in discussions with the mean values (1.852, and 2.460) respectively.

In general, the results indicate variation in responses among high and low achievers on affective items measured. High achievers register high consensus on Items 31, 32, and 33, related to self-immersion and encouragement while reading, as well as the alleviation of anxiety during examinations, with mean ratings of ($X = 4.063, 4.255, \text{ and } 4.531$), respectively. Conversely, the low achievers show stronger engagement for items 30 and 34 which concern awareness of positive and negative bodily reactions and readiness to respond to challenging questions with mean scores of ($X = 3.245 \text{ and } 3.627$).

Both groups are less inclined to accept items 35 and 36 which relies on a checklist to recall difficult ideas and sharing feelings and experiences with peers with mean scores of ($X = 1.595 \text{ and } 1.893$ for high achievers and $X = 1.852 \text{ and } 2.460$ for low achievers) respectively. Both the average scores of high achievers ($X = 3.233$) and low achievers ($X = 3.136$) are very close to each other, showing that these two groups make use of affective reading strategy to a similar degree; however, high achievers reveal a slightly wider range of responses.

Table 5: A summary of reading strategy use by the high and the low achievers

Strategy type	Students' rank	Level of strategy use (Mean value)	Number of students	of percentage
Cognitive	High achievers 47	High: 3.5 - 5.00	29	61.702
		Moderate: 2.5 - 3.49	18	38.298
		Low: 1.0 - 2.49	0	0
Metacognitive	High achievers 47	High: 3.5 - 5.00	37	78.723
		Moderate: 2.5 - 3.49	10	21.277
		Low: 1.0 - 2.49	0	0
Affective	High achievers 47	High: 3.5 - 5.00	14	29.787
		Moderate: 2.5 - 3.49	30	63.83
		Low: 1.0 - 2.49	3	6.38
Cognitive	Low achievers 102	High: 3.5 - 5.00	45	44.12
		Moderate: 2.5 - 3.49	51	50.00
		Low: 1.0 - 2.49	6	5.882
Metacognitive	Low achievers 102	High: 3.5 - 5.00	50	49.02
		Moderate: 2.5 - 3.49	47	46.08
		Low: 1.0 - 2.49	5	4.90
Affective	Low achievers 102	High: 3.5 - 5.00	36	35.29
		Moderate: 2.5 - 3.49	54	52.941
		Low: 1.0 - 2.49	12	11.76

The data in the table indicate a significant difference in the use of cognitive reading strategies by high-achieving and low-achieving students. Out of the high-achieving students, an enormous 61.7% make use of a variety of cognitive reading strategies, and these strategies play a vital role in adding better understanding and memory while reading a text. Along with this, 38% of them use these strategies moderately, and none of the high-achieving students use these strategies less than at the highest level, which shows a homogeneous level of competence in their reading strategy.

On the contrary, the data on low-achieving students provide a less encouraging picture. Only 44% of the students employ cognitive reading strategies at an advanced level, which is far different from their high-achieving counterparts. Furthermore, half of the low-achieving students, or 50%, utilize these strategies at a moderate level, and a minimal percentage, 5.8%, uses them at a lower level.

This distinction highlights the challenge faced by low-achieving students in effectively using cognitive reading strategies compared to high-achieving students. The same differences are observed in the application of Meta-cognitive reading strategies, in monitoring and assessing reading comprehension tasks. The high achievers apply meta-cognitive reading strategies at a higher frequency of 78.7%, and 21.2% of them apply meta-cognitive reading strategies at a moderate level, and none of them apply them at a lower level. In low achievers, 49% apply metacognitive reading strategies at a higher level, 46% at a medium level, and 4.9% apply them at a lower level.

The most unexpected result of this research is that individuals categorized as low achievers engage in affective reading strategies at a higher level than their high-achieving counterparts. Specifically, 35.29% of low achievers apply affective reading strategies at a higher intensity, while only 29.7% of high achievers do so at an elevated level. In terms of moderate and lower usage of affective strategies, high achievers demonstrate a minimum utilization rate of 6.3% and a moderate application rate of 63.8%. Conversely, among low achievers, 52.9% utilize affective reading strategies at a moderate level, and 11.7% employ them less often.

7.2 Qualitative Data Analysis

7.2.1 Analysis of the students' think- aloud protocol

Table 6: Reading strategies reported by both the high and the low achievers

1. Back check
2. Confirmation
3. Defining terms
4. Inferring
5. Feeling of satisfaction
6. Focus on topic sentence
7. Pause and think
8. Reading slowly
9. Using native language

10. Using reference
11. Repeating words
12. Retrieving information
13. Self-encouragement
14. Reading for detail
15. Going back and forth
16. Using text features
17. Underlining or circling
18. Skipping challenging questions
19. Rereading for challenging texts
20. Referring challenging questions again

The table presents 20 reading strategies used by both high and low achievers during the think-aloud protocol. These strategies are categorized into cognitive, metacognitive, and affective strategies that support reading comprehension. Cognitive strategies involve direct interaction with the text, such as rereading, defining unfamiliar words, making inferences, identifying topic sentences, paraphrasing ideas, recognizing anaphoric references, repeating words for memory, and using textual features like headings and boldface words. Metacognitive strategies focus on monitoring and regulating comprehension through confirming interpretations, slowing reading speed, rereading sections, identifying main ideas, skipping difficult questions temporarily, repeating challenging items, and focusing on important details. Affective strategies relate to emotional and motivational aspects of reading, including feelings of achievement, positive feedback from understanding the text, and self-motivation to continue engaging with difficult material.

Table 7: Reading strategies reported only by the high achievers

1. Using background knowledge
2. Concluding a paragraph
3. Controlling the flow of activities
4. Relating each word with another
5. Relating one sentence with another
6. Relating ideas
7. Reasoning
8. Using lexical clues for guessing
9. Reading for gist

10. Scanning
11. Beginning form questions
12. Paraphrasing in own word in L 2
13. Taking quick decision
14. Identifying key words
15. Identifying the theme
16. Omitting wrong responses
17. Sustaining on similar performance
18. Giving instant reflection for what they read
19. Comparing and contrasting multiple choices
20. Doing similar questions at the same time
21. Evaluating the overall work
22. Taking an overview

Table 7 presents 22 reading strategies used exclusively by high achievers from the 42 strategies identified through the think-aloud protocol. Almost all strategies were used by high achievers, while two strategies, reading word-by-word and reading the entire passage first, were mainly used by low achievers. High achievers employ strategies across several dimensions, including cognitive and metacognitive strategies, text processing and integration, critical thinking, efficiency and flexibility, linguistic awareness, engagement and reflection, and strategic test-taking. These strategies include applying prior knowledge, organizing tasks systematically, summarizing, checking answers, identifying key words, paraphrasing, skimming for main ideas, and analyzing text structure before reading.

The findings show significant differences between high and low achievers. High achievers demonstrate stronger use of cognitive, metacognitive, and affective strategies, such as predicting meaning, summarizing, monitoring comprehension, managing exam stress, and maintaining motivation. In contrast, low achievers rely more on compensatory strategies, such as translating into their first language and guessing answers, often due to comprehension difficulties and anxiety. Overall, the results highlight the importance of explicit instruction in cognitive, metacognitive, and affective reading strategies to improve students' reading comprehension and academic performance.

9. Conclusion

The study reveals significant differences in reading strategies between high- and low-achieving students, affecting their comprehension and academic performance. High achievers use advanced cognitive and metacognitive strategies, such as predicting word meanings and managing exam stress, while low achievers rely on compensatory strategies like translating and making assumptions. Both groups employ fundamental cognitive strategies, but high achievers apply them more proficiently and consistently. The findings suggest the need for explicit instruction in cognitive, metacognitive, and affective strategies to improve reading comprehension and overall academic performance.

10. Recommendations

Based on the findings of the study, here are several recommendations that could be useful to improve students' reading strategy use:

1. **Targeted Interventions:** It is essential to design interventions for low achievers by providing clear strategy instructions, including structured lessons on advanced cognitive strategies (for instance, predicting word meanings, utilizing text features, visualizing, and summarizing) as well as metacognitive strategies (such as planning, self-monitoring, and adjusting reading pace).
2. **Model High Achievers:** It would be advantageous to emulate the methods of high achievers to illustrate how they utilize a majority of cognitive and metacognitive reading strategies for enhanced performance.
3. **Address Anxiety:** It is better to incorporate stress management and self-motivation techniques to address low achievers' higher anxiety and reliance on less effective affective strategies.
4. **Personalized Teaching:** Implementing differentiated instruction and personalized feedback is an effective mechanism to bridge the gap

between high and low achievers. For example, providing low achievers with simplified texts to practice strategies like inference and summarization, which gradually increases reading comprehension performance.

5. **Teacher Training:** It would be beneficial to give training for language teachers to integrate these strategies into regular curricula, emphasizing a holistic approach that fosters critical thinking and self-regulation, as supported by research (Oxford, 2016; Anderson, 2004). This program can enhance low achievers' academic performance by equipping them with the diverse, effective strategies employed by high achievers, promoting equity in learning outcomes.

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Appendix 3: Students' Reading Strategy Questionnaire (English Version)

Addis Ababa University

College of Humanities, Language studies, Journalism and Communication

Department of Foreign Languages and Literature

English Language Teaching (ELT) PhD program

Questionnaire to be completed by high school students

Part one

Dear students,

This questionnaire is designed to elicit information for the purpose of a PhD research study in ELT (English Language Teaching) The information that you provide will be used for the improvement of students' reading strategy skills in English language. Thus, you are requested to be honest and calm to provide the information sought. There is no need to write your name on the question paper.

Thank you in Advance

Yours sincerely,

Yazew Aberra

Department of Foreign Languages and literature

Addis Ababa University

Addis Ababa University

General Information

Instruction: please complete this section by providing information about yourself.

Student's code -----

Name of the school -----

Grade and Section -----

Gender -----

Age -----

Part Two

Instruction: This questionnaire has 36 items. You are requested to rate your agreement with each item on the left by encircling only one of the agreement level for each item. The scales for the agreement level ranges from 1 to 5. Each scale represents:

- | | |
|---------------------|-------------------|
| 1. Never | 4. usually |
| 2. Rarely | 5. Always |
| 3. Sometimes | |

1.	I infer unknown words' or phrases' meanings from their context when I read	1	2	3	4	5
2.	I typically interpret every word while going through a passage	1	2	3	4	5
3.	In a passage, I omit any unfamiliar words	1	2	3	4	5
4.	I make use of text features like tables, figures, charts, illustrations, diagrams, bold face, underline, and italics to improve comprehension	1	2	3	4	5
5.	I focus on the opening line of each paragraph to help me understand the material	1	2	3	4	5
6.	I focus on important words, phrases, and sentences that reveal how a text is structured	1	2	3	4	5
7.	I make notes and rephrase concepts to ensure that I fully comprehend what I have read	1	2	3	4	5
8.	Reading a text causes me to have questions	1	2	3	4	5
9.	To help me recall what I read, I try to envision the content	1	2	3	4	5
10.	Using the information from the previous paragraph, I develop assumptions as I read a text about what will happen next	1	2	3	4	5
11.	I often highlight or encircle key words and phrases that I think are essential for grasping the content of the passage	1	2	3	4	5
12.	I make an effort to infer the text's main content as I read	1	2	3	4	5
13.	I pay better attention to what I'm reading when the content gets challenging	1	2	3	4	5

14.	I categorize words in a passage based on their grammatical categories.	1	2	3	4	5
15.	I convert ideas from texts into my native language as I read them	1	2	3	4	5
16.	I make summary of a text in order to create new meanings	1	2	3	4	5
17.	Whenever reading an academic text, I take an overview of a text, such as length, organization, pictures, tables etc.....	1	2	3	4	5
18.	For a thorough understanding of the material, I draw on my prior knowledge	1	2	3	4	5
19.	I go back and forth in a text to find relationships among ideas in it	1	2	3	4	5
20.	I read attentively and slowly to ensure that I grasp what I'm reading	1	2	3	4	5
21.	My reading pace changes depending on what I'm reading	1	2	3	4	5
22.	Periodically, I pause to reflect on what I've just read	1	2	3	4	5
23.	Whenever I come across new information, I double-check my understanding	1	2	3	4	5
24.	I verify whether or not my assumptions about the text were accurate	1	2	3	4	5
25.	I choose what I read carefully and what I overlook when I am reading	1	2	3	4	5
26.	When I lose focus, I make an effort to regain it	1	2	3	4	5
27.	I review and critically analyze the data given in the text	1	2	3	4	5
28.	I determine purpose of a text	1	2	3	4	5
29.	I practice progressive relaxation strategies before taking reading comprehension examinations, such as, taking a deep breath and stretching my body	1	2	3	4	5
30.	Every time I take a reading comprehension exam, I pay attention to the positive and negative physical responses I	1	2	3	4	5

	experience					
31.	When I take reading comprehension tests, I usually immerse myself in a text	1	2	3	4	5
32.	I encourage myself to stay away from feelings of inadequacy and anxiety when taking test	1	2	3	4	5
33.	If I experienced anxiety during exam periods, I made an effort to reduce it	1	2	3	4	5
34.	I take risks to answer difficult questions, during exam periods	1	2	3	4	5
35.	I use a checklist (a language learning diary) to help me remember the difficulties I encounter when reading	1	2	3	4	5
36.	I frequently engaged in discussions with my classmates regarding different reading strategies and their applications	1	2	3	4	5

Appendix 4: Students' Reading Strategy Questionnaire (Amharic version)

አዲስ አበባ ዩኒቨርሲቲ

የሰብአዊነት፣ የቋንቋዎች የጋዜጠኝነት እና ተግባራዊነት ኮሌጅ

የውጪ ቋንቋዎች እና ሥነ ፅሁፍ ትምህርት ክፍል

እንግሊዘኛ ቋንቋን ማስተማር (ELT) ፒ ኤች ዲ ፕሮግራም

በሁለተኛ ደረጃ ተማሪዎች የሚሞላ የፅሁፍ መጠይቅ

ክፍል አንድ

ውድ ተማሪዎች፤

ይህ መጠይቅ የተነደፈው ለእንግሊዘኛ ቋንቋ ትምህርት ፒ ኤች ዲ የምርምርና ጥናት አላማ መረጃን ለማግኘት ነው።

እናንተ ተማሪዎች የምትሰጡት መረጃ የተማሪዎችን የእንግሊዘኛ ቋንቋ የማንበብ ስልት (strategy) ለማሻሻል ጥቅም ላይ ይውላል። ስለዚህም የሚፈለገውን መረጃ በቅንነት እና በታማኝነት ትሰጡኝ ዘንድ በትህትና እጠይቃለሁ። በጥያቄ ወረቀቱ ላይ ስማችሁን መፃፍ አያስፈልግም።

ከአክብሮት እና ከምስጋና ጋር

ያዘው አበራ

የውጪ ቋንቋዎች እና ሥነ ፅሁፍ ትምህርት ክፍል

አዲስ አበባ ዩኒቨርሲቲ

አጠቃላይ መረጃ

መመሪያ፣ እባካችሁ ስለራሳችሁ መረጃ በመስጠት ይህንን ክፍል አጠናቁ

የተማሪው ኮድ _____

የትምህርት ቤቱ ስም _____

የክፍል ደረጃ እና የመማሪያ ክፍላችሁ _____

ክፍል ሁለት

መመሪያ፣ ይህ መጠይቅ 36 ንዕሳን ክፍሎች አሉት። ለእያንዳንዱ ጥያቄ የሚኖራችሁን መልስ በቀኝ በኩል ካሉት የስምምነት ደረጃዎች አንዱን ብቻ በመምረጥ እንድታከቡ ትጠየቃላችሁ።

እያንዳንዱ የስምምነት ደረጃ ከ 0- 4 ሚዛኖች ይኖራታል።

እያንዳንዱ ሚዛን የሚከተሉትን ያሳያል።

- 1. በጭራሽ
- 2. ከስንት አንዴ
- 3. አንዳንድ ጊዜ
- 4. ብዙውን ጊዜ
- 5. ሁል ጊዜ

1	በማነብበት ጊዜ የማላውቃቸውን ቃላት እና ሀረጎች ትርጉማቸውን ከአወደ ፊቺ ወይም አባባላቸው ለማወቅ እጥራለሁ።	1	2	3	4	5
2	ምንባቡን በማነብበት ጊዜ እያንዳንዱን ቃል እየተረጎምኩ እሄዳለሁ።	1	2	3	4	5
3	በምንባቡ ውስጥ የማላውቃቸው ቃላት ካጋጠሙኝ እዘላቸዋለሁ።	1	2	3	4	5
4	የምንባብ ግንዛቤን ለመጨመር የጽሑፍ አደረጃጀት ባህሪያትን ማለትም እንደ ሰንጠረዥ ስእላዊ መግለጫዎችን፣ የተሰመሩና ደምቀው የተቀመጡ ቃላትና ሐረጎችን ወዘተ ከግምት ውስጥ አስገባለሁ።	1	2	3	4	5
		1	2	3	4	5
5	የምንባቡን ሀሳብ ለመረዳት የእያንዳንዱን አንቀፅ የመጀመሪያ ዓ. ነገር ትኩረት በመስጠት አነባለሁ።	1	2	3	4	5
6	ምንባቡ ለተቀባሪቸው ዋና ዋና ቃላት ሀረጎች እና ዓ. ነገሮች ትኩረት በመስጠት አነባለሁ።	1	2	3	4	5
7	የማነበውን ነገር በደንብ ለመረዳት ያስችለኝ ዘንድ አጫጭር ማስታወሻ እወስዳለሁ። ሀሳቡንም በራሴ አባባል እንደገና እፅፋለሁ።	1	2	3	4	5
8	አንድን ምንባብ ሳነብ ጎን ለጎን የተለያዩ ጥያቄዎችን አመነጫለሁ	1	2	3	4	5
9	የማነበውን ነገር ለማስታወስ ይረዳኝ ዘንድ በአይምሮዬ ውስጥ ምስልን እፈጥራለሁ።	1	2	3	4	5
10	በማነብበት ጊዜ ከቀደሙት አንቀጾች በመነሳት በቀጣይ ምን አይነት ሀሳብ ሊመጣ እንደሚችል እገምታለሁ።	1	2	3	4	5
11	ምንባቡን በደንብ ለመረዳት ያስችለኝ ዘንድ ዋና ዋና ቃላት እና ሐረጎች ላይ አሰምራለሁ አልያም አከባለሁ።	1	2	3	4	5
12	ምንባቡን እያንባብኩ እያለሁ አጠቃላይ የምንባቡን ሃሳብ ምን ሊሆን እንደሚችል እገምታለሁ።	1	2	3	4	5
13	አንድን ምንባብ ለመረዳት አስቸጋሪ በሚሆንበኝ ጊዜ ለምንባቡ የበለጠ ትኩረት እሰጣለሁ።	1	2	3	4	5
14	በምንባቡ ውስጥ የሚያጋጥሙኝን ቃላት እንደ ስዋሰዋዊ የቃል ክፍሎቻቸው እከፋፍላቸዋለሁ።	1	2	3	4	5
15	የእንግሊዘኛ ምንባብ ሳነብ የፅሁፍን ዋና ዋና ፅንሰ ሀሳቦች ወደ አፍ መፍቻ ቋንቋዬ እተረጎማለሁ።	1	2	3	4	5
16	አንድን ምንባብ ካነበብኩ በኋላ የማጠቃለያ ሀሳብ እሰጣለሁ	1	2	3	4	5
17	አንድን ምንባብ ማንባብ ከመጀመሪያ በፊት የምንባቡን አጠቃላይ አደረጃጀት ማለትም ርዘመቱን ፣ ሥዕሎችን ፣ ሠንጠረዥን ወዘተ... አጠቃላይ እይታ አደርጋለሁ።	1	2	3	4	5

18	ምንባቡን በደንብ ለመረዳት ከርዕስ ጋር ተያያዥነት ያለውን የቀድሞ እውቀቴን እጠቀማለሁ።	1	2	3	4	5
19	በምንባቡ አንቀጣች መካከል ያለውን ግንኙነት ለመረዳት ወደ ፊትም ወደ ኋላም እየተመለሰኩ አነባለሁ።	1	2	3	4	5
20	የምንባቡን ሀሳብ ለመረዳት ያስችለኝ ዘንድ በዝግታ እና በጥንቃቄ አነባለሁ።	1	2	3	4	5
21	የንባብ ፍጥነቴን ከማነበው የምንባብ አይነት ጋር አስተካክላለሁ።	1	2	3	4	5
22	እያነበብኩ ያለውን ነገር በመሀል በመሀል ቆም እያልኩ አስተውላለሁ።	1	2	3	4	5
23	በምንባቡ ሂደት ላይ አዲስ መረጃን ሳገኝ ከቀደሙት አንቀጾች ጋር ተዛማጅነት ያለው መሆኑን አረጋግጣለሁ።	1	2	3	4	5
24	ስለምንባቡ አጠቃላይ ጭብጥ ያለኝ መረዳት ትክክል መሆን እና አለመሆኑን አረጋግጣለሁ።	1	2	3	4	5
25	ምንባብ በማነበበት ጊዜ ለየትኞቹ ጉዳዮች የበለጠ ትኩረት መስጠት እንዳለብኝ እና ለየትኞቹ ጉዳዮች ደግሞ ችላ ማለት እንዳለብኝ እወስናለሁ።	1	2	3	4	5
26	ምንባብ እያነበብኩ ትኩረቴን ካጣሁኝ ወደ ሀሳቤ በቶሎ እመለሳለሁ።	1	2	3	4	5
27	በምንባቡ ውስጥ የቀረቡትን መረጃዎች በጥልቀት ተንትኜ አስቀምጣለሁ።	1	2	3	4	5
28	አንድን ምንባብ ካነበብኩ በኋላ የፅሁፍ አላማ ምን እንደሆነ ብይን እሰጣለሁ።	1	2	3	4	5
29	የምንባብ ፈተናን ከመስራቴ በፊት እራሴን ዘና ለማድረግ የተለያዩ ስልቶችን እጠቀማለሁ። ለምሳሌ ጥልቅ ትንፋሽ ማውሰድ፣ እግርን መዘርጋትና እጅን ዘርግቶ ወደላይ መንጠራራት።	1	2	3	4	5
30	የምንባብ ፈተናን በምስራብት ወቅት በውስጤ የሚከሰቱትን አዎንታዊ እና አሉታዊ አካላዊ ምላሾችን ትኩረት በመስጠት አዳምጣለሁ።	1	2	3	4	5
31	አንብቦ የመረዳት ፈተናን በምስራብት ጊዜ እራሴን ሙሉ በሙሉ ተመስጦ ውስጥ አስገባለሁ።	1	2	3	4	5
32	የምንባብ ፈተናን በምስራብት ጊዜ ከብቃት ማነስ፣ ከብቃትን እንደዚሁም ከጭንቀት ስሜት ለመራቅ እራሴን አበረታታለሁ።	1	2	3	4	5
33	በፈተና ወቅት ጭንቀትና አለመረጋጋት ውስጥ ከገባሁ ከችግሩ ለመውጣት የራሴን ጥረት አደርጋለሁ።	1	2	3	4	5
34	የምንባብ ጥያቄዎችን በምስራብት ወቅት ከበድ ያሉ ጥያቄዎች ሲያጋጥሙን ጥያቄዎቹን ለመመለስ ያለምንም ማመንታት ድፍረት የተሞላበት ውሳኔ በመወሰን አንዱን አማራጭ እወስዳለሁ።	1	2	3	4	5
35	የምንባብ ጥያቄዎችን በምስራብት ጊዜ የሚያጋጥሙኝን ችግሮች ለመረዳት እና በኋላ መፍትሔ ለማግኘት ይረዳኝ ዘንድ ችግሮቼን በማስተወሻ ደብተራ ላይ እመዘገባለሁ።	1	2	3	4	5
36	የተለያዩ የምንባብ ስልቶች እንዴት መጠቀም እንዳለብኝ ከክፍል ጓደኞቼ ጋር እወያያለሁ።	1	2	3	4	5

**Appendix 5: Questionnaire validation form for the reading comprehension test
(filled by the teachers)**

Reading comprehension test to examine the correlation between students’ reading strategy use and their performance in reading comprehension

Validation Form

Dear Colleague,

I am conducting my doctoral research on *Students’ Reading strategy Use and Performance in Reading Comprehension*. Since the research is mainly correlation, a reading comprehension test has to be conducted to examine how far the students’ reading score is correlated with their reading strategy use. Therefore, to check the students’ actual performance in reading comprehension, an appropriate and valid reading test is needed.

Major reading comprehension activities such as, gist, scanning, inference, and reference questions are included in the test. But, whether these instruments are appropriate and up to the level of the participants or not has to be validated by a panel of experts.

I, therefore, kindly request you to serve in my panel of experts and evaluate the appropriateness of the reading comprehension test for the target group.

My research participants are Grade 12 students in Addis Ababa city Administration.

I thank you for your time and cooperation.

- I. Indicate your opinion about the reading comprehension test in term of the three criteria in table below: Use the following scale**
3 –Appropriat 2 – Relatively appropriate 1 - Inappropriate

No	Reading comprehension test I Criteria to reading comprehension test	Appropriate	Relatively appropriate	Inappropriate
1.	Content of the text			
2.	Length of the text			
3.	Level of interest			
4.	Micro skills /sub skills of reading			
5.	Difficulty level			
6.	The variety of question types			
7.	Selection of words and grammatical expressions			
8.	The way the test items contextualized			
9.	Time allotment for the test			

Slightly modified and taken from: Hughes, A (2020), *Testing for Teachers*: Cambridge University Press.

Appendix 6: Reading Comprehension Test 1

Student's code: ----- Name of the school: -----

Grade and Section: -----

Total weight 25%

Directions: Read the following passage carefully and answer the given questions accordingly. (1 point each)

Mobile Phones

1. A revolution in communication took place when Alexander Graham Bell invented the landline telephone in 1876. For the first time, people could talk to each other over great distances as if they were in the same room. Nowadays, we use **it** more for faxes and the internet rather than talking. Over the last few decades, a new means of spoken communication has **emerged**: the mobile phone.
2. The first real mobile telephone call was made in 1973 by Dr. Martin Cooper, the scientist who invented the modern mobile handset. In the 1980s, mobile phones became **available** to the public and the streets of modern cities began to feature the amusing sight of people in suits shouting into giant plastic bricks! The expensive handsets became status symbols at that time.
3. In the mid 1990's, less expensive handsets and cheaper calling rates meant that, almost overnight, it seemed that everyone had a mobile phone. They had **evolved** into smooth little objects that fitted nicely into pockets and bags. In every public place, such as bars and restaurants, you could hear the bleep and buzz of mobiles ringing and registering messages, often including ringtones with the latest pop songs.
4. Mobile phones are now a **vital** part of daily life for every sector of society from schoolchildren to pensioners who have found that it is easier to stay in touch with a mobile. Over the last few years, **they** have become more and more advanced with, for example, built-in cameras. The third generations of mobile phones are powerful micro computers with broadband Internet access, which allows us to watch TV, download internet files at high speed and send out video clips.
5. The science of the telephone has progressed to a very great extent in less than 150 years. However, as with all advances in technology, there are both advantages and disadvantages. There can be a lack of privacy as bosses at work and colleagues and friends are in constant contact, even on the weekends. Punctuality no longer seems to be so important to people as **they** can simply call and say that they will be late instead of making an effort to arrive on time. In addition, it can be very

expensive to keep up with the latest technology as **it** usually requires changing the phone at least once a year.

6. However, it appears that the majority of people believe that they are an excellent invention because friends, family and work colleagues are now reachable everywhere, something which is very **convenient**. Of course, it is always an option for mobile phone users to identify the number calling and choose whether to answer or not and, if they really don't want to be disturbed, **they** can switch it off for as long or short a time as they want!

Source: 'Telephone' by Craig Duncan in 'Learn English Magazine' British council @<http://www.learnenglish.org.uk/magazine/magazine-home-telephone.html>

Directions: Say “True” if the statement is correct and “False” if the statement is incorrect

1. People today are more likely to use a landline phone. -----
2. Dr. Martin Cooper is credited as being the inventor of the modern mobile phone. -

3. Mobile phones had improved in portability by the mid-1990s. -----
4. Modern mobile phones have improved significantly during the past two centuries.

5. One of the issues faced by mobile phone users is keeping up with the latest technologies. -----

Directions: Choose the best answer for the following questions

6. In 1876, a revolution in communication took place because
 - A. The first mobile telephone call was made.
 - B. Calling rates became cheaper.
 - C. The telephone was invented.
 - D. Mobile phones became available to the public.
7. Which of the following statements is **not** true?
 - A. The first mobile phones were very big and expensive.

- B. Ring tones with the latest pop songs were only introduced after the year 2000.
- C. From the mid 1990's mobile phones became smaller and could be put easily into pockets and bags.
- D. You can send video clips to friends with the 'third generation' of mobile phones.

----- 8. The most important reason for the majority of people to have a mobile phone is

- A. It is easier to stay in touch.
- B. You can use it for internet access.
- C. It is a status symbol.
- D. You can keep the landline free for faxes.

----- 9. Which of the following statements is *not* a disadvantage of mobile phones?

- A. There can be a lack of privacy.
- B. You can't stop your mobile phone from ringing all the time.
- C. People are no longer so concerned about arriving on time.
- D. It costs a lot of money to change your phone to keep up with advanced technology.

----- 10. Which of the following activities *didn't* take place in the 1980's?

- A. Mobile phones became available.
- B. Expensive handsets became status symbols.
- C. The streets of modern cities began to feature the amusing sight of people talking into giant plastic bricks.
- D. It was the time that the first telephone call was made.

----- 11. Which of the following *identifies* the scientist with his invention?

- A. Dr. Martin Cooper, the landline telephone
- B. Alexander Graham Bell, the landline telephone
- C. Dr. Martin Cooper, both the landline telephone and modern mobile handset
- D. Alexander Graham Bell, the modern mobile handset

----- 12. The main idea of paragraph 2 is:

- A. Mobile phones have appeared with a more modern standard recently and provide us with almost all important services.
- B. Most people consider mobile phones to be the most effective means of communication however they have their own drawbacks.
- C. Mobile phones have become more accessible and easy to carry.
- D. The actual call was made and mobile phones were supplied to the public for the first time.

----- 13. The idea of paragraph 4 is:

- A. Mobile phones have appeared and been produced in China with almost all important services.
- B. The great changes that came about in the universe concerning communication channels date back to when the landline telephone was invented.
- C. Most people consider mobile phones the most effective means of communication; however, they have their own drawbacks.
- D. Mobile phones are vital to people from all walks of life and have undergone technological advancement.

----- 14. Which of the following could serve as the passage's best summary?

- A. The first landline phone was created by Alexander Graham Bell. Then Dr. Martin Cooper created the first mobile phone in 1973. For individuals to be able to fit mobile phones inside their pockets and purses, it took longer years to change their size. People using pricey phones were frequently spotted during the first two decades after the invention of the mobile phone.
- B. The tiny, portable telephones known as mobile phones entered our world after Alexander Graham Bell's invention of the land line telephone. At the beginning, cell phones were seen as a status symbol for people. Also, their prices and calling rates were lower. As a result, people were urged to purchase and utilize mobile phones.
- C. The landline telephone, created by Alexander Graham Bell in 1876, sparked a revolution in communication. Mobile phones, a new type of telephone, started to become more widely used. Initially, mobile phones were relatively large in size but subsequently evolved into smaller shapes that could be put conveniently in a

pocket or purse. Mobile phones have grown considerably over the past few decades, and each has its own advantages and disadvantages.

- D. In 1876, Alexander Graham Bell made the invention of the telephone. As a result of his finding, mobile phones were made available to the public and quickly supplanted landlines. Landline telephones were replaced by modern cellphones for a variety of reasons. It was initially enormous and unmoving. In addition, it was unable to install contemporary software for landline phones including video clips, file downloaders, cameras, and android.

-----15. **Which of the following summary best describes paragraph three and paragraph four?**

- A. The mobile phone has changed our attitudes and expectations. If people are late to a meeting, they are expected to notify others by calling on their mobile phones. It is no longer necessary to agree on when and where to meet. People can just call each other on their mobile phones and say where they are at the moment.
- B. Over the years starting from 1973, cell phones have changed drastically from simple to smart. These mobile phones have become human's primary data and correspondence centers. One can say that a cell phone is fundamentally essential to present-day life. The 1980s phones have become the grandfather to all the billions of phones in our pockets thanks to Dr. Martin Cooper; the researcher who made the invention and the first call on a mobile device in 1973.
- C. After the invention of the first mobile phone it was very common to see people with the expensive handsets. And it was very common to hear the t bleep and buzz of mobiles ringing. Even though, people liked the new form of communication, they also felt discomfort about the disadvantages related to using mobile phones.
- D. Mobile phones are now vital part of daily life for every sector of society. In addition, mobile phones have shown huge advancement in and becoming one of the most fascinating technologies that we use the most. Despite unlimited uses, mobile phones have their own disadvantages, such as lack of privacy, unable to keep punctuality, and the problem of keeping up the latest technology.

Part two: Reference and Inference questions (1 point each)

----- 16. **They** paragraph 4, line 3 refers to -----

- A. the society B. school children C. mobile phones D. pensioners

----- 17. **It** paragraph 5, line 7 refers to -----

- A. people's manner
- B. the expense of mobile phones
- C. how people keep punctuality
- D. the process of keeping up with the latest technology

----- 18. They paragraph 5, line 5 refers to -----

- A. people B. friends C. colleagues D. bosses

19. **It** paragraph 1, line 3 refers to -----

20. **They** paragraph 5, line 12 refers to -----

21. **Emerged** paragraph 1, line 5 means -----

- A. invented B. appeared C. declined D. disappeared

22. **Evolved** paragraph 3, line 2 means -----

- A. remained the same B. increased in size C. gradually changed D. retarded

23. **Available** paragraph 2, line 2 means -----

24. **Vital** paragraph 4, line 1 means -----

25. **Convenient** paragraph 5, line 10 means -----

Appendix 7: Reading comprehension test 2 (Reading test for the think aloud protocol)

Student's code: ----- Name of the school: -----

Grade and Section: -----

Total weight 20%

Directions: Read the following passage carefully and answer the given questions accordingly. (1 point each)

1. The middle school years (grades 7 and 8) are known to be the tough years. These are the years when the uneven pace of girls' and boys' physical, emotional, and cognitive development is most noticeable. Girls are ahead of boys on all counts and both suffer. Educators debate whether separating boys and girls during these difficult years might improve students' academic performance. Separate classes are now prohibited in public schools that receive federal funds, but a change in the federal law that prohibits them is under consideration. Although some parents and educators oppose same sex classes, there is some evidence that separating boys and girls in middle school yields positive results.
2. Opponents of single sex education claim that test scores of students in all girls' or all boys' classes are no higher than those of students in mixed classes. However, the research is inconclusive. Despite the fact that some research shows no improvement in test scores, other research shows exactly opposite results. More important, many psychologists believe that test scores are the wrong measuring sticks. They believe that self-confidence and self-esteem issues are more important than test scores. In same sex classes, girls report increased confidence and improved attitudes toward math and science, for example. These are results that cannot be calculated by a test but that will help adolescents become successful adults long after the difficult years of middle school are past.
3. New York university professor Carol Gilligan is certain that girls are most likely to be creative thinkers and risk takers as adults if educated apart from boys in middle school. Boys, too, gain confidence when they do not have to compete with girls. Boys at this age become very angry and fight back in middle school because they feel inferior when compared to girls, who literally "out think" them. With no girls in the classroom, they are more at ease with themselves and more receptive to learning.
4. Opponents also maintain that separate classes or separate schools send the message that males and females cannot work together. They say that when students go into the work force, they will have to work side-by-side with the opposite sex and attending all girls' or boys' school denies them the opportunity

to learn how to do so. However, such an argument completely ignores the fact that children constantly interact with members of the opposite sex outside school. From playing and squabbling with siblings to negotiating allowances, chores, and privileges with their opposite sex parent, children learn and practice on daily basis the skills they will need in their future workplaces.

5. The final argument advanced by opponents of same sex education is that it is discriminatory and, therefore, unconstitutional. However, research supports exactly the opposite conclusion: that discrimination is widespread in mixed classes. Several studies have shown that boys dominate discussions and receive more attention than girls and that teachers call on boys more often than **they** call on girls, even when girls raise their hand. Clearly, this is discriminatory.
6. It should be evident that the arguments against same sex classes are not valid. On the contrary, many people involved in the middle school education say that same sex classes provide better learning environment. Boys and girls pay less attention to each other and more attention to their school work. Girls are more relaxed and ask more questions. They are also less disruptive and more focused. Girls are less fearful of making mistakes and asking questions in math and science.

Part one: True – False items

Directions: Say true if the statement is correct and false if the statement is incorrect.

- 1. The passage claims that during middle schools, boys fall behind girls in every way.
- 2. The concept of a separate sex class was accepted by nearly all educators.
- 3. The benefits of same sex class education are supported by measurable data.
- 4. The passage claims that mixed class school style have produced conflicting results in the study.
- 5. Professor Gillian is an advocate for same sex class system of education.
- 6. One argument in favor of same sex class is that boys and girls both pay more attention to their academic work.

Section two: Finding similar terms/phrases from the passage

Directions: Find words /phrases in the text which are similar in meaning to the following words/ phrases

7. At the same time (paragraph 4) -----

8. Participating (paragraph 6) -----

Part three: Multiple Choices

Directions: Read the passage carefully and answer the given questions accordingly.

-----9. Why the middle school years are tough?

- A. Educators totally oppose same sex class
- B. Boys excel girls in middle school level
- C. There is no uniformity between girls and boys regarding their intellectual performance.
- D. The idea of teaching students in separate classes is accepted in order to get the public fund from the government.

----- 10. As used in paragraph 3, which one can be the best definition of out think?

- A. do less
- B. do well
- C. do worse
- D. do better

----- 11. According to paragraph 2

- A. There is a clear research finding regarding the distinction between mixed and separate sex education.
- B. All psychologists believe that test scores are the wrong measuring sticks.
- C. Self-esteem is more important than test scores due to the fact that it is easier to seat the scores.
- D. According to the proponent of mixed sex education there is no difference in score between girls and boys.

----- 12. The author mentioned girls are more relaxed, and ask more questions (Paragraph 6) to illustrate -----

- A. The benefit girls obtain if they are taught apart from boys.
- B. The discrimination that prevails in mixed –sex class.

- C. Girls think better than boys if they learn in separate classes.
- D. The benefit that girls obtain if they are learning together with boys.

----- 13. According to the information in the passage, which statement shows discrimination in mixed sex classes?

- A. Teachers call on boys to ask questions less often than they call on girls.
- B. Teachers call on boys to answer questions more often than they call on girls.
- C. Teachers call on girls to ask questions more often than they call on boys.
- D. Teachers call on girls to answer questions more often than they call on boys.

-----14. What does the phrases ... “Learn how to do so ...” in Paragraph 4 refers to?

- A. going in to the work force
- B. children’s interaction with parents
- C. working with the opposite sex
- D. attending all girls or boys schools

-----15. Which of the following statement is FALSE according to the information in the passage?

- A. Psychologists believe that self-confidence and self-esteem can be measured by tests.
- B. Some research shows improvement in the test scores of students in single sex classes.
- C. There is research to show no improvement in the test scores of students in single sex classes.
- D. Positive adolescent attitude towards math and science helps them to be successful later in life.

----- 16. Which of the following is true about middle school education?

- A. Mixed sex classes in middle school education provide a better learning environment.
- B. Separating middle school boys and girls does not lead students’ higher test scores.
- C. The debate on where same sex or mixed sex class is a better learning environment is settled long ago.
- D. The debate on whether same sex or mixed sex class is a better learning environment is still unresolved.

-----17. The phrase... “*Tough years*” in paragraph 1 means -----

- A. difficult time
- B. Interesting time
- C. controversial time
- D. unforgettable situation

----- 18. “*They*” in paragraph 5, line 5 refers to -----

- A. Girls
- B. boys
- C. teachers
- D. several studies

----- 19. The word “*opponents*” in paragraph 4, line 1 means -----

- A. protestors
- B. supporters
- C. advisors
- D. advocates

- 20. “*These*” in paragraph 2, line 7 refers to -----
- A. math and science
 - B. same sex classes
 - C. test scores
 - D. confidence and attitude

Appendix 8: Answer key to the reading comprehension test 1

True or False Items

- 1. False
- 2. True
- 3. True
- 4. False
- 5. True

Multiple Choice Items

- 6. C
- 7. B
- 8. A
- 9. B
- 10. D
- 11. B
- 12. D
- 13. D
- 14. C
- 15. D
- 16. C
- 17. B
- 18. A

Short Answers

- 19. The landline telephone
- 20. mobile phone users
- 21. B
- 22. C
- 23. accessible to public
- 24. very essential
- 25. easy to use

Note: For questions 23-25, responses that are equivalent to the answer key given by the students will be marked as correct answers

Appendix 9: Answer key to the reading comprehension test 2

True or false items

- | | |
|----------|---------|
| 1. True | 4. True |
| 2. False | 5. True |
| 3. False | 6. True |

Short Answers

7. side by side
8. involved

Multiple choice items

- | | |
|-------|-------|
| 9. C | 15. A |
| 10. D | 16. D |
| 11. B | 17. A |
| 12. A | 18. C |
| 13. B | 19. A |
| 14. C | 20. D |

Appendix 10: Students' Reading score (pilot study)

School	Student's code	Result , session 1 25%	Result Session 2, test re test 25%
Edget chora	01	20	22
Edget chora	02	15	17
Edget chora	03	18	17
Edget chora	04	16	18
Edget chora	05	15	19
Edget chora	06	21	23
Edget chora	07	13	16
Edget chora	08	20	21
Edget chora	09	7	9
Edget chora	10	12	14
Edget chora	11	10	15
Edget chora	12	8	11
Edget chora	13	17	16
Edget chora	14	14	16
Edget chora	15	6	11
Edget chora	16	7	12
Edget chora	17	10	14
Edget chora	18	9	10
Edget chora	19	12	11
Edget chora	20	12	14
Edget chora	21	12	16
Edget chora	22	13	17
Edget chora	23	12	14
Edget chora	24	12	16
Edget chora	25	13	15
Edget chora	26	17	19
Edget chora	27	9	13
Edget chora	28	12	15
Edget chora	29	16	16
Edget chora	30	15	14
Edget chora	31	14	15
Edget chora	32	16	18
Edget chora	33	19	21
Edget chora	34	17	16
Edget chora	35	18	15
Edget chora	36	20	23
Edget chora	37	20	21
Edget chora	38	13	17
Edget chora	39	6	9
Edget chora	40	8	11
Edget chora	41	21	20
Tikur Anbessa	42	11	14

Tikur Anbessa	43	12	16
Tikur Anbessa	44	13	15
Tikur Anbessa	45	9	11
Tikur Anbessa	46	14	12
Tikur Anbessa	47	10	13
Tikur Anbessa	48	12	14
Tikur Anbessa	49	18	16
Tikur Anbessa	50	9	7
Tikur Anbessa	51	19	17
Tikur Anbessa	52	19	21
Tikur Anbessa	53	22	19
Tikur Anbessa	54	17	15
Tikur Anbessa	55	8	6
Tikur Anbessa	56	19	17
Tikur Anbessa	57	20	21
Tikur Anbessa	58	13	11
Tikur Anbessa	59	19	21
Tikur Anbessa	60	15	17
Tikur Anbessa	61	14	12
Tikur Anbessa	62	15	17
Tikur Anbessa	63	8	11
Tikur Anbessa	64	13	12
Tikur Anbessa	65	10	13
Tikur Anbessa	66	9	7
Tikur Anbessa	67	10	14
Tikur Anbessa	68	9	11
Tikur Anbessa	69	8	13
Tikur Anbessa	70	19	21
Tikur Anbessa	71	21	20
Tikur Anbessa	72	10	8
Tikur Anbessa	73	14	12
Tikur Anbessa	74	3	5
Tikur Anbessa	75	11	13
Tikur Anbessa	76	17	16

Appendix 11: Frequency of reading strategies employed by high achievers (pilot study)

^a	Never Count	rarely Count	sometimes Count	usually Count	Always Count
Taking an overview before reading	0	0	0	4	5
Guessing contextually	0	0	2	3	4
skipping unknown words	0	3	2	3	1
Translating word by word	0	3	4	0	2
Using text features	0	1	0	2	6
Using typographical features	0	0	0	2	7
Giving attention to the first line of each paragraph	0	1	2	1	5
Paying attention to key words	0	0	0	2	7
Using prior knowledge	0	0	0	1	8
Taking notes	0	3	3	1	2
Generating questions	0	2	3	2	2
Going back and forth in a text	0	0	0	1	8
Underlining main points	0	0	2	1	6
Reading slowly and carefully	0	0	0	0	9
Adjusting reading speed	0	0	0	3	6
Pausing and thinking about the reading process	0	0	0	3	6
Visualizing information	0	0	0	2	7
Checking the overall understanding	0	0	2	1	6
Guessing what will come next	0	1	1	5	2

Guessing the overall content	0	0	1	1	7
Checking the guess	0	0	1	5	3
Deciding what to read and ignore	0	1	3	1	4
Using loud reading for difficult texts	0	1	1	2	5
Paying closer attention for difficult texts	0	0	0	2	7
I try to get back on track when I lose concentration	0	0	2	3	4
Classifying words in their grammatical categories	0	4	2	3	0
Translating concepts in native languages	0	0	1	2	6
Analyzing and evaluating the information	0	2	4	3	0
Making summary	0	1	2	2	4
Determining purpose of the text	0	0	0	6	3
Using progressive relaxation	0	0	0	1	8
Taking deep breath	0	1	1	1	6
Meditating while reading a text	0	0	1	3	5
Taking a risk to answer difficult comprehension questions	0	1	1	3	4
encouraging myself to avoid fear and inferiority	0	1	0	3	5
Sharing feelings and experiences	0	1	3	2	3
Student Rank = High					

**Appendix 12: Frequency of students' reading strategy employed by average learners
(pilot study)**

	Never Count	rarely Count	sometimes Count	Usual y Count	Alway s Count
Taking an overview before reading	0	1	9	8	16
Guessing contextually	0	1	8	11	14
skipping unknown words	0	2	9	11	12
Translating word by word	0	5	7	11	11
Using text features	0	4	4	12	14
Using typographical features	0	1	3	4	26
Giving attention to the first line of each paragraph	0	1	4	12	17
Paying attention to key words	0	1	1	11	21
Using prior knowledge	0	2	1	7	24
Taking notes	0	12	9	7	6
Generating questions	0	8	14	7	5
Going back and forth in a text	0	2	1	10	21
Underlining main points	0	4	8	6	16
Reading slowly and carefully	0	0	0	7	27
Adjusting reading speed	0	2	2	7	23
Pausing and thinking about the reading process	0	1	4	7	22
Visualizing information	0	1	4	6	23
Checking the overall understanding	0	2	6	12	14
Guessing what will come next	0	3	5	13	13

Guessing the overall content	0	2	5	5	22
Checking the guess	0	1	9	9	15
Deciding what to read and ignore	0	3	6	7	18
Using loud reading for difficult texts	0	4	6	5	19
Paying closer attention for difficult texts	0	2	3	6	23
I try to get back on track when I lose concentration	0	1	3	12	18
Classifying words in their grammatical categories	0	13	11	5	5
Translating concepts in native languages	0	1	4	9	20
Analyzing and evaluating the information	0	7	16	6	5
Making summary	0	8	8	11	7
Determining purpose of the text	0	8	9	9	8
Using progressive relaxation	0	1	4	6	23
Taking deep breath	0	5	5	9	15
Meditating while reading a text	0	2	4	5	23
Taking a risk to answer difficult comprehension questions	0	3	4	5	22
encouraging myself to avoid fear and inferiority	0	3	3	4	24
Sharing feelings and experiences	0	17	6	6	5
Student Rank = Average					

**Appendix 13: Frequency of students' reading strategy employed by low achievers
(pilot study)**

a	Never Count	rarely Count	sometimes Count	Usually Count	always Count
Taking an overview before reading	0	4	3	10	16
Guessing contextually	0	4	11	11	7
skipping unknown words	0	3	6	8	16
Translating word by word	0	6	11	13	3
Using text features	0	8	7	7	11
Using typographical features	0	1	0	8	24
Giving attention to the first line of each paragraph	0	1	3	6	23
Paying attention to key words	0	2	8	12	11
Using prior knowledge	0	4	7	9	13
Taking notes	0	11	8	12	2
Generating questions	0	5	5	12	11
Going back and forth in a text	0	4	3	12	14
Underlining main points	0	4	4	12	13
Reading slowly and carefully	0	2	1	8	22
Adjusting reading speed	0	3	6	8	16
Pausing and thinking about the reading process	0	2	4	11	16
Visualizing information	0	2	5	6	20
Checking the overall understanding	0	2	4	16	11
Guessing what will come next	0	6	4	13	10
Guessing the overall content	0	5	2	8	18
Checking the guess	0	0	8	9	16
Deciding what to read and ignore	0	5	6	5	17
Using loud reading for difficult texts	0	4	3	9	17

Paying closer attention for difficult texts	0	7	3	4	19
I try to get back on track when I lose concentration	0	3	8	9	13
Classifying words in their grammatical categories	0	13	7	9	4
Translating concepts in native languages	0	2	4	11	16
Analyzing and evaluating the information	0	9	8	11	5
Making summary	0	2	10	16	5
Determining purpose of the text	0	6	7	10	10
Using progressive relaxation	0	3	5	6	19
Taking deep breath	0	8	5	6	14
Meditating while reading a text	0	1	5	7	20
Taking a risk to answer difficult comprehension questions	0	4	9	7	13
encouraging myself to avoid fear and inferiority	0	2	4	10	17
Sharing feelings and experiences	0	9	5	8	11

Appendix 14: Reliability coefficient: cognitive, meta-cognitive, and affective reading strategy questionnaire items

Reading strategy types	Number of items	Cronbach's Alpha
Cognitive reading strategies	16	.688
Meta-cognitive strategies	12	.757
Affective strategies	8	.536

Appendix 15: Interview items for students

1. Do you need to read the entire passage in order to answer the comprehension questions?
2. How frequently do you make quick notes as you read?
3. How often do you double-check your predictions or suppositions when answering reading comprehension questions?
4. Do you ask yourself questions as you work on comprehension exercises?
5. Do you regain attention while engaging in comprehension exercises?
6. Do you regularly evaluate and analyze the data presented in the reading text?
7. Do you monitor yourself as you engage in comprehension activities?
8. How frequently do you deduce the text's intention?
9. Do you feel at ease as you complete the reading comprehension questions?

Appendix 16: Sample script for the think – aloud protocol (pilot study)

Student one

Ok, the passage says boys fall behind girls in every way. Before reading the passage, I can guess that the answer for question number one is false because the phrase “in every way” might not include academic activities.

Ok question number 2 the concept of a separate sex class was accepted by nearly all educators.

No, regarding the idea of separate sex class, there are many people with different ideas. Let me check the concept of this question from the passage if there is any scholar against this idea.

Hahn, we cannot say all educators, nearly all educators mean most educators accept the idea but very few of them didn't accept the idea. The opponents raised the idea of opponents in three paragraphs.

This is not fact because the passage briefly discussed about scholars who were opponents of separate sex class with three paragraphs. So the answer is false.

Oka, question number 3 the benefits of same sex class education are supported by measurable data. Let me check it from the paragraphs.

Opponents of single sex education claim that test scores of students in all girls' or all boys' classes are no higher than those of students in mixed classes. However, the research is inconclusive. Despite the fact that some research shows no improvement in test scores, other research shows exactly opposite results. More important, many psychologists believe that test scores are the wrong measuring sticks. They believe that self-confidence and self-esteem issues are more important than test scores.

It is supported by measurable data. Yes. Oh! No! It says “we cannot conclude from the data.”

So the word “supported” is not convincing. So the answer is false.

Question number 4. The passage claims that mixed class school style have produced conflicting results in the study. Opponents of single sex education claim that test scores of students in all girls' or all boys' classes are no higher than those of students in mixed classes. However, the research is inconclusive.

Better to read the question again, the passage claims that mixed class school style have produced conflicting results in the study. The question says “so far researches done on mixed class students brought conflicting results” but the passage says the conflicting

result didn't come from the mixed class. Rather it came from single sex class, only boys and only girls. Ok let me skip this question and see the next one.

Question number 5. Professor Gillian is an advocate for same sex class system of education.

Let me refer back to the passage. New York university professor Carol Gilligan is certain that girls are most likely to be creative thinkers and risk takers as adults if educated apart from boys in middle school. Boys, too, gain confidence when they do not have to compete with girls. Boys at this age become very angry and fight back in middle school because they feel inferior when compared to girls, who literally "out think" them. With no girls in the classroom, they are more at ease with themselves and more receptive to learning. This paragraph clearly shows that this person totally supports the idea of separate sex class. he gave so many evidences that boys don't afraid in a class and girls also comfortable in doing their academic career in a class because they already out think the boys. So we can say that he is an advocate.

Number 6. . One argument in favor of same sex class is that boys and girls both pay more. Let me go back to get the evidence. It should be evident that the arguments against same sex classes are not valid. On the contrary, many people involved in the middle school education say that same sex classes provide better learning environment. Boys and girls pay less attention to each other and more attention to their school work. This is true!

Alright let me check again question number 4. The passage claims that mixed class school style have produced conflicting results in the study.

Opponents of single sex education claim that test scores of students in all girls' or all boys' classes are no higher than those of students in mixed classes.

It says the research is inconclusive. Here we cannot get anything clear.so the answer is false.

Find words phrases in the text which are similar in meaning to the following words and phrases
At the same time (paragraph 4) ok at the same time, does it mean simultaneously? Ok let me check from paragraph 4. more at ease with themselves and more receptive to learning.

Opponents also maintain that separate classes or separate schools send the message that males and females cannot work together. They say that when students go into the work force, they will have to work side-by-side with the opposite sex and attending all girls' or boys' school denies them the opportunity to learn how to do so. Side by side ok side by side, yes the answer is side by side.

1. Participating eh...taking part, being involved ---- I expect such type of words... let me see from the paragraph, It should be evident that the arguments against same sex classes are not valid. On the contrary, many people involved in the middle school education say that same sex classes provide better learning environment. Boys and girls pay less attention to each other and more attention to their school work. Girls are more relaxed and ask more questions. They are also less disruptive and more focused. Girls are less fearful of making mistakes and asking questions in math and science.

Involved participating, Aha no doubt, the answer is involved.

Do I have done with the true false and the vocabulary part, so the next part will be the multiple choice questions. Ok number 1 Why the middle school years are tough? Ok the passage begins with explaining how the middle school is very tough! So I will find the reason why the middle school is tough. Ok choice A: Educators totally oppose same sex class. no they are not totally oppose! So I should avoid choice A: CHOICE B : Boys excel girls in middle school level. Again this cannot be the answer. Choice C: There is no uniformity between girls and boys regarding their intellectual performance. YES this could be the answer. Choice D: The idea of teaching students in separate classes is accepted in order to get the public fund from the government. This might be the answer but it is not mentioned in the passage.

As used in paragraph 3, which one can be the best definition of out think? What does out think means? Out think means do better or for example if we take the phrase out run the meaning shows somebody is better in performance. So the answer is do better. I don't need to refer back to the passage. **Ok question number 11** According to paragraph 2, before answering this question let me read paragraph 2.

Opponents of single sex education claim that test scores of students in all girls' or all boys' classes are no higher than those of students in mixed classes. However, the research is inconclusive. Despite the fact that some research shows no improvement in test scores, other research shows exactly opposite results. More important, many psychologists believe that test scores are the wrong measuring sticks. They believe that self-confidence and self-esteem issues are more important than test scores. In same sex classes, girls report increased confidence and improved attitudes toward math and science, for example. These are results that cannot be calculated by a test but that will help adolescents become successful adults long after the difficult years of middle school are past.

Well, this paragraph tells us that other things should be calculated, not only the test scores. Other things such as, attitude and confidence should be calculated.

Choice A: There is a clear research finding regarding the distinction between mixed and separate sex education. No the passage says inconclusive!

Choice B: All psychologists believe that test scores are the wrong measuring sticks. No, not all!

Choice C: Self-esteem is more important than test scores due to the fact that it is easier to seat the scores. Ok let me pass to the next choice

Choice D: According to the proponent of mixed sex education there is no difference in score between girls and boys. UMMM proponent of mixed sex education... there is no difference in score between girls and boys. No

OK, let me see choice C again: Self-esteem is more important than test scores due to the fact that it is easier to seat the scores. Yes this is the answer.

Question number 12: The author mentioned girls are more relaxed, and ask more questions (Paragraph 6) to illustrate. At the beginning the passage explains that if the boys are learning together with girls they feel ashamed to ask even questions.

Choice A: The discrimination that prevails in mixed –sex class. OK it doesn't say discrimination exists. Choice B: The benefit girls obtain if they are taught apart from boys. Yes, the passage says if girls are taught alone, they would benefit more. Because they feel relaxed and ask questions. Choice C: Girls think better than boys if they learn in separate classes. No...

Choice D: The benefit that girls obtain if they are learning together with boys. No, the passage says it is better for the girls if they study alone.so let me cancel out

Choice A and C, and better to decide the answer from choice B and D. So, the answer is B.

Question number 13. According to the information in the passage, which statement shows discrimination in mixed sex classes? Ok discrimination in mixed sex classes...

Choice A: Teachers call on boys to ask questions less often than they call on girls. No, this discrimination works on girls, not for the boys.

Choice B: Teachers call on boys to answer questions more often than they call on girls. YES, this is the answer.

Choice C: Teachers call on girls to ask questions more often than they call on boys. No

Choice D: Teachers call on girls to answer questions more often than they call on boys. No, No! Therefore, the answer is B.

Question number 14: What does the phrase how to do so refers to (Paragraph 4)? Learn how to do so Learn how to do so paragraph 4... let me go to paragraph 4

School denies them the opportunity to learn how to do so. How to do so what?!

..... they will have to work side-by-side with the opposite sex and attending all girls' or boys' school denies them the opportunity to learn how to do so. How to do work side by side with the opposite sex. So the answer is Choice B.

Question number 15: Which of the following statement is FALSE according to the information in the passage?

Choice A: Psychologists believe that self-confidence and self-esteem can be measured by tests. No no no !.... Esteem can be measured by tests.

Choice B: Some research shows improvement in the test scores of students in single sex classes. Yes, this is true.

Choice C: There is research to show no improvement in the test scores of students in single sex classes. OK

Choice D: possibly

Question number 16: which of the following is true about middle school education?

Choice A: mixed sex class ----- ok there is some claim

Choice B: the debate ----- Oh! Still they are debating

Choice C: still unresolved: yes still they are arguing

Choice D: The debate on whether same sex or mixed sex class is a better learning environment is still unresolved. Therefore the answer is choice B

Question number 17. The phrase tough years in paragraph 1 means ----- let me read from the passage.... Tough means difficult. Ok Choice A: difficult time, Yes, Choice B: interesting time No, controversial, unforgettable, No! So, the answer is choice A

18. Ok, the word they in paragraph 5 refers to Let me read from the passage

*Several studies have shown that boys dominate discussions and receive more attention than girls and that teachers call on boys more often than **they** call on girls, even when girls raise their hand. Clearly, this is discriminatory.*

Yes, the answer is choice C: teachers.

Question number 19: the word opponent in paragraph 4, line 1 means ---- opponent has several meanings such as enemy, contender, however in this context opponent means, people who are opposing this idea. Not people who are going in war with other people. people, who are opposing ideas in a peaceful manner. Therefore the answer is A, protesters.

..... many people involved in the middle school education say that same sex classes provide better learning environment. Boys and girls pay less attention to each other and more attention to their school work. Girls are more relaxed and ask more questions.

Ok I have finished all the questions and let me refer the challenging questions again

Question number 20. The word these in paragraph 2, line 7 refers to ...

....., girls report increased confidence and improved attitudes toward math and science, for example. These are results that cannot be calculated by a test but that will help adolescents become successful adults long after the difficult years of middle school are past. Ok this must be confidence and attitude. Ok I will check it again.

Think aloud protocol transcription

Student 2

Question no 1: The passage claims that during middle schools, boys fall behind girls in every way. Ok, how shall I begin doing the question? Let me start from the first paragraph. *The middle school years (grades 7 and 8) are known to be the tough years. These are the years when the uneven pace of girls' and boys' physical, emotional, and cognitive development is most noticeable. Girls are ahead of boys on all counts and both suffer. Educators debate whether separating boys and girls during these difficult years might improve students' academic performance.* Ok.... I couldn't get the answer here. Let me go through the second paragraph. *Opponents of single sex education claim that test scores of students in all girls' or all boys' classes are no higher than those of students in mixed classes. However, the research is inconclusive.*

Question no 2: The concept of a separate sex class was accepted by nearly all educators. *Opponents of single sex education claim that test scores of students in all girls' or all boys' classes are no higher than those of students in mixed classes. However, the research is inconclusive.* Ok this one must be false.

Question no 3: .The benefits of same sex class education are supported by measurable data. supported by measurable data..... Measurable data

Question no 4: The passage claims that mixed class school style have produced conflicting results in the study. Separate classes are now prohibited in public

schools that receive federal funds, but a change in the federal law that prohibits them is under consideration. Although some parents and educators oppose same sex classes, there is some evidence that separating boys and girls in middle school yields positive results.

Question no 5: Professor Gillian is an advocate for same sex class system of education.

Is this name found in the passage? Ok let me find it..... There is no such kind of name in the passage. So, this is false. Ok, question no 6: One argument in favor of same sex class is that boys and girls both pay more attention to their academic work. Ok, is there any paragraph talking about this issue? ----- Separate classes are now prohibited in public schools that receive federal funds, but a change in the federal law that prohibits them is under consideration.

..... girls are ahead of boys on all counts and both suffer. Educators debate whether separating boys and girls during these difficult years might improve students' academic performance.

Ok, one argument in favor of same sex class is that boys and girls both pay more attention to their academic work. More important, many psychologists believe that test scores are the wrong measuring sticks. They believe that self-confidence and self-esteem issues are more important than test scores. Ok there is no argument on this issue, so the answer is false

Ok, finding similar terms/phrases from the passage

At the same time (paragraph 4)

Opponents also maintain that separate classes or separate schools send the message that males and females cannot work together. They say that when students go into the work force, they will have to work side-by-side with the opposite sex and attending all girls' or boys' school denies them the opportunity to learn how to do so. However, such an argument completely ignores the fact that children constantly interact with members of the opposite sex outside school. From playing and squabbling with siblings to negotiating allowances, chores, and privileges with their opposite sex parent, children learn and practice on daily basis the skills they will need in their future workplaces.

At the same time ... at the same time when students go into the work force, they will have to work side-by-side. Oh yes, at the same time means side by side. Side by side, yes.

Participating (paragraph 6) ... it should be evident that the arguments against same sex classes are not valid. On the contrary, many people involved yes involved is the answer

Question number 9: Why the middle school years are tough?

Ok let me go through the passage

New York university professor Carol Gilligan is certain that girls are most likely to be creative thinkers and risk takers as adults if educated apart from boys in middle school. Boys, too, gain confidence when they do not have to compete with girls. Boys at this age become very angry and fight back in middle school because they feel inferior ... Aha! Boys at this age become very angry and fight back in middle school because they feel inferior when compared to girls, who literally “out think” them. Out think them....

Why the middle school years are tough? A: Educators totally oppose same sex class; No, this cannot be the answer! B: Boys excel girls in middle school level No

C: There is no uniformity between girls and boys regarding their intellectual performance. Ok, this is an ideal option.

Question number 10: which one can be the best definition of out think?

New York university professor Carol Gilligan is certain that girls are most likely to be creative thinkers and risk takers as adults if educated apart from boys in middle school. Boys, too, gain confidence when they do not have to compete with girls. Boys at this age become very angry and fight back in middle school because they feel inferior when compared to girls, who literally “out think” them. Who literally “out think” them. Out think ... the could be either do better or do well. I think it is do better.

Question number 11: According to paragraph 2

A: There is a clear research finding regarding the distinction between mixed and separate sex education. No, I don't think this is supported by the passage.

B: All psychologists believe that test scores are the wrong measuring sticks. No, it is not all, rather it is many.

C: Self-esteem is more important than test scores due to the fact that it is easier to seat the scores.

----- Many psychologists believe that test scores are the wrong measuring sticks. They believe that self-confidence and self –esteem issues are more important than test scores. In same sex classes, girls report increased confidence and improved attitudes toward math and science, for example. OK

C: Self-esteem is more important than test scores due to the fact that it is easier to seat the scores.

D: According to the proponent of mixed sex education there is no difference in score between girls and boys. Ok, the nearest is Choice A.

Question no 12: . The author mentioned girls are more relaxed, and ask more questions (Paragraph 6) to illustrate

It should be evident that the arguments against same sex classes are not valid. On the contrary, many people involved in the middle school education say that same sex classes provide better learning environment. Boys and girls pay less attention to each other and more attention to their school work. Girls are more relaxed and ask more questions. They are also less disruptive and more focused.

Ok, if the question is related to fearfulnessthe answer should be Choice A: "The discrimination that prevails in mixed –sex class."

Question number 13: According to the information in the passage, which statement shows discrimination in mixed sex classes?

I don't see any difference between choice C and choice D, so the answer is choice B.

Question number 14: What does the phrase *learn how to do so* in (Paragraph 4) refers to?

Let me read the paragraph

Opponents also maintain that separate classes or separate schools send the message that males and females cannot work together. They say that when students go into the work force, they will have to work side-by-side with the opposite sex and attending all girls' or boys' school denies them the opportunity to learn how to do so.

So, the answer is Choice B: working with the opposite sex

Question number 15: Which of the following statement is FALSE according to the information in the passage?

Ok choice A: Psychologists believe that self-confidence and self-esteem can be measured by tests. This cannot be the answer.

Question number 16: which of the following is false about middle school education?

The phrase tough years in paragraph 1 means.... What does tough year means? I think it is difficult.

Question number 19: The word opponents in paragraph 4, line 1 means -----

I think the answer is choice A: protestors

Question number 20: The word these in paragraph 2, line 7 refers to -----

Ah ---- the answer is choice D: confidence and attitude

OK, now let me check the most difficult questions again ----

Appendix 17: Sample script for the students' interview (pilot study)

Student interview 1

Interviewer: Do you need to read the entire passage in order to answer the comprehension questions?

Student 1: No, when I complete reading comprehension activities, I always read the questions first before looking through the relevant paragraphs for possible responses.

Interviewer: Why not start by reading the whole passage?

Student 1: I anticipated that it would take a lot of time, or that I would run out of time.

Interviewer: Do you read a single paragraph in response to one question? or.....

Student 1: No, it depends on the type and nature of the question.

Interviewer: What exactly do you mean by that?

Student 1: If the sort of question requires reading through two or three passages, I will do so until I find the probable answer, but if I can find the correct answer in one paragraph, I won't read anymore.

Interviewer: How frequently do you make quick notes as you read?

Student 1: Sincerely, I wouldn't do it.

Interviewer: why?

Student 1: I still lack a lot of practice.

Interviewer: How often do you double-check your predictions or suppositions when answering reading comprehension questions?

Student 1: Not frequently

Interviewer: why?

Student 1: If the question is unclear, I typically double-check my guesses. Hence, the answer requires more in-depth reading.

Interviewer: Do you ask yourself questions as you work on comprehension exercises?

Student 1: In what context?

Interviewer: Considering questions such as "What am I reading?" What draws me to this content? How do I respond to the inquiries? etc.....

Student 1: Yes, to a certain extent. Since it's a reading test, I should think about how I'll answer the questions, but I won't have time to think about the type of reading I do or why I do it.

Interviewer: Do you regain attention while engaging in comprehension exercises?

Student 1: Yes, I regularly tune in to my feelings and refocus when there is a setback.

Interviewer: Do you regularly evaluate and analyze the data presented in the reading text?

Student 1: Absolutely not

Interviewer: why?

Student 1: I focus more on the reading comprehension questions, but I consider making judgments and analyses as an additional activity.

Interviewer: What if it's a requirement for the reading test?

Student 1: I'll carry that out!

Interviewer: Do you monitor yourself as you engage in comprehension activities?

Student 1: Yes, every now and then I give myself an overall rating on how well I do with the comprehension exercises and continue with the activity as a whole.

Interviewer: How frequently do you deduce the text's intention?

Student 1: Rarely

Interviewer: why rarely?

Student 1: The most important task I could accomplish on the reading comprehension test, in my opinion, was not inferring the text's objective. Of course, everyone could instinctively consider the aim of the reading material, but as I've already mentioned regarding text assessment and analysis, if the question of stating the purpose of the text is on the reading comprehension test, I will do it.

Interviewer: Do you feel at ease as you complete the reading comprehension questions?

Student 1: Yes, I felt at ease when working on reading comprehension tests since I know that even if the test is difficult, I won't get myself into trouble, and I'm always willing to take a chance in any academic situation.

Interviewer: Thank you, student 1

Student 1: Glad to help you

Student interview 2

Interviewer: Do you need to read the entire passage in order to answer the comprehension questions?

Student 2: Yes, I read the whole passage before answering the questions.

Interviewer: Do you read just one paragraph to answer a single query?

Student 2: No, that depends on the question. If the question is difficult, I might read the relevant paragraphs several times.

Interviewer: How frequently do you make quick notes as you read?

Student 2: I don't typically take notes while working on a reading comprehension activity.

Interviewer: What caused it, and why?

Student 2: I have not practiced since the lower grades.

Interviewer: Do you have any other similar practice that you do while you are doing reading comprehension activity?

Student 2: Yes, I frequently underline and circle details that are crucial to the test.

Interviewer: Who instructed you in such a strategy?

Student 2: No one, only my own experience that I've gained over time.

Interviewer: How often do you double-check your predictions or suppositions when answering reading comprehension questions?

Student 2: I don't do it very often.

Interviewer: Why not every now and then?

Student 2: I only verify my guess if I can finish the reading test before time runs out.

Interviewer: Do you ask yourself questions as you work on comprehension exercises?

Student 2: Indeed, this is normal. Since I'm working on comprehension activities, I'll come up with any questions that occur to me.

Interviewer: Do you regain attention while engaging in comprehension exercises?

Student 2: Of course, I will quickly start concentrating if I realize that I have strayed from the path.

Interviewer: Do you regularly evaluate and analyze the data presented in the reading text?

Student 2: I won't examine and analyze the reading passage's concepts until specifically instructed to do so. I might consider it, though, if the reading assignment is not graded, such as in class or for homework.

Interviewer: Do you monitor yourself as you engage in comprehension activities?

Student 2: I make an effort to analyze my work, but a wide range of the time, I may become anxious before I finish the questions and receive the appropriate answer.

Interviewer: How frequently do you deduce the text's intention?

Student 2: While I was taking the reading comprehension test, determining the text's purpose wasn't a big deal, but I might have given it some thought while completing subsequent comprehension tasks.

Interviewer: Do you feel at ease as you complete the reading comprehension questions?

Student 2: I'm not at ease, because I have a hard time reading texts quickly.

Interviewer: Which obstacles, in your opinion, prevent readers from effectively comprehending the reading passage?

Student 2: Usually, I struggle to comprehend grammatical and lexical components of written texts, which makes it difficult for me to comprehend the text as a whole.

Interviewer: Thank you, student 2

Student 2: No worries

Appendix 18: Post –pilot improvements made on the questionnaire

Item No.	Old Version	Revised
1.	Whenever reading an academic text, I take an overview of a text, such as length, organization, pictures, tables etc.....	I infer unknown words' or phrases' meanings from their context when I read.
2.	I infer unknown words' or phrases' meanings from their context when I read.	I read a passage while interpreting each word.
3.	I read a passage while interpreting each word.	In a passage, I omit any unfamiliar words.
4.	In a passage, I omit any unfamiliar words.	To enhance reading comprehension, I employ text features such as tables, figures, charts, illustrations, diagrams, boldface, underlining, and italics.
5.	I make use of text features like tables, figures, charts, illustrations, and diagrams to improve comprehension	I focus on the opening line of each paragraph to help me understand the material
6.	I use typographical features; such as, bold face, underline, and italics to identify key information in a reading text.	I focus on important words, phrases, and sentences that reveal how a text is structured
7.	I focus on the opening line of each paragraph to help me understand the material	I make notes and rephrase concepts to ensure that I fully comprehend what I have read
8.	I focus on important words, phrases, and sentences that reveal how a text is structured	Reading a text causes me to have questions.
9.	For a thorough understanding of the material, I draw on my prior knowledge.	To help me recall what I read, I try to envision the content.
10.	I make notes and rephrase concepts to ensure that I fully comprehend what I have read	Using the information from the previous paragraph, I develop assumptions as I read a text about what will happen next.
11.	Reading a text causes me to have questions.	Usually, I highlight or circle key terms and phrases that aid in my comprehension of the text.
12.	I go back and forth in a text to find relationships among ideas in it.	I make an effort to infer the text's main content as I read
13.	To make sure I recall something from the text, I highlight or encircle it.	I pay better attention to what I'm reading when the content gets challenging.
14.	I read attentively and slowly to ensure that I grasp what I'm reading	I categorize words in a passage based on their grammatical categories.
15.	My reading pace changes depending on what I'm reading.	I convert ideas from texts into my own language as I read them.
16.	Periodically, I pause to reflect on what I've just read	I make summary of a text in order to create new meanings
17.	To help me recall what I read, I try to envision the content.	Whenever reading an academic text, I take an overview of a text, such as length, organization, pictures, tables etc.....
18.	Whenever I come across new information, I double-check my understanding	For a thorough understanding of the material, I draw on my prior knowledge.

19.	Using the information from the previous paragraph, I develop assumptions as I read a text about what will happen next.	I go back and forth in a text to find relationships among ideas in it.
20.	I make an effort to infer the text's main content as I read	I read attentively and slowly to ensure that I grasp what I'm reading
21.	I verify whether or not my assumptions about the text were accurate	My reading pace changes depending on what I'm reading.
22.	I choose what I read carefully and what I overlook when I am reading.	Periodically, I pause to reflect on what I've just read
23.	When I find the text challenging, I read it aloud.	Whenever I come across new information, I double-check my understanding
24.	I pay better attention to what I'm reading when the content gets challenging.	I verify whether or not my assumptions about the text were accurate
25.	When I lose focus, I make an effort to regain it.	I choose what I read carefully and what I overlook when I am reading.
26.	I categorize words in a passage based on their grammatical categories.	When I lose focus, I make an effort to regain it.
27.	I convert ideas from texts into my own language as I read them.	I review and critically analyze the data given in the text.
28.	I review and critically analyze the data given in the text.	As I read a text, I ascertain its purpose.
29.	I make summary of a text in order to create new meanings	I practice progressive relaxation strategies before taking reading comprehension examinations, such as, taking a deep breath and stretching my body.
30.	I determine purpose of a text	Every time I take a reading comprehension exam, I pay attention to the positive and negative physical responses I experience.
31.	I usually make progressive relaxation during a reading comprehension test	When I take reading comprehension tests, I usually immerse myself in a text.
32.	I take deep breath before doing comprehension activities	I encourage myself to stay away from feelings of inadequacy and anxiety when taking tests.
33.	I usually meditate while doing reading comprehension activities	If I experienced anxiety during exam periods, I made an effort to reduce it.
34.	I take risks when I read a text and complete comprehension activities	I take risks to answer difficult questions, during exam periods.
35.	I reward myself while reading a text and doing reading activities	I use a checklist (a language learning diary) to help me remember the difficulties I encounter when reading.
36.	I share my emotions with my classmates.	I discuss my thoughts with my peers regarding the usage of reading strategies.

Appendix 19: Frequency of reading strategies employed by high achievers (main study)

Student Rank = High Total No. of students = 47	Almost Never count	Rarely count	Sometimes count	Usually count	Always count
Inferring meanings of unknown words or phrases	0	2	13	16	16
Interpreting each word	6	4	20	14	3
Omit any unfamiliar words	3	15	11	15	3
Employ text features	1	3	8	16	19
Focus on the opening line	1	2	11	19	14
Focus on important words	0	2	5	27	13
Making notes	17	9	13	5	3
Generating questions	10	12	12	9	4
Making an image	0	4	8	14	21
Developing assumptions	3	7	15	11	11
Highlight or circle important points	2	5	8	22	10
Infer the text's main content	0	0	7	23	17
Paying better attention to challenging concepts	2	4	6	13	22
Categorizing words on parts of speech	8	17	16	4	2
Translating ideas into native language	0	0	1	25	21
Making summary	6	7	15	15	4
Taking an overview	3	3	6	10	25
Using background knowledge	0	2	13	21	11
Going back and forth	0	1	6	17	23
Reading attentively and slowly	1	0	3	25	18
Changing reading pace	0	0	5	20	22
Pausing and reflecting	0	1	16	17	13
Making double check	0	4	11	20	12
Verifying assumptions	0	4	11	19	13
Choosing what to read carefully	4	2	17	14	10
Trying to get back when losing concentration	2	2	10	16	17
Making critical analysis	7	13	19	4	4
Determine the purpose of the reading text	4	5	19	13	6
Practicing progressive relaxation	10	6	14	6	11
Paying attention to physical responses	5	7	18	14	3
Getting immersed	0	2	11	16	18
Self-encouragement	3	1	4	12	27
Reducing anxiety	0	0	6	10	31
Taking risks to answer difficult questions	4	6	14	12	11
Using checklists to remember challenges	27	12	8	0	0
Discussing thoughts with peers	22	11	12	1	1

Appendix 20: Frequency of reading strategies employed by average learners (main study)

Student Rank = average Total No. of students = 118	Almost Never count	Rarely count	Sometimes count	Usually count	Always count
Infering meanings of unknown words or phrases	5	14	40	41	17
Interpreting each word	12	24	40	30	11
Omit any unfamiliar words	30	22	35	15	15
Employ text features	7	13	26	40	31
Focus on the opening line	1	8	24	47	37
Focus on important words	10	9	24	49	25
Making notes	40	19	33	15	9
Generating questions	32	33	28	17	7
Making an image	5	16	24	40	32
Developing assumptions	10	23	19	41	24
Highlight or circle important points	9	17	28	35	27
Infer the text's main content	2	17	28	42	28
Paying better attention to challenging concepts	7	17	21	40	32
Categorizing words on parts of speech	47	33	30	5	1
Translating ideas into native language	0	0	1	59	57
Making summary	22	27	28	29	11
Taking an overview	14	8	20	30	44
Using background knowledge	3	19	23	42	30
Going back and forth	2	18	25	33	39
Reading attentively and slowly	5	6	22	39	45
Changing reading pace	3	17	16	42	39
Pausing and reflecting	13	13	29	36	26
Making double check	9	16	31	41	20
Verifying assumptions	3	22	31	31	30
Choosing what to read carefully	12	18	27	38	22
Trying to get back when losing concentration	12	17	27	35	26
Making critical analysis	30	25	45	16	0
Determine the purpose of the reading text	28	21	37	30	1
Practicing progressive relaxation	23	18	23	24	29
Paying attention to physical responses	12	22	33	32	18
Getting immersed	8	11	39	31	28
Self-encouragement	10	13	22	41	31
Reducing anxiety	10	8	18	42	39
Taking risks to answer difficult questions	10	13	12	46	36
Using checklists to remember challenges	55	45	15	1	0
Discussing thoughts with peers	47	27	26	14	2

Appendix 21: Frequency of reading strategies employed by low achievers (main study)

Student Rank = low Total No. of students = 102	Almost Never count	Rarely count	Sometimes count	Usually count	Always count
Inferring meanings of unknown words or phrases	5	17	43	26	11
Interpreting each word	10	27	34	20	11
Omit any unfamiliar words	18	27	21	26	10
Employ text features	6	8	25	34	29
Focus on the opening line	6	11	25	38	22
Focus on important words	2	11	28	38	23
Making notes	26	16	26	22	12
Generating questions	23	24	26	18	11
Making an image	4	13	24	36	25
Developing assumptions	9	7	30	28	28
Highlight or circle important points	13	14	20	32	23
Infer the text's main content	5	16	17	36	28
Paying better attention to challenging concepts	4	11	31	35	21
Categorizing words on parts of speech	26	30	34	8	4
Translating ideas into native language	1	0	2	46	53
Making summary	17	20	24	28	13
Taking an overview	7	12	29	21	33
Using background knowledge	7	7	28	38	22
Going back and forth	7	10	28	31	26
Reading attentively and slowly	1	7	20	30	44
Changing reading pace	6	12	18	33	33
Pausing and reflecting	3	13	31	33	22
Making double check	7	16	31	33	15
Verifying assumptions	7	13	33	33	16
Choosing what to read carefully	10	17	20	28	27
Trying to get back when loosing concentration	7	15	26	35	19
Making critical analysis	21	23	34	23	1
Determine the purpose of the reading text	31	13	27	31	0
Practicing progressive relaxation	21	15	25	25	16
Paying attention to physical responses	11	23	20	26	22
Getting immersed	9	16	21	33	23
Self-encouragement	7	10	26	34	25
Reducing anxiety	4	12	15	32	39
Taking risks to answer difficult questions	7	18	32	24	31
Using checklists to remember challenges	39	39	24	0	0
Discussing thoughts with peers	33	23	18	22	6

Appendix 22: Students' reading score out of 100 percent (main study)

School: Derartu Tulu

Student's code	Result	code	Result	code	Result	code	Result
01	96.00	13	72.00	25	64.00	37	56.00
02	92.00	14	72.00	26	64.00	38	56.00
03	92.00	15	72.00	27	64.00	39	56.00
04	88.00	16	72.00	28	64.00	40	56.00
05	88.00	17	72.00	29	64.00	41	52.00
06	84.00	18	72.00	30	64.00	42	52.00
07	84.00	19	68.00	31	64.00	43	44.00
08	80.00	2	68.00	32	64.00	44	32.00
09	80.00	21	68.00	33	60.00	45	24.00
10	80.00	22	68.00	34	60.00	46	16.00
11	76.00	23	68.00	35	60.00	47	25.00
12	76.00	24	68.00	36	60.00	48	25.00

School: Kelemework

Student's code	Result	code	Result	code	Result
49	96.00	57	76.00	65	56.00
50	96.00	58	72.00	66	56.00
51	96.00	59	72.00	67	56.00
52	92.00	60	64.00	68	56.00
53	80.00	61	64.00	69	36.00
54	80.00	62	64.00	70	28.00
55	76.00	63	60.00	71	28.00
56	76.00	64	56.00		

School: Medhanialem

Student's code	Result	Code	Result	Code	Result	Code	Result	Code	Result
72	92.00	86	60.00	100	48.00	114	44.00	128	36.00
73	88.00	87	60.00	101	48.00	115	44.00	129	36.00
74	88.00	88	60.00	102	48.00	116	40.00	130	36.00
75	88.00	89	60.00	103	48.00	117	40.00	131	36.00
76	88.00	90	60.00	104	48.00	118	40.00	132	32.00
77	80.00	91	60.00	105	48.00	119	40.00	133	32.00
78	76.00	92	60.00	106	48.00	120	40.00	134	28.00
79	76.00	93	56.00	107	48.00	121	40.00	135	24.00
80	72.00	94	52.00	108	44.00	122	36.00	136	20.00
81	68.00	95	52.00	109	44.00	123	36.00	137	20.00
82	68.00	96	52.00	110	44.00	124	36.00	138	20.00
83	64.00	97	48.00	111	44.00	125	36.00	139	20.00
84	64.00	98	48.00	112	44.00	126	36.00	140	20.00
85	60.00	99	48.00	113	44.00	127	36.00	141	24.00

School: Dagmawi Menelik

Student's code	Result	Code	Result	Code	Result	Code	Result
142	96.00	158	68.00	174	48.00	190	36.00
143	92.00	159	64.00	175	48.00	191	36.00
144	92.00	160	64.00	176	48.00	192	36.00
145	92.00	161	64.00	177	44.00	193	36.00
146	92.00	162	64.00	178	44.00	194	32.00
147	80.00	163	60.00	179	44.00	195	32.00
148	80.00	164	60.00	180	44.00	196	32.00
149	80.00	165	56.00	181	44.00	197	32.00
150	72.00	166	52.00	182	44.00	198	28.00
151	72.00	167	52.00	183	40.00	199	28.00
152	72.00	168	52.00	184	40.00	200	32.00
153	72.00	169	52.00	185	40.00	201	26.00
154	72.00	170	52.00	186	36.00	202	28.00
155	72.00	171	48.00	187	36.00	203	24.00
156	72.00	172	48.00	188	36.00	204	24.00
157	68.00	173	48.00	189	36.00	205	24.00
						206	24.00

School: Wondirad

Student's code	Result	Code	Result	Code	Result	code	Result
207	96	222	80	237	68	252	68
208	92	223	80	238	64	253	52
209	92	224	76	239	64	254	60
210	88	225	76	240	60	255	52
211	88	226	72	241	56	256	52
212	88	227	72	242	56	257	48
213	88	228	72	243	56	258	48
214	84	229	72	244	56	259	44
215	84	230	72	245	56	260	40
216	80	231	72	246	52	261	40
217	80	232	68	247	52	262	36
218	80	233	68	248	52	263	36
219	80	234	68	249	52	264	36
220	80	235	68	250	52	265	36
221	80	236	68	251	52	266	36
						267	28

Appendix 23: Transcription of the students' think-aloud protocol (main study)

Original Transcript, sample 1 (High Achiever)	Open Codes
<p>Question number1, The passage claims that during middle schools, boys fall behind girls in every way. Okay this idea is found in paragraph 1 let me read it “Girls are ahead of boys on all counts and both suffer. Educators debate whether separating boys and girls during these difficult years might improve students’ academic performance.” So this is true.</p> <p>Because the passage claims that during middle schools, boys fall behind girls in every way. [Based on the claim that says girls are ahead of boys on all counts makes this statement true.</p>	<p>Identifying the main claim</p> <p>In –depth reading to learn more details</p> <p>Confirming statement accuracy</p> <p>Interpreting key phrases</p> <p>Linking claim to supporting sentence</p>
<p>Number 2, The concept of a separate sex class was accepted by nearly all educators. I think it's false because it says that separate classes are prohibited in public schools that receive federal funds. So, this makes it false. Okay the next question; The benefits of same sex class education are supported by measurable data. Okay, Let me check it from the passage.</p>	<p>Analyzing concepts</p> <p>Reasoning out responses</p> <p>Linking question content to specific textual phrases</p> <p>Verifying the passage’s ideas</p>
<p>“They believe that in same sex classes, girls report increased confidence and improved attitudes toward math and science. For example, these are results that cannot be calculated by a test, but that will help adolescents become more successful. Okay, so it's not measurable, I guess, it is not calculated; because the passage says these are results that cannot be calculated by a test. So, due to this claim, this question has to be false. Question number 4. The passage claims that mixed class school styles have produced conflicting results in this study. I think this is true, because it said</p>	<p>Using the passage’s context to predict the answer</p> <p>Providing evidence to back up the response</p> <p>Making a decision based on personal opinion</p>

<p><i>that men are most likely to get the chances of being attentive in mixed classes.</i></p>	
<p><i>Okay, number 5, Professor Gillian is an advocate for same sex class system of education.</i></p> <p><i>[I think I have read this in paragraphs. Julian, Okay, she is an advocate for same-sex class system]</i> <i>New York University professor is certain that girls are most likely to be creative thinkers if educated apart from boys in middle school. Okay, she thinks that girls would achieve more if they learned apart from boys. So, she is an advocate for separate sex or same-sex class system. On the other hand, opponents claim that separate classes send a message that boys cannot work together with girls. They say that when students go to work, they will still have to work side by side. So, opposite sex and attending all girls' or boys' schools deny students the opportunity to learn how to do so. However, such an argument completely ignores the fact that children constantly... Okay, outside school there is still interaction. The final decision given by opponents of same-sex education is that it's discriminatory. However, research supports exactly the opposite conclusion that discrimination is widespread in mixed classes. So, this is a downfall to mixed classes.</i></p>	<p>Information retrieval</p> <p>Paraphrasing specific statements from passage</p> <p>Linking claims to paragraph references</p> <p>Comparing and contrasting</p> <p>Analyzing concepts</p> <p>Giving confirmation</p> <p>Citing ideas from the text to achieve a comprehensive understanding</p> <p>Staying focused on question requirement</p> <p>Integrating multiple pieces of information into a coherent summary</p>
<p><i>Number 6. One argument in favor of same sex class is that boys and girls both pay more attention to their academic work. This is true because in the last paragraph it says that boys and girls pay less attention to each other and more attention to their schoolwork when they are provided with the same-sex class environment.</i></p>	<p>Interpreting cause-effect relationship</p> <p>Confirming statement accuracy</p> <p>Reason out answers</p> <p>Linking concepts together</p> <p>Understanding main idea of final paragraph</p>
<p><i>Okay, section two, finding similar terms for the given words. Okay, paragraph 4 at the same time? Okay, paragraph four... Opponents also maintain that separate</i></p>	<p>Reviewing instructions</p> <p>Using personal opinion</p>

<p><i>classes or separate schools send the message that males and females cannot work together. They say that when students go into the work force, they will have to work side-by-side with the opposite sex and attending all girls' or boys' school denies them the opportunity to learn how to do so. Okay, is it constantly or side by side? I don't think constantly means at the same time. Constantly is like repeatedly. I think it is side by side. Okay, the next question 'participating' in paragraph 6. It should be evident that the arguments against same-sex classes are not valid. On the contrary, many people involved in the middle school education say that same-sex classes provide better learning environment, boys and girls pay less attention to each other and more attention to their school work. Girls are more relaxed and ask more questions. They are also less disruptive. So, asking more questions is probably participating. I think asking questions is participating.</i></p>	<p>Engaging in the act of responding to inquiries entails a degree of risk</p> <p>Interpreting word meaning in context</p> <p>Recognizing semantic differences</p> <p>Identifying context-appropriate synonym</p> <p>Referring to specific paragraph</p> <p>Linking target word to nearby phrase</p> <p>Comparing alternative word choices</p> <p>Eliminating incorrect options through reasoning</p> <p>Using contrastive reasoning</p> <p>Re-reading sentences to confirm meaning</p> <p>Providing definition-based reasoning</p> <p>Using prior knowledge</p> <p>Justifying answers through contextual logic</p> <p>Verbalizing uncertainty and evaluation</p> <p>Self-correcting misunderstanding</p>
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	Utilizing contextual indicators within a paragraph to deduce the significance of lexical items
<p><i>Okay, multiple choice questions: read the passage carefully and answer the given questions accordingly. Why the middle school years are tough? This is probably due to lack of uniformity. Because it says that... There is no uniformity between girls regarding their intellectual performance. I think that's it. Yeah. C. As used in paragraph 3, which one can be the best definition of 'out-think'? A. do less B. do well C. do worse D. do better. It's do better; because the paragraph says boys at this age become very angry and fight back in the middle school; they feel inferior when compared to girls who literally out-think them. So, contextually outthink means do better.</i></p> <p><i>Umm... According to paragraph 2... Okay, paragraph 2. [First, let me read it.]</i></p> <p><i>Opponents of single-sex education claim that test scores... Okay. So they conduct a research of opponents' single-sex but it's inconclusive. Despite the fact that some research shows no improvement in test scores in single-sex... Okay. Other research shows exactly opposite results. Okay, more important, many psychologists believe that there are the wrong measuring sticks.</i></p> <p><i>[I see ...]They believe that self-confidence and self-esteem issues are more important. Yes, in same-sex classes, girls' report increased confidence and improved</i></p>	<p>To Explain and to reason out ideas</p> <p>Using opinion</p> <p>Giving confirmation</p> <p>Using contextual clues</p> <p>Planning to do a task</p> <p>Understanding concepts</p> <p>Being certain of the response</p> <p>Evaluating multiple-choice options critically</p> <p>Eliminating distractors</p> <p>Scanning for key claims</p> <p>Re-reading for confirmation</p> <p>Distinguishing between main idea vs. detail-level information</p> <p>Using logical reasoning to reject absolutes</p> <p>Drawing inference from</p>

<p><i>attitudes toward math and science. Okay, so... generally, paragraph 2 supports same-sex class education based on recent conducted researches. So, choice A. There is a clear research finding regarding the distinction between mixed and... Not really.</i></p> <p><i>B. All psychologists believe that test scores are the wrong one. [Not all psychologists.] Self-esteem is more important than test scores due to the fact that it is easier to see the scores. Okay. According to the proponent of mixed-sex education, there is no difference in score. According toOkay.</i></p>	<p>partial information</p> <p>Expressing uncertainty and revision of thinking</p> <p>Self-correcting initial assumptions</p> <p>Monitoring accuracy of interpretation</p> <p>Pausing to re-evaluate answer choices</p>
<p><i>According to paragraph 2. According to the proponent... [That means...] Okay. Proponent of mixed-sex education... proponent of mixed-sex education... opponents... so proponent of mixed class is opponent of single-sex. They Claim that test scores of students in all girls' or all boys' classes are no higher.</i></p> <p><i>However, the research is inconclusive. Okay. So, it claims that but it's not supported with evidence. Self-esteem is more important than test scores due to the fact that it is easier to see the scores. Okay. So, according to paragraph 2, it says that self-confidence and self-esteem issues are important than test scores. But it doesn't say that. It's due to the fact that it is easier to see the scores. So, the answer is either C or D. But because of the reason that the passage doesn't provide the reason for self-esteem to be more important than test scores, I wouldn't choose 'C' as the best response. [I don't think C would be the best answer.] I think D is the right answer.</i></p>	<p>Processing ideas</p> <p>Evaluating answer choices</p> <p>Eliminating unsupported options</p> <p>Close reading for nuance and detail</p> <p>Checking concepts again</p> <p>Taking a risk to answer a question</p> <p>Applying evidence-based reasoning</p>
<p><i>Okay. So... Number 12, the author mentioned..... Girls are more relaxed and ask more questions (paragraph 6) to illustrate... A. The discrimination that prevails in mixed –sex class. That's paragraph 6. It should be evident that the arguments against same-sex classes are</i></p>	<p>Locating relevant paragraph for evidence</p> <p>Re-reading to confirm interpretation</p>

<p><i>not valid. On the contrary, many people involved with intermediate school education say that same-sex classes provide better. Boys and girls pay less attention. Okay. So, paragraph 6 outlines the advantages of same-sex class education for both boys and girls. So, the author mentioned girls are more relaxed and ask more questions. The discrimination that prevails... To illustrate the discrimination... The benefit girls obtain if they are taught apart from boys. [I think that's it.] Girls think better than boys if they learn in separate classes, the benefit that girls obtain if they are learning apart from boys.</i></p>	<p>Distinguishing relevant vs. irrelevant options To decide on the best option</p> <p>Self-correcting interpretation while reasoning Identifying function of textual detail Connecting specific evidence to general argument</p>
<p><i>[Nice.] Question number 13, which statement shows discrimination in mixed-sex classes? So, according to paragraph 5, [before I read the options, A, B, C, D, I should go through paragraph 5...] I can see that it outlines the discrimination made upon girls by teachers. Boys usually get the chance to answer questions in class than girls. So, this paragraph outlines the discrimination against girls. So, according to the information in the passage, which statement shows discrimination? A. Teachers call on boys to ask questions less often... [Okay, that's wrong.] B. Teachers call on boys to answer questions more often than they call on girls. Yes. That's the answer, it's 'teachers call on boys to ask questions more often... No, teacher calls on girls more often than they do on boys [C and D are the same, right?] Teachers call on girls to ask questions. [So, 'B' is the right answer.] Boys are given more chance, yeah.</i></p>	<p>Self-encouragement Identifying the main idea summarizing information</p> <p>Making inferences</p> <p>Comparing options with the text Elimination of incorrect answers Planning before answering</p> <p>Monitoring understanding</p> <p>Self-questioning</p> <p>Self-correction</p> <p>ways of avoiding distractors</p>
<p><i>Okay, next question, what does the phrases ... "Learn how to do so" in Paragraph 4 refers to? Okay, paragraph 4 ... They say that when students go into the work force, they will have to work side-by-side with the opposite sex and attending all girls' or boys' school denies them the opportunity to learn how to do so.so.</i></p>	<p>Referent identification (pronoun resolution) Contextual interpretation paraphrasing text-to-option matching Confirmation with evidence</p>

<p><i>Okay. So, they have to learn how to work side by side with the opposite sex. Okay, A. going into the workforce B. working with the opposite sex C. children's interaction with parents. [That's 'B' Because paragraph 4 clearly states that, even though boys and girls are educated separately,] they still have to work side by side in the workforce, so they still have to learn how to do so. So, 'how to do so' refers working with the opposite sex.</i></p>	<p>Re-reading for clarification Monitoring comprehension Self-explanation</p>
<p><i>Number 15, Okay. Which of the following statement is false according to the information in the passage? A. Psychologists believe that self-confidence and self-system can be measured by tests. [That is false; because clearly in paragraph 3, it says that, more importantly, many psychologists believe that test scores are the wrong measuring sticks.] They believe that self-confidence and self-esteem issues are important than test scores. [So, I think 'A' is false. But, just in case, let's see the other options.] B. Some research shows improvement in the test scores of students in single-sex classes. [That's true.] C. There is research to show no improvement in the test scores of students in single-sex classes. There is research....? [So, in paragraph 2 it says opponents of single-sex education...] There is research to show no improvement in the test scores of students in single-sex classes. [Okay. However, research is inconclusive.] Okay, in same-sex classes, girls report increased confidence. on the other hand, there is research that shows no improvement in the test scores of students in single-sex classes. Okay, D. Positive adolescent attitude towards math and science helps them to be successful later in life. That's true. So, I'm down to A and C. There is research to show no improvement in the test scores of students in single-sex classes. That</i></p>	<p>Giving reason Confirmation with evidence Giving opinion Checking the answer Giving confirmation Connecting ideas together Retrieving information Taking risk Interpreting concepts Giving reason Going for a check</p>

<p><i>means the same sex. Oh, so, this is also false; because there is improvement, right? Because in single-sex classes... Okay let me read the whole thing again. Many psychologists... Okay. So, in same-sex classes, girls report increased confidence and improved attitudes towards math and science, for example. These are results that cannot be calculated by test, but that will help adolescents become successful adults. [Okay, so, I don't believe that there is a research to show no improvement in test scores of students in single-sex classes. So, I think that's false.] [But comparing A and C, 'A' appears to be the ideal answer; because clearly it states that psychologists do not believe in test scores, but believe in self-confidence and self-esteem. So, I'm going to choose A.]</i></p>	<p>Taking a risk</p> <p>Personal opinion</p> <p>Reasoning out responses</p>
<p><i>Okay, number 16. Which of the following is true about middle school education? Middle school education. Okay. A. Mixed-sex classes in middle school education provide a better learning environment. No, that's false, because it says that there are uneven pace of girls and boys. And there are many researches that say the opposite. So, separating middle school boys and girls do not lead students higher test scores. That's false. C. the debate on whether same-sex or mixed-sex class is a better learning environment is settled long ago. Oh, that's false. Okay. D. The debate on whether same-sex is a better learning environment is still unresolved. [I think this is the answer; because the passage generally provides researches and debates which are not proved.] Debate point is provided either to promote or support same-sex or mixed-sex class. But [it doesn't actually give</i></p>	<p>Evaluating claims against the text</p> <p>Using prior textual information Synthesis of multiple ideas Generalization</p> <p>Taking a risk based on evidence</p> <p>Monitoring for consistency</p> <p>Confirming ideas</p> <p>self-reflection on reasoning</p>

<p><i>me a conclusion that the situation has been settled.] So, the debate on whether same-sex or mixed-sex class is a better learning environment is still unresolved. D is the answer. D</i></p>	<p>Concluding concepts</p>
<p><i>Number 17, the phrase 'Tough years' in paragraph 1, means.... A. difficult time B. controversial time C. interesting time D. unforgettable situation Okay, Tough years is difficult time. [Yeah, definitely] Okay, they in paragraph 5, line 5 refers to ---- paragraph 5, line 5 several studies have shown that boys dominate discussions and receive more attention than girls and that teachers call on boys more often than they call on girls.... oh these are teachers. So, it refers to teachers.</i></p>	<p>Vocabulary inference Synonym matching Giving confirmation</p>
<p><i>Question number 19, the word opponents, in paragraph 4, line 1 means... opponents also maintain that separate classes or separate schools send a message that males and females cannot work together. So, they support mixed-sex class. [Opponents means to oppose something like... protestors?] [Oh, yes. Protestors] [Protestors. because they are opposing the idea of single-sex education] D is in paragraph 2, line 7. [I don't think I wrote that one.] Okay, 'These' Paragraph 2, line 7 means..... . In same sex classes, girls report increased confidence and improved attitudes toward math and science, for example. These are results that cannot be calculated by a test. [Which results?] Yeah, the confidence and attitude of girls. [Yes, increased confidence, improved towards...] Yes, the answer, D.</i></p>	<p>Confidence judgment Referent identification Locating evidence Using grammatical clues Text verification Using background knowledge Giving reason and making confirmation self-correction Hypothesis testing Asking questions</p>
<p><i>Paragraph 4. Yes, at the same time, paragraph 4. I think this means side by side, but at the same time, simultaneously. They'll have to work side by side with the opposite sex. And attending all girls or boys could be nicer than the opportunity to learn.</i></p>	<p>Personal opinion Vocabulary inference Paraphrasing</p>

<p><i>However, such an argument completely ignores... I think however is at the same time, because... Such an argument completely ignores the fact that children constantly interact with members of the opposite sex outside school. From playing and squabbling. Okay.</i></p> <p><i>Privileges with their opposite sex parents. Children learn and practice on a daily basis. I think however might be also an answer, [because... The first sentences of the paragraph 4, it tries to state that same-sex class education is a disadvantage] because boys and girls will have to work side by side in the workforce.</i></p>	<p>Connecting ideas within the paragraph</p> <p>Using contextual clues</p> <p>Reasoning/justification attempt</p> <p>Connecting similar ideas</p>
<p><i>At the same time, though, this claim ignores the fact that children constantly interact with members of the opposite sex outside school. So, the word however in this context, I think it's used to be like at the same time. So if you replace however with at the same time, it becomes... They say that when students go into the workforce, they'll have to work side by side with the opposite sex, and attending all girls or boys could be nicer than the opportunity to learn how to do so.</i></p>	<p>Substitution Strategy</p> <p>Self-encouragement Giving confirmation</p>
<p><i>At the same time, such an argument completely ignores the fact that children constantly interact with members of the opposite sex. Okay. So, I think... I still have some doubts, but I think however or side by side.</i></p> <p><i>However they'll have to work side by side is not at the same time, [I'm pretty sure.] So other than side by side, I don't see any word that can be the answer to at the same time. So, for me, contextually, it's however.</i></p> <p><i>Okay, so [I think that's it.]</i></p>	<p>Seeking for more evidence</p> <p>Self-encouragement</p> <p>Confirmation</p>

Coded think aloud transcript
Sample 2 (High Achiever)

Original Transcript	Open Codes
<p><i>[Okay, Part 1. True or False Items.] The first question says that passage claims that during middle schools boys fall beyond girls in every way. [In the first paragraph it says that girls are ahead of boys on all counts] So this statement is true. Okay, question number 2, the concept of separate sex class was accepted by nearly all educators. [Alright, paragraph 6 states that] a large number of middle school researchers believe that a same-sex classroom offers a more conducive learning environment. [The answer to this question would be false since some people do not value the concept of distinct sex classes.] Number 3, the benefits of same-sex class education are supported by measurable data. [Okay, is it supported by measurable data? Okay, let me check it] [On paragraph 4 it says that] However, such an argument completely ignores the fact that children constantly interact with members of the opposite sex outside school. From playing and squabbling with siblings to negotiating allowances, chores, and privileges with their opposite sex parent, children learn and practice on daily basis the skills they will need in their future workplaces. [So, it speaks about the necessity but there's no measurable data. I think the answer to this question is also false because there's no measurable data.]</i></p>	<p>Overviewing questions Checking concepts Making firm decision Connecting ideas Making firm decision Checking concepts Connecting ideas Giving opinion and reason Locating evidence Checking claims vs. text Drawing inferences Checking concepts Making firm decision justifying answer</p>
<p><i>Okay, question number 4, the passage claims that mixed class school style have produced conflicting results. Okay, [I think this idea is found in the fifth paragraph. Paragraph five the second line says that] however research supports exactly the opposite conclusion that discrimination is widespread in mixed classes.; several studies have shown that boys dominate discussions and receive more attention</i></p>	<p>pointing exact locations Analyzing concepts</p>

<p><i>than girls and that teacher call boys more often than they call on girls. [So this statement is very clear that it has created conflicting results on this study. So this is also true.]</i></p> <p><i>Number five, Professor Gillen is an advocate for same-sex class system of education. [I think this is very clear. In the third paragraph, we can clearly see that the professor supports same sex class education.] So the answer to this question is true. Okay, question number 6, one argument in favor of same-sex class is that boys and girls both pay more attention to their academic work. [Ok, this is true. I think this idea is found in paragraph three.]</i></p>	<p>Connecting ideas</p> <p>Making quick decision with reason</p>
<p><i>[Moving on to section two,] finding similar terms or phrases from the passage. Okay, Number seven, at the same time. Okay, Paragraph ---- opponents also maintain that separate classes or separate schools send the message that males and females cannot work together. They say that when students go into workforce, they will have to work side by side with the opposite sex and attending all-girls' or boys' school denies them the opportunity to learn how to do so. However, such an argument completely ignores the fact that children constantly interact with allowances, chores, and privileges with their opposite sex parent. Children learn and practice on a daily basis the skills they will need in their future workplaces.</i></p> <p><i>[So, at the same time means simultaneously.] When we perform anything simultaneously, we are doing it at the same time. Although there isn't a clear synonym for this term in the fourth paragraph, I believe the phrases side by side.</i></p>	<p>Vocabulary inference</p> <p>Managing the flow of the exam</p> <p>Relating context to new term</p> <p>Using analogy to link concept</p> <p>Using background knowledge</p> <p>looking for synonyms</p> <p>using personal opinion</p>

<p><i>Okay, question number eight, participating. Paragraph six. Paragraph six again says that it should be evident that arguments against same-sex class are not valid. On the contrary, many people involved in middle school education say that the same-sex class provides a better learning environment. Boys and girls pay less attention to each other and more attention to their schoolwork. Girls are more relaxed and ask more questions. [So, the word participating means getting involved in something.] [So, the word involved in this paragraph is the best choice in terms of similarity to the word participating; because involved means being part of something, or being part of a group to do something.]</i></p>	<p>Managing the flow of the exam</p> <p>Choosing the best synonym from options</p> <p>Uses paragraph context to confirm meaning</p> <p>Matches word to definition / conceptual meaning</p> <p>Drawing analogies to understand terms</p>
<p><i>Okay, the multiple choice part, question number 9. Why the middle school years are tough? A. Educators totally oppose same-sex class. B. Boys excel girls in middle school level. C. There's no uniformity between girls and boys regarding their intellectual performance. D. The idea of teaching students in separate classes is accepted in order to get the public fund from the government.</i></p> <p><i>Okay, the first paragraph starts off with this sentence. The middle school years, grades seven and eight, are known to be tough years. And right after that it says, these are the years when the uneven pace of girls' and boys' physical, emotional, and cognitive development is most noticeable. What it means is, girls and boys, they go through a transition where it's in middle school during grade seven and grade eight. And it's noticeable here. [So the answer is C, because it says there's no uniformity between girls and boys regarding their intellectual performance.]</i></p> <p><i>[Yeah, there's no uniformity because it says] these are the years where the uneven pace of girls' and boys' physical,</i></p>	<p>Attention to the topic sentence</p> <p>Focus on critical words/phrases</p> <p>Drawing inference from evidence</p> <p>Confirming answer</p> <p>Confirmation with reason and evidence</p> <p>Using textual evidence to justify choice</p> <p>Linking topic sentence to details in text</p>

<p><i>emotional, and cognitive development is most noticeable. The phrase 'uneven pace' suggests that not a single student in the middle school goes at the same rate as compared to other students in middle school. [So I think the answer is C.]</i></p>	
<p><i>As used in paragraph three, which one can be the best definition of outthink? So the phrase 'outthinks' means to do better. To do less means to perform worse, so it's not bad. To do worse is the same as to do less, so it's not bad as well.</i></p> <p><i>Do well mean doing something good, but we are not comparing it to anything. So it cannot be the best definition of outthinking. Outthinking means outperforming someone in something.</i></p> <p><i>So the best definition for this phrase is the phrases do better, D.</i></p> <p><i>Question number11, according to paragraph two, okay, the question starts off with, according to paragraph two, A. There is a clear research finding regarding the distinction between mixed and separate sex education. B. All psychologists believe that test scores are the wrong measuring sticks. C. Self-esteem is more important than the test scores due to the fact that it's easier to see the scores.</i></p> <p><i>According to the proponent of mixed sex education, there's no difference in score between girls and boys. [The second paragraph focuses on the idea that test scores are not the appropriate criteria for determining whether mixed classes are superior to single-sex education or if single-sex education is more beneficial than mixed classes] [Rather, what the measurement should be about how it affects adolescents become more successful adults long after the years of the middle school.]</i></p> <p><i>[So it's not the test scores that matters. It's how the</i></p>	<p>Using background knowledge</p> <p>Monitoring comprehension while reading</p> <p>Explaining reasoning aloud before finalizing answer</p> <p>Gist identification</p> <p>Locating relevant paragraph</p> <p>Extracting main idea</p> <p>Eliminating incorrect choices</p> <p>Drawing conclusions</p> <p>Confirming answer with evidence</p> <p>Finalizing choice after evaluation</p>

<p><i>education system affects the adolescents to becoming more successful adults in the future. So it's not A or C or D. So the answer is B.]</i></p>	<p>Applying elimination and reasoning strategy</p>
<p><i>Okay, Question number 12. The author mentioned girls are more relaxed and ask more questions. According to paragraph six, to illustrate..... A. The discrimination that prevails in mixed sex classes, B. The benefit girls obtain if they're taught apart from boys, C. Girls think better than boys if they learn in separate classes, D. The benefit that girls obtain if they are learning together with boys [So I can eliminate choice D.] Coming to choice C, it says that girls think better than boys if they learn in separate classes. [Sorry, I cannot clearly eliminate the choice D because that's the answer.] [Because paragraph six talks about] the benefit of same-sex class education. And it says that it should be evident that the arguments against same-sex class are not valid. On the contrary, many people involved in middle school education say that the same-sex class provide better learning environment. [Sorry, I can eliminate D. It's not the answer.] [The answer is not D.] It states here that how girls perform better if they're not taught in mixed class. So it</i></p>	<p>Avoiding wrong distractors</p> <p>Re-checking the answer</p> <p>Re-checking the answer</p> <p>Making decision using tangible reason</p>

<p><i>supports the same-sex class education. Paragraph six supports the same-sex class education and that the arguments against same-sex class are not valid.</i></p> <p><i>[So the answer to this question is the benefit girls obtain if they're taught apart from boys.] [Because] in paragraph six it states that if girls are taught apart from boys, they feel more relaxed and ask more questions, they're less disruptive and more focused, girls are less fearful of making mistakes and asking questions in math and science. [This response, in my opinion, stands out the most among the others.] Next question, according to the information in the passage, which statement shows discrimination in mixed sex classes? Teachers call on boys to ask questions less often than they call on girls.[So From what I've read, teachers call boys even though girls raise their hands.] So the answer to this question is teachers call on boys to answer questions more often than they call on girls. [So the answer is B.]</i></p>	<p>Using personal opinion</p> <p>Locating relevant paragraph</p> <p>Extracting main idea</p> <p>Restating text in own words</p> <p>Making conclusions</p> <p>Checking evidence</p> <p>Choosing the strongest answer</p> <p>Confirming decision</p> <p>Finalizing choice</p>
<p><i>What does the phrases 'learn how to do so' in paragraph four refers to? [So in the fourth paragraph it says that] they say that when students go into workforce, they will have to work side by side with the opposite sex and attending all girls or boys school denies them the opportunity to learn how to do so. [So paragraph four is quite different from the other paragraphs because it supports mixed class education,] mixed sex class education and the advantage of mixed sex class education. [So the argument here is] if we put them in separate classes, they won't have a chance to work on their skills with the opposite gender. [So here it states] the disadvantage of putting them in separate classes. So the term learn how to do so means A, going into the workforce, B, working with the opposite sex, C, children's interaction with parents, D, attending all girls or boys</i></p>	<p>Locating the relevant paragraph</p> <p>Gist identification</p> <p>Understanding argument</p> <p>Drawing meaning from context</p> <p>Eliminating incorrect choices</p> <p>Making decision based on reason</p>

<p>school.</p> <p><i>So it's not A, C or D, it's B, working with the opposite sex. [Because they will not be able to have excellent engagement] with the opposing sex in the near future if they do not have the experience of engaging in conversations or communicating with the opposite sex in general. Thus, it is in favor of mixed-sex education. The fourth paragraph supports the mixed sex class education and makes clear arguments against same-sex classes. So the answer is B.</i></p>	<p>Identifying where the answer</p> <p>Inferring the meaning</p> <p>Using textual evidence</p> <p>Understanding purpose</p> <p>Confirming answer</p>
<p><i>Okay, Number 15, which of the following statements is false according to the information in the passage? Psychologists believe that self-confidence and self-esteem can be measured by tests. B, some research shows improvement in the test scores of students in single-sex classes. There is research to show no improvement in the test scores of students in single-sex classes. A positive attitude towards math and science helps them to be successful later in life. [So in paragraph 2, it says that] in same-sex classes, girls report increased self-confidence and improved attitudes towards math and science. These are results that cannot be calculated by test, but that will help adolescents become successful adults long after the difficult years of middle school are past. [So the answer for this question is A, because it says psychologists believe that self-confidence and self-esteem can be measured by tests. But paragraph 2 says the opposite.]</i></p>	<p>Finding supporting paragraph</p> <p>Understanding key argument</p> <p>Evaluating each option</p> <p>Supporting the answer with evidence</p> <p>Drawing conclusion from evidence</p> <p>Checking reasoning</p> <p>Concentrating only on relevant concepts</p>
<p><i>Number 16, which of the following is true about middle school education? Mixed-sex classes in middle school education provide a better learning environment, separating middle school boys and girls not lead students higher test scores, the debate on whether same-sex or mixed-sex class is a better learning environment is settled long ago.</i></p> <p><i>The debate on whether same-sex or mixed-sex is a better</i></p>	<p>Supporting the answer with evidence</p> <p>Locating relevant points</p>

<p><i>learning environment is still unresolved. [So the answer for this question is D, because there's no clear outcome displayed on the passage that shows whether same-sex class education or mixed-sex class education is better. So the answer is D.]</i></p>	<p>Confirms reasoning with passage evidence</p>
<p><i>Number 17, the phrase 'tough years' in paragraph 1 means A. Difficult time. B. Interesting time. C. Controversial time.</i></p> <p><i>D. Unforgettable situation. [Well, the word tough means difficult. So this is straightforward.] so the answer for number 17 is A</i></p> <p><i>[Number 18, "they", in paragraph 5, line 5 refers to] A. Girls. Boys. C. Teachers. D. Several studies. [So in paragraph 5, line 5, it says] that they receive more attention than girls and that teacher calls on boys more often than they call on girls.[So the answer is C. Teachers.]</i></p>	<p>Using prior knowledge</p> <p>Confirming the response</p> <p>Cross-checks pronoun</p>
<p><i>Question number 19, the word 'opponents' in paragraph 4, line 1 means Protestors, Supporters, Advisors, Advocators. [So advocators mean approvers. Advisors mean, like advocators, it's quite similar with the word advocators, so it's not C and D. Supporters is also quite similar to the words advisors and Advocators. So the answer is Protestors.]</i></p> <p><i>[Okay, the last question.] 'these' in paragraphs 2, line 7 refers to ----- [So in paragraph 2, line 7, it says that] these are the results that cannot be calculated by a test but that will help adolescents become more successful long after the years, the difficult years of middle school have passed. The choices are A. Math and Science. B. Same-sex classes. C. Test scores. D. Confidence and attitude. So before the sentence, 'these' are results that cannot be calculated by a test but that will help adolescents become more successful</i></p>	<p>Using contextual clues</p> <p>Eliminates similar words</p> <p>Evaluates options</p> <p>Cross-checks sentence</p>

<p><i>long after the difficult years of middle school have passed, [Okay, there's a sentence that goes, in same-sex class, girls report increased confidence and improved attitudes towards math and science.] Okay, in the choice, there are confidence and attitude, test scores, same-sex classes, math and science. So this question might seem controversial but in the sentence that starts with these, [it's referring towards, confidence and attitude, because it goes like, these are results that cannot be calculated.]</i></p>	<p>Connecting ideas together</p> <p>Connecting ideas together</p> <p>Reasoning out answers</p>
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Coded think aloud transcript

Sample 3: (High Achiever)

Original transcript	Open codes
<p><i>Okay, there are six paragraphs. The first paragraph has seven lines. The second paragraph has eight lines. Third one has five. The fourth one has seven. The fifth one has five and the sixth one also has five. I see one bolded word, 'they', in paragraph five, line four. And I think, the bolded letter is talking about the word teachers. So let's move on to the questions, the true false section.</i></p> <p><i>The first question is that the passage claims that during the middle schools boys fall behind girls in every way. Falling behind might talk about the cognitive development. So I would think about going to the first paragraph and it says that middle school years are the years where the uneven pace of girls and boys physical emotional and cognitive development is most noticeable. Girls are ahead of boys on all counts and both suffer. So I would say that the statement is true because it says</i></p>	<p>Overviewing the passage</p> <p>Locating relevant information</p> <p>Understanding key points</p> <p>Using prior knowledge</p> <p>Comparing the statement in the question to the text</p> <p>Focusing on the specific part</p> <p>Giving reason and analyzing concepts</p> <p>Confirming that the text supports the statement</p>

<p><i>that girls are ahead of boys on all counts.</i></p>	
<p><i>Okay the second question says that the concept of separate sex class is accepted by nearly all educators.</i></p> <p><i>Okay, let me go back to the first paragraph</i> because in line three it says that educators debate whether separating boys and girls during these difficult years might improve students' academic performance or not. It says separate classes are now prohibited but a change in federal law that prohibits them is under consideration.</p> <p><i>Let me continue reading into the rest of the paragraphs.</i> I would search for words that say educators are supporting separate sex classes. <i>I see</i></p> <p><i>no other sentences that support separate sex classes. So I would say that this question is false because the educators are not all under the same idea.</i></p>	<p>Locating relevant paragraph and lines</p> <p>Comparing the question statement to evidence</p> <p>Inferring</p> <p>Rechecking the paragraph</p> <p>Self-encouragement</p> <p>Giving reason and confirmation</p>
<p><i>The third question: the benefits of same sex class education are supported by measurable data. So, I would go to the second paragraph because it's talking about the opponents of single sex education. However, the paragraph says the research is inconclusive despite the fact that some research shows no improvement in test scores. Other research shows exactly opposite results.</i></p> <p><i>More important many psychologists believe that test scores are wrong measuring sticks. They believe that self-confidence and self-esteem are more important than test scores. In same sex classes girls report increased confidence and improved attitudes. These are the results that cannot be calculated by a test that will help adolescents become successful. So, what is measurable</i></p>	<p>Going for a check</p> <p>Asking question to be sure</p> <p>Using background knowledge</p> <p>Making quick reaction for a question</p> <p>using background knowledge</p> <p>Checks consistency between passage</p>

<p><i>data? When it's talking about data it could be anything that can be measured. Well, when I think of measurable data I usually think of length, distance, etc. So these researchers are talking about increased confidence and improved attitudes. These are not calculated by a test so I would say it's false because it's not supported by measurable data.</i></p>	<p>content and question</p> <p>Finalize answers</p>
<p><i>The fourth one, the passage claims that mixed class school style has produced conflicting results in this study. Okay, I can't get immediate answer for this question. Therefore, I would move on and go to the fifth paragraph which directly talks about the issue. Yeah, this is true.</i></p> <p><i>Okay question number 5, Professor Gillian is an advocate for same-sex class education system. Okay, I know the third paragraph is talking about Carol Gilligan and she is an advocate for same-sex class education system. So it says here that Gilligan is certain that girls are more likely to be creative and risk-takers as adults if educated apart from boys and boys also gain confidence when they do not have to compete with girls. So she is certain about girls being better if they're separated from boys and boys being better if they're separated than girls. So I would say the fifth question is true.</i></p>	<p>Remembering what has done before</p> <p>Remembering what has done before</p> <p>Analyzing a text</p>

<p><i>Okay, question number six, one argument in favor of same-sex class is that boys and girls both pay more attention to their academic work. I should go to the sixth paragraph because it talks about the evidence that arguments against same-sex classes are not valid because many people involved in middle school education say that same-sex classes provide a better learning environment because boys and girls pay less attention to each other and more attention to their schoolwork. This is a direct sentence. There is no need of inferring or inference here. It's talking about arguments against same-sex classes. It's talking about the benefits of same-sex classes and one of them is paying attention to their academic work. So I'd say the answer to this question is true.</i></p>	<p>Locating the relevant paragraph</p> <p>Understanding the main point</p> <p>Using explicit evidence</p> <p>Matching the evidence</p> <p>Checks the paragraph again</p> <p>Using prior knowledge</p> <p>Ensures answer aligns with passage evidence</p>
<p><i>So section two is about finding similar terms and phrases from the passage. The seventh one is from paragraph four. It says at the same time. So I'll go to paragraph four and search for the phrase at the same time. Okay, let me check the instructions again. It says find words in the text which are similar in meaning to the following ones. So let me go to paragraph four and skim this paragraph. At the same time, at the same time. Okay, which phrase is similar to the phrase 'at the same time?' So I would focus on this paragraph for the time being. It says they will have to work side by side. I would say side by side is similar to at the same time. This is my first guess, ummm, side by side can also mean work together with an opposite sex; I would not say this is the only answer. However, it is the best one</i></p>	<p>Overviewing the instruction</p> <p>Going for a check</p> <p>Seeking for further information</p> <p>Using prior knowledge and inference</p> <p>Making quick decision</p> <p>Using prior knowledge</p> <p>Generates an initial interpretation</p>

<p><i>that I have for my first guess. The second question is finding a similar term for the word 'participating' in paragraph six. So let me skim paragraph six now. It should be evident that the arguments against same sex classes are not valid. On the contrary, many people involved in the middle school education..... Oh this is involved. The word involved is the exact similar.</i></p>	<p>Skim paragraphs</p> <p>Checks whether the selected word makes sense in context</p> <p>quick scan of the text</p>
<p><i>So let's move on to multiple choices. So, the first question says why the middle school years are tough? Okay based on my first reading, middle school years are known to be the tough years because immediately after these years the uneven pace of girls' and boys' physical, emotional, and cognitive development are most noticeable. So, the choices are A, educators totally oppose same-sex class. This is completely false because all of them are not opposing the same-sex classes. Some of them are but not all of them. B, boys excel girls in middle school level. C, there's no uniformity between girls and boys in regarding their intellectual performance. And D, the idea of teaching students in separate classes is accepted in order to get public fund from the government. Well, A is completely wrong because some educators are opposing same-sex classes, not all of them. B, boys excelling girls in middle school level. This is false because it says that girls are ahead of boys on all counts and both suffer. C says that there is no uniformity between girls and boys regarding their intellectual performance. This is somewhat true because it says the uneven pace of girls and boys cognitive development is most noticeable. So I would say that the</i></p>	<p>Overviewing the passage</p> <p>Referring what has done before</p> <p>Making text analysis</p> <p>Making quick decision with a reason</p> <p>Making quick decision with a reason</p> <p>Understands the passage's main idea</p> <p>Evaluating each choice</p> <p>Verify understanding</p>

<p><i>answer is C because D says that the idea of teaching students in separate classes is accepted in order to get public fund from the government.</i></p> <p><i>Well, this is wrong because it's not... they are not teaching students in separate classes. They are prohibiting not teaching students in separate classes, so they are not even accepted in public schools. So 'D' is wrong.</i></p>	<p>Discarding implausible options</p> <p>Confirming the choice</p>
<p><i>The next question says that which one is the best definition of outthink? Well, I could immediately guess that the answer is 'do better', so the answer is 'D'</i></p> <p><i>Okay, question number 11, according to paragraph 2? A, there's a clear research finding regarding the distinction between mixed and separate sex education. B, all psychologists believe that test scores are the wrong measuring sticks. C, Self-esteem is more important than test scores due to the fact that it's easier to see the scores. And D, according to the proponent of mixed sex education, there is no difference in score between girls and boys. So let me go back to paragraph 2 and see if it's talking about the issue, the research findings regarding the distinction between mixed and separate classes. So I would immediately say that B is the wrong one because all psychologists don't believe that test scores are the wrong measuring sticks. B, C, self-esteem is more important than test scores due to the fact that it's easier to see the scores. No, No. It says here that there are not results that cannot be calculated by a test but that will help adolescents become successful adults. So 'C' is wrong. D, according to the proponent of mixed sex</i></p>	<p>Using background knowledge</p> <p>Going back for a check</p> <p>Self-assessment and Re - checking of ideas</p> <p>Referring back to the passage</p> <p>Understanding the main point</p> <p>Evaluating all options carefully</p>

<p><i>education, there is no difference in score between girls and boys. So opponents of single sex education claim that the test scores of students in all girls and all boys' scores are no higher than those in mixed classes. So these are the people that are supporting... that are supporting mixed sex classes... mixed classes and they... and D, is saying that according to the proponent of mixed sex education there is no difference in score between girls and boys. So I would not say 'D' is the answer because it's not between girls and boys. It's between same sex and mixed classes. So I would say the answer to question number 11 is A.</i></p>	<p>Inferring the correct answer</p> <p>Revisits the passage to confirm evidence</p> <p>Checking alignment</p>
<p><i>Question number 12 says that the author mentioned girls are more relaxed and ask mores from paragraph 6 to illustrate that A. Discrimination that prevails in mixed sex classes. B. The benefit girls obtain if they are taught apart from boys. C. Girls think better than boys if they learn in separate classes. D. The benefit that girls obtain if they're learning together with boys. So I would say D is wrong because I could see from the passage that when girls are in the same sex classes, meaning when they're separated from boys, they report increased confidence and improved attitudes towards math and science. So D is wrong. So the answer is B. It is the benefits that girls obtain if they are taught apart from boys.</i></p>	<p>Understanding the main point</p> <p>eliminating wrong options</p> <p>Re-reading</p> <p>Giving reason for responses</p> <p>Confidently selecting answers</p>
<p><i>Okay, question 13 according to the information in the passage which statements shows discrimination in mixed sex classes? The key word here is discrimination, I think I have read the word discrimination in paragraph</i></p>	<p>Identifying key words and phrases</p>

<p><i>5 which talks about the same-sex education is being unconstitutional and discriminatory; and it talks about discrimination is still being widespread in mixed classes. So more or less mixed classes are more discriminatory than single sex class. Okay, which statement shows discrimination in mixed sex classes? So let me go over to the fifth paragraph to check the answer. Teachers call on boys more often than they call on girls, even when girls raise their hand. Aha teachers call on boys to answer questions more often than they call on girls. It says that boys also dominate discussions. So here I could understand that teachers are calling on boys to answer questions more than they call on girls even though girls are ready to answer the questions. So choice 'B' is the right answer.</i></p>	<p>Going for a check</p> <p>Analyzing concepts</p> <p>Evaluating each option</p>
<p><i>Okay, question number 14, what does the phrase 'learn how to do so' in paragraph 4 refers to? So let me go to the sentence that ends with the phrase 'learn how to do so'. So the paragraph says when students go into workforce they will have to work side-by-side with the opposite sex and attending all girls or boys school denies them the opportunity to learn how to do so.</i></p> <p><i>So, what does the phrase 'learn how to do so' refers to? I would say the answer is working side-by-side with the opposite sex.</i></p> <p><i>The 15th question: which of the following statement is false according to the information in the passage? A. psychologists believe that self-confidence and self-esteem can be measured by tests. This is false. I have</i></p>	<p>Refereeing concepts again</p> <p>Understands the meaning of the phrase in context</p> <p>Eliminates other choices</p> <p>Review paragraphs</p> <p>Confirmation</p> <p>Using current readings and knowledge to answer questions</p> <p>Going back and check possible</p>

<p><i>discovered this one before that self-confidence and self-esteem are not values that are measured by tests and this is shown in paragraph 2. B. Some research shows that improvement in test scores of students in single sex classes. That is correct C. There's research to show no improvement in test scores of students in single sex classes. That is also true even though they said it is inconclusive. D, Positive adolescent attitude towards math and science helps them to be successful later in life. That is also true. So the answer for question number 15 is 'A'.</i></p> <p><i>Okay, number 16 which one of the following is true about middle school education? So I should go to paragraph 1 which is the one that talks about middle school the most. Let me read the multiple choices. A, mixed sex classes in middle school education provide a better learning environment. I think this is false B, separating middle school boys and girls do not lead students to higher test scores. This is also false, because both paragraph 2 and 6 confirm that students are more attentive to their schoolwork and they less attentive to the opposite sex. C, the debate on whether same-sex or mixed-sex classes is a better learning environment is settled long ago, No, No, No, still not solved. D, the debate on whether same-sex or mixed-sex classes is a better learning environment is still unresolved. This is okay. So the answer is 'D'.</i></p>	<p>answer</p> <p>Connecting ideas together to reach on conclusion</p> <p>Correcting errors and coming back to the right track</p> <p>Returning to paragraphs</p> <p>Understanding the main idea</p> <p>Evaluating each option</p> <p>Making Conclusion</p> <p>Checking paragraphs</p> <p>Confirmation</p>
<p><i>Okay, number 17, the phrase 'tough years' in paragraph 1 means ----- well, 'tough' is a very common word and probably it means difficult. So, definitely the answer</i></p>	<p>Using background knowledge to answer questions</p>

<p><i>will be 'a difficult time'. Number 18 'they' in paragraph 5, line 5 refers to ----- Okay, I see this bolded pronoun in paragraph 5 and it refers to teachers. Okay, number 19, the word 'opponents' in paragraph 4 line 1 means -- ----- Okay, opponents literally has a meaning someone that opposes the line of our work or someone that is opposite to someone else. Okay, let me check the choices. Okay, choice B, C, and D have all positive meaning; so the answer is 'A'.</i></p> <p><i>Okay, the last question is reference question. 'These' in paragraph 2 line 7 refers to ----- So let me go to paragraph 2 line 7, okay, "these are the results that cannot be calculated by a test" So I would immediately think of self-confidence and self-esteem because these are results that cannot be calculated by a test. So, I would say 'B' confidence and attitude stands for the pronoun 'these'.</i></p>	<p>Overviewing the reading text</p> <p>Using background knowledge</p> <p>Locating the exact pronoun place</p> <p>Inferring</p> <p>Eliminating distractors</p> <p>Revisiting paragraphs</p> <p>Confirmation</p>
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**Coded think aloud transcript
Sample 4 (High Achiever)**

Original transcript	Open codes
<p><i>[Okay, first let me read the questions, just lightly.] An argument in favor of same-sex is that boys and girls pay more attention to their academic work. Okay, why the middle school years are tough? As used in paragraph 3, which one can be the best definition of out think? According to paragraph 2... okay, Paragraph 6, the author mentioned Girls are more relaxed, and ask more questions to illustrate -----, According to the information in the passage, which statement shows discrimination in mixed sex classes? What does the phrase "Learn how to do so" in Paragraph 4 refers to? Which is always true about middle school education?</i></p>	<p>Making an overview</p> <p>Referring directly from the paragraph</p> <p>Using prior knowledge</p> <p>Re-reads paragraph</p> <p>Confirm choices</p>

<p><i>Tough years..... The phrase ‘tough years’ is obviously going to mean a difficult time.]</i></p> <p><i>“They” in paragraph 5, line 5 refers to -----, the word “opponents” in paragraph 4, line 1 means --- [Okay, opponents never means advocates, cannot mean advisors, cannot mean supporters. Yeas, it must be protesters.] Number 20, these paragraphs 2, line 7 okay I must go and check from the line.</i></p>	<p>Eliminates options that are false based on passage</p>
<p><i>Question number, 9 why the middle school years are tough? Okay let me read from the paragraph. The middle school years, grade 7 and 8 are known to be tough years. These are the years when the uneven pace of girls and boys physical, emotional and cognitive development is most noticeable. Girls are ahead of boys on all accounts and both suffer. Okay.</i></p> <p><i>Girls are ahead of boys on all accounts and both suffer. Educators debate whether supporting separating boys and girls during these difficult years might improve students' academic performance. Separate classes are now prohibited in public schools that receive federal funds. But a change in the federal law that prohibits them is under consideration. Although some parents Okay, [so I'm going to underline this.] Separate classes are now prohibited in schools that receive federal funds. But a change in federal law that prohibits them is under consideration. Although some parents and educators oppose same-sex classes, there is some evidence that separating boys and girls in middle school yields positive results. (Silence for few seconds)</i></p>	<p>Underling main points in a passage</p> <p>Active Reading / Annotation</p> <p>Making Inferences from Context</p> <p>Eliminating Distractors in Multiple Choice</p> <p>Checking Back in the Text</p> <p>Monitoring Comprehension</p> <p>Confirming Answer with Evidence</p> <p>Making a Reasoned Choice</p>
<p><i>[Okay, based on paragraph 1, I can answer a couple of questions.] The Passage claims that during middle school, boys fall behind the girls in every way. It does not</i></p>	<p>Overviewing / Skimming for Relevant Information</p>

<p><i>support this. [I have to read the entire passage, so I will return to number 1.] The concept of a separate sex class was accepted by nearly all educators. [This has to be false, because it's mentioned somewhere here.] Educators debate whether separating boys during these difficult years might improve students' academic performance. So the concept of a separate sex class was accepted by nearly all educators. That's false. That's false. The benefits of same-sex class education are supported by measurable data. Okay, I think I should continue reading. Opponents of single-sex education claim that the test scores of students in all-girls or all-boys classes are no higher than those of students in mixed classes. However, the research is inconclusive. Despite the fact that some research shows no improvement in test scores, other research shows exactly opposite results. More important, many psychologists believe that the test scores are the wrong measuring sticks. They believe that self-confidence and self-esteem issues are more important than test scores.</i></p>	<p>Assessing Accuracy of Statements</p> <p>Checking Understanding</p> <p>Compare passage vs. question statement</p> <p>Forming judgments based on evidence</p> <p>Deciding what should be done on a particular moment</p> <p>Making decision based on current reading</p> <p>Making decision and opinion</p>
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<p><i>In same-sex classes, girls report increased confidence and improved attitudes towards math and science, for example. These are results that cannot be calculated by a test, but that will help adolescents become successful adults long after the difficult years of middle school are past. Okay, so this paragraph just tells us research that has been done on same sex class. So the question, the benefits of same-sex class education are supported by measurable data, well, Some data shows that it is, some shows that it's not. Benefits of same-sex class education are supported by measurable data. It's not measurable data because we cannot measure them in a test. It says here they believe that self-confidence and self-esteem issues are more important than test scores. And these test results cannot be calculated, which means they cannot be measured.</i></p> <p><i>So the benefits of same-sex class education are supported by measurable data. Measurable? I don't think it is measurable. We can't measure self-esteem and self-confidence. So it is false. Okay, I think there are couple more questions on this issue. Professor Gillian is an advocate for same sex class system of education. Is the passage claims that Professor Gilligan is an advocate for same sex class system education? No, No, No, alright, alright.</i></p>	<p>Making conclusion</p> <p>Picking out important words</p> <p>Going back to specific paragraphs</p> <p>Linking different parts of the text</p> <p>Making sense of textual details</p> <p>Comparing a question to textual evidence</p> <p>Giving reason based on prior knowledge</p> <p>Eliminating wrong answer choices</p> <p>Inferring meanings or implications</p> <p>Decision based on prior knowledge</p>
<p><i>Why the middle school years are tough? Let me go back to the passage. New York University's Professor Karen Gilligan is certain that girls are most likely to be creative thinkers and risk-takers as adults if educated apart from boys in middle school. Boys too gain confidence when they do not have to compete with girls. Boys at this age become very angry and fight back in middle school</i></p>	<p>Checking concepts again</p>

<p><i>because they feel inferior when compared to girls who literally outthink them.</i></p> <p>Okay. With no girls in the classroom, they are more at ease with themselves and more receptive to learning.</p> <p><i>Okay, so there's a question about Professor Gilligan. Professor Gilligan is an advocate for same-sex class system of education. That's true. That's true. She does this because she believes that the system benefits both sexes equally.</i></p>	<p>Analyzing concepts</p>
<p><i>Opponents also maintain that separate classes or separate schools send the message that males and females cannot work together. Okay, opponents. Okay, opponents, question 19, I'm going to check back. The word opponents in paragraph 4, 9-1 means obviously protesters, yeah, so no need to check. They send the message that males and females cannot work together. They say that when students go into the workforce, they will have to work side by side with the opposite sex and attending all girls' or boys' school denies them the opportunity to learn how to do so.</i></p>	<p>Repeating words and phrases to enhance retrieval</p> <p>Going back for a check</p>
<p>Okay. They say that when students go into the workforce, they will have to work side by side with the opposite sex and attending all girls' or boys' school denies them the opportunity to learn how to do so. Okay. However, such an argument completely ignores the fact that children constantly interact with members of the opposite-sex outside school. <i>Okay, from playing and squabbling with siblings to negotiating allowances, chores and privileges with their opposite-sex parents, children learn and practice on a daily basis the skills they will need in the future workplaces. Okay, the final argument advanced by opponents of same-sex education is that it is discriminatory and therefore unconstitutional. Okay. However, research supports exactly the opposite</i></p>	<p>Analyzing concepts</p> <p>Reaching on conclusion</p> <p>Overviewing instructions</p>

<p><i>Okay, let me go to the true false part. The passage claims that during middle schools boys fall behind girls in every way. False. This is false. It does not say that. It says boys sometimes dominate debates. They get more attention and so on. So they do not fall behind girls in every way. The passage claims that mixed-class school types have produced conflicting results in the study. Passage claims that mixed-class school styles have produced conflicting results. Conflicting results. Hmm. Well this would probably be. Okay, paragraph two, let me go through it again. Despite the fact that some research shows no improvement in the discourse, other researches show exactly opposite results. Okay, that's research made for opposite sex, not for mixed sex. In same-sex class girls report increased confidence. Yeah. So, this is a research for same-sex not for the opposite sex. Hmm, I'll come back to this question later. I'll debate it with myself.</i></p>	<p>Giving attention for the instruction</p> <p>Justifying claims with reason</p> <p>Going back for a check</p> <p>Analyzing concepts</p> <p>Self-debate</p>
<p><i>Okay, one argument in favor of same-sex class is that boys and girls pay more attention to their academic work. Yes, yes true. It says here they pay less attention to each other. They give more attention to their classes. Yes.</i></p> <p><i>Okay, finding similar terms and phrases from the passage. At the same time, Okay, this is a matter of searching. So I'm looking for something that's synonymous with the phrase at the same time inside the text. Okay, at the same time. Hmm, I have to go through paragraph four again. At the same time, at the same</i></p>	<p>Conceptualizing ideas with repetitive thought</p> <p>Self – encouragement</p> <p>Going back for a check</p>

<p><i>time. Side by side, maybe side by side could work. Let me circle it. Okay, paragraph six, Participating. Okay, let me circle it and come back to it. More attention to the school, girls are more relaxed, ask more questions. They are also less disruptive and more focused. Girls are less fearful of making mistakes and asking questions in math and science. Hmm, so participating, in this context, it is commonly understood to mean asking questions. I can also say paying attention. I'm not sure about it, so I should come back again.</i></p>	<p>Circling or underlining key concepts</p> <p>Trying to use prior vocabulary knowledge</p> <p>Gong back for further investigation</p>
<p><i>Okay, why the middle school years are tough. Educators totally oppose same sex class. No, that's false. They are still debating on it. Boys excel girls in middle school level. Okay. There is no uniformity between girls and boys regarding their intellectual performance. But how is this going to make it tough or easy? The idea of teaching students in separate classes was accepted to get the public fund from the government. Okay. There's only one place where it talks about funds. Back here. I think I saw it. The reason for it being tough is mentioned in the first paragraph. So, these are the years when the uneven pace of physical, emotional, and cognitive development between girls and boys is most noticeable. Girls are ahead of boys on all accounts, and both suffer. So I should go back and read.</i></p>	<p>Making firm decision</p> <p>Asking questions to make ideas clear</p> <p>Confirmation about what they believe</p>
<p><i>Girls are ahead of boys on all accounts, and both suffer. Both suffer. So the passage claims that during middle school, boys fall behind girls in every way. Girls are ahead of boys on all accounts. So the first question is not false. It's true, it's true. Okay, the fact that there is</i></p>	<p>Understanding concepts</p>

<p><i>no uniformity between girls and boys regarding their intellectual performance would be a reason for middle school being tough.</i></p> <p><i>The idea of teaching students in separate classes is accepted in order to get the public fund from the government. That's not. Why middle school years are tough? Boys exceed girls in middle school level. No. No. The passage does not support that. So it is not A. not B, and not D. As used in paragraph three which of the following is the best definition? Out think, do well, do worse, do better. I think it is do well.</i></p>	<p>Changing thoughts based on facts</p> <p>Making decision</p>
<p><i>According to paragraph two There is a clear research finding regarding the distinction between mixed and separate sex education. There is clear evidence ...Okay; it shows us there's a difference between their self-esteem and self-confidence with regards to same sex and opposite sex. All psychologists believe that test scores are the wrong measuring sticks. All psychologists? No, no. Self-esteem is more important than the test scores due to the fact that it's easier to see the scores. It's very difficult to see them.</i></p> <p><i>According to the proponent of mixed sex education there's no difference in score between girls and boys. Sometimes there is a difference, and the other time there is not. So the answer is going to be 'A.' The author mentioned girls are more relaxed, and ask more questions (Paragraph 6) to illustrate ----- A. The discrimination that prevails in mixed</i></p> <p><i>–sex class. B, the benefit girls obtain if they are taught apart from boys. I think this is the answer; it's talking about girls benefit. Okay, the next question, according to</i></p>	<p>Analyzing concepts</p> <p>Asking questions</p> <p>Deciding the answer based on facts from the text</p> <p>Using personal opinion</p> <p>Systematic avoidance of distractors</p> <p>Recalling paragraph</p>

<p><i>the information in the passage, which statement shows discrimination in mixed sex classes? Teachers call on boys to ask questions less often than they call on girls. Teachers call on boys to answer questions more often than they call on girls. Teachers call on girls to ask questions more often than they call on boys. Teachers call on girls to answer questions more often than they call on boys. Okay, C and D mean the same thing. Yeah, the correct answer is 'B'</i></p>	<p>Comparing all multiple-choice Eliminating options Checking that the selected answer Verifying evidence before finalizing the answer Making confirmation</p>
<p><i>Okay, next question, what does the phrases ... "Learn how to do so" in Paragraph 4 refers to? Okay, paragraph four, learn how to do so, Okay, to interact with each other, to work together. That's what it means, so the answer is 'A'. Going into the workforce, No, working with opposite sex, working with opposite sex, children's interaction with parents, attending all girls or school boys Yeah, it is B, working with opposite sex. Okay, the next question, which of the following statements is false according to the information in the passage? Psychologists believe that self-confidence and self-esteem can be measured by tests. They can't. They do not say that. They do not say that. Okay, some research shows improvement in the test scores of students in single sex classes. Yes. C, there is research to show no improvement in the test scores of students in single sex classes. No, there is improvement. Okay, 'D' Positive adolescent attitude towards math and science helps them to be successful later in life. Okay, the passage doesn't say anything regarding being successful later in life. Due to their attitude towards math and science, it says</i></p>	<p>Using background knowledge Making confirmation Having a self-debate and reached on conclusion Making decision based on the</p>

<p><i>that they have a positive attitude towards math and science; but that's only, for the girls, not for the boys. It's a bit ambiguous. I think the answer is 'A'; because self-confidence and self-esteem cannot be measured by tests. Scholars do not say that these results can be calculated by a test, but they will help adolescents. Yes.</i></p>	<p>information from the text</p> <p>Making a self-debate and reached on conclusion</p>
<p><i>Which of the following is true about middle school education? Mixed sex classes in middle school education provide a better learning environment. That is debatable and argumentative; it is still not fully accepted. Okay, separating middle school boys and girls does not lead students' higher test scores. There are instances where it leads to that. It says so. Despite the fact that some research shows no improvement in test scores, other research shows exactly opposite results. I am unable to state that. The debate on where same sex or mixed sex class is a better learning environment is settled long ago. No. It's not. The debate on whether same sex or mixed sex class is a better learning environment is still unresolved. Okay, Possibly.</i></p>	<p>Assessing Accuracy of Statement</p> <p>Reflecting personal opinion</p> <p>Comparing Conflicting Evidence</p> <p>Identify the Core Idea</p> <p>Check Understanding</p> <p>Reflect on Personal Opinion vs. Text Evidence</p> <p>Cross-Check with Passage</p> <p>Choosing the most defensible answer</p> <p>Actively checking the passage</p>

Coded think aloud transcript

Sample 5 (Low Achiever)

Original transcript	Open codes
<p><i>The middle school years, okay, grade seven and eight are known to be tough years, okay. So these are the years where the uneven pace of girls, okay, so there's uneven pace of girls and boys. Physical, emotional, cognitive development, okay, so it's most noticeable</i></p>	<p>Reading the entire text before doing questions</p>
<p><i>The passage claims that during middle school, boys fall behind girls in every way. [I think this is true because it says girls are ahead of boys on all counts] Okay number 2, the concept of separate sixth class was accepted by nearly all educators. [Okay, the passage says,] educators debate whether separating boys and girls during these difficult years might improve students' academic performance.</i></p> <p><i>Okay, question number 2, the concept of a separate sex class was accepted by nearly all educators. All educators, no, let me go and check paragraph 1, okay, Separate classes are now prohibited in public schools.... Yes the answer is false. Number 3 the benefits of same sex class education are supported by measurable data. What is measurable data? I don't know. May be things that can be evaluated? "Melekat malet yehon, menu new yemelekaw?" It might be true.</i></p>	<p>Retrieving information from the previous text</p> <p>Going back and forth to clear the concept</p> <p>Defining words and phrases</p> <p>Using native language to clear ideas</p>
<p><i>Okay next question, the passage claims that mixed class school style have produced conflicting results in this study. [I have to read the passage again] The passage claims that mixed school style have produced conflicting results. Okay, [Are there conflicting results?] [Yes, this one's true] opponents of single-sex education claim that test scores for students of all girls or boys class are no</i></p>	<p>Going back for checking</p>

<p><i>higher than those in mixed class. However, the research is inconclusive despite the fact that some research shows no improvement in test scores. Other research shows exactly the opposite.</i></p>	<p>Making confirmation</p>
<p><i>Question number 5, Professor Gilligan is an advocate for same-sex class system of education. [Okay, here it says that girls are most likely to be creative thinkers and risk takers as adults if educated apart from boys in middle school. Yes ----- I would have to say true] [So, yeah, She is a supporter. She is an advocate for same-sex class system of education.]</i></p>	<p>Using reference and back checking for confirmation</p>

<p>The sixth one: one argument in favor of same-sex class] <i>is that boys and girls both pay more attention to their academic work. [So I would have to say true.] I think I have read this issue somewhere, paragraph 5 or 6, I'm not sure, and anyway it is true.</i></p> <p><i>Okay, number 7 at the same time, Paragraph 4. [Okay, paragraph 4, at the same time.] [Okay, let me read the fourth paragraph] “Opponents also maintain that separate classes or separate schools send the message that males and females cannot work together. They say that when students go into the work force, they will have to work side-by-side with the opposite sex---- [Okay; they will have to work side by side. So, I'm going to say side by side because there is no better phrase that is similar to this one.] However, such an argument completely ignores the fact that children constantly interact. [Wait, wait, wait.] However, such an argument completely ignores the fact that children constantly interact with members of the opposite sex. Outside school from playing, squabbling with siblings to negotiating allowances, chores, and privileges with their opposite sex friends; children learn and practice on a daily basis the skills they will need in their future workplaces. [Okay, side by side. Yeah.]</i></p>	<p>Retrieving information</p> <p>Reading for detail to get more information</p> <p>Pause and think about the question</p> <p>Reading the paragraph slowly and in detail to get the target information</p> <p>Self-encouragement when facing a problem</p> <p>Feeling of satisfaction when getting the right answer</p>
<p><i>Okay, the eighth question, participating in paragraphs six. All right, paragraph six -----“It should be evident that arguments against same-sex class are not valid. On the contrary, many people involved in middle school education say that same-sex class provide better learning environment. Boys and girls pay less attention to each</i></p>	<p>Reading for detail to get the right answer</p>

<p><i>other and more attention to the schoolwork.” Okay, this can be evidence used for the sixth question. One argument in favor of the same-sex classes is that boys and girls pay more attention to their academic work. [Okay, a similar term for the word participating is “asking” I feel like that's the answer.]</i></p>	<p>Using reference to make the idea clear.</p>
<p><i>[Okay, the next question:] Why the middle school years are tough? Choice A. Educators totally oppose same-sex class. [That is not the reason.] B. Boys excel girls in middle school level. [This is not true according to the passage.] C. There's no uniformity between girls and boys regarding their intellectual performance. [That is true.] The idea of teaching students in separate classes is accepted in order to get public funds from the government [that is false] [Okay, let me read from the passage,] ‘These are the years where uneven pace of girls and boys physical, emotional, and cognitive development is most noticeable. So there is no uniformity. [So, C is correct.]</i></p>	<p>Making confirmation on challenging ideas</p> <p>Rereading for challenging texts</p> <p>Rereading in detail to dig out the right information</p>
<p><i>As used in paragraph 3, which one can be the best definition for outthink. Okay. The passage says boys at this age become very angry and fight back in the middle school because they feel inferior when compared to girls who literally outthink them. So it's like more like outperformed. Okay choice A. Do less. No, this could not be the answer. B. Do well, no C. Do worse, no D. Do better. [Yeah, this is the best answer.]</i></p>	<p>Rereading for challenging texts</p> <p>Rereading in detail to dig out the right information</p> <p>Being satisfied when getting correct answer</p>
<p><i>Question number 11, According to paragraph 2, A. there is a clear research finding regarding the distinction between mixed and separate sex education. [I think there is a conflicting research finding but I will check it.] B.</i></p>	<p>Checking ideas to make sure the responses</p>

<p><i>All psychologists believe that test scores are the wrong measuring sticks. [Is it all?] It says many psychologists believe that test scores are the wrong measuring sticks. [Not all.] Okay. C. Self-esteem is more important than test scores due to the fact that it's easier to see the scores. D. According to the proponent of mixed sex education, there is no difference in scores between boys and girls. Okay, choice A, There is a clear research finding regarding the distinction between mixed and separate sex education. [This is not the correct answer because it says that some research shows no improvements and other research shows the exact opposite. So there is no clear finding, but rather a contradictory finding] Choice B, All psychologists believe that the test scores are the wrong measuring sticks. [Well, not all, but many; so that's wrong.] C. Self-esteem is more important than test scores. [That is true, but for what reason?] This is due to the fact that it is easier to see the scores. And D, according to the proponent of mixed sex education, there is no difference in score between girls and boys. Okay D might be the answer, anyway I will challenge this question again, let me skip it for the time being.</i></p> <p><i>Okay, question number 12, the author mentioned girls are more relaxed and ask more questions, in paragraph six to illustrate ----- Okay, in paragraph six, it should be evident that arguments against same-sex classes are not valid. On the contrary, many people involved in middle school education say same-sex class provide better learning environment. Okay A. The discrimination that prevails in mixed –sex class. Okay, let me check the discrimination that prevails in mixed sex classes.] I think it is in paragraph 3, “New York university professor Carol Gilligan is certain that girls are most</i></p>	<p>Repeatedly reading the options</p> <p>Refereeing challenging parts of a text</p> <p>Skipping challenging questions</p> <p>Reading for detailed information</p> <p>Reading slowly and carefully</p> <p>Going back and forth to have</p>
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<p><i>likely to be creative thinkers and risk takers as adults if educated apart from boys in middle school...” Yes A is correct. Yes. Girls think better than boys if they learn in separate classes. B. The benefit that girls obtain if they're learning with boys, that is not true. C. Girls think better than boys if they learn in separate classes. Boys and girls pay less attention to each other and more attention to their schoolwork, and girls are more relaxed and ask more questions are the benefits that students gain from same sex class. [Now I have to look for the benefit] that girls obtain if they are taught apart from boys. The passage doesn't says girls think better than boys if they learn in separate classes.; it just says that they gain more confidence, become more relaxed, ask more questions, and participate more. So, I would prefer ‘B’ as the best answer.</i></p>	<p>detailed information</p> <p>Confirming ideas through repeated reading</p> <p>Reading slowly and carefully</p> <p>Going back and forth to have detailed information</p>
<p><i>Okay, question number 13, According to the information in the passage, which statement shows discrimination in mixed sex class? [Okay, it’s about discrimination.] Okay, choice A, teachers call on boys to ask questions less often than they call on girls. Teachers call on boys to answer questions more often than they call on girls. [Okay, to ask and to answer questions.] Teachers call on girls to ask questions more often than they call on boys. [Teachers call on girls to answer questions more often than they call on boys. Okay, let's just check.] I think the answer is most probably “B.” Teachers call on boys to answer questions more often than they call on girls.</i></p> <p><i>[Okay, the fifth paragraph states that] several studies have shown that boys dominate discussions and receive more attention than girls, and that teachers call boys out more than girls, even when girls raise their hands. Yes, it is clear that discrimination exists. [It says that] teachers invite boys more often than girls, even when girls raise their hand.</i></p> <p><i>[This is to show that] they call on boys to answer</i></p>	<p>Repeating words, phrases, and sentences to retrieve ideas</p> <p>Going back and forth to refer ideas</p> <p>Being satisfied when getting the correct answer.</p> <p>Giving confirmation</p>

<p>questions, even though the girls are raising their hands. [So I have to choose option ‘B’]</p>	
<p>Okay, the next question is, what does the phrase, ‘learn how to do so,’ in paragraph four refer to? [Okay, let’s me just read it.] They will have to work side by side with the opposite sex in attending all girls’ or boys’ school denies them the opportunity to learn how to do so, to learn to do that. So, in this phrase, how to do so refers to, working side by side with opposite sex. [So option ‘B’ is going to be the answer.]</p> <p>Okay, question number 15, which of the following statement is false according to the information in the passage?</p> <p>A. psychologists believe that self-confidence and self-esteem can be measured by test. [This is not true.] B. Some research show improvement in the test scores of students in single sex education. Research indicates that there has been no improvement. Yes, that is true. No one demonstrates the precise improvement, and the research conclusions are in conflict with one another. While one indicates no improvement, the other indicates progress. [Therefore, "B" or "C" can be the answer] Alright, Option "C" Adolescents who have a positive attitude toward science and math are more likely to succeed in life. That's also true. Therefore, ‘A’ will be the correct answer to question number 15.</p>	<p>Inferring the meaning of words and phrases</p> <p>Pause and think</p> <p>Retrieving of ideas</p>
<p>All right, question number 16. Which of the following is true about middle school education? Choice ‘A.’ Mixed-sex classes in middle school education provide a better</p>	

<p><i>learning environment. All right, [what about same sex class?] the passage claims that many middle school educators believe that same-sex classes offer a superior learning environment. Yeah, not exactly mixed class. Okay, choice 'B' separating middle school boys and girls does not lead to students' higher tests scores. Choice 'C' the debate on which same or mixed-sex class is better, is settled long ago, [No it is not settled.] Because educators are still debating on whether same-sex or mixed-sex class is better, the issue of better learning environment is still unresolved. Choice 'D' The debate on whether same sex or mixed sex class is a better learning environment is still unresolved. [Yes, that is true. So, 16 is 'D. ']</i></p> <p><i>The phrase, tough years in paragraph 1, Okay, let me read the phrase from the paragraph "The middle school years (grades 7 and 8) are known to be the tough years. These are the years when the uneven pace of girls' and boys' physical, emotional, and cognitive development is most noticeable." Okay, Interesting and controversial cannot be the answer, controversial, no tough does not mean exactly controversial. Unforgettable, that is, nah, Okay, the answer is difficult time. So, 17 is A.</i></p> <p><i>Okay, question number 18, 'they' in paragraph 5, line 5, okay, Paragraph 5, and line 5, Teachers call on boys more often than they call on girls. Okay, so the pronoun 'they' is referring to the teachers.</i></p>	<p>Asking questions and trying to find solution</p> <p>Giving immediate response</p> <p>Being satisfied when getting the correct answer</p> <p>Using inferring skill</p> <p>Detailed reading for exact reference</p>
<p><i>Number, 19. The word opponents in paragraph 4, line 1. Opponents also maintain the separate classes... Okay, it refers to A. protestors, B. supporters, C. advisors. D. Advocators. So, the answer is going to be protestors. Okay, the last question, 'these' in paragraph 2, line 7,</i></p>	<p>Detailed reading</p> <p>Pause and think to get the gist of questions</p>

<p>refers to? Okay, paragraph 2, line7. “These are results that cannot be calculated by a test but that will help adolescents become successful adults long after the difficult years of middle school are past.” A. Math and science, B. Same-sex classes. C. test scores, D. confidence, and attitude. Okay, so, it says... In same-sex classes, girls' reports increased confidence and improved attitudes towards math and science, for example. These are results [Okay, ‘these’ are results. Which results?] That's increased confidence and improved attitudes. [So, the last question is going to be D. Yeah.]</p>	<p>Looks at the previous sentence for the referent</p> <p>Using context</p> <p>Checks all answer choices</p>
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Coded think aloud transcript

Sample 6: (Low Achiever)

Original transcript	Open codes
<p>Okay let me read the passage, The middle school years, grade seven and eight are known to be tough years.....</p> <p>Okay, question number1, The passage claims that during middle school, boys fall behind girls in every way. [I'm not sure about...] [Ok, let me check] something. Ok, it might be true. The concept of separate sex class was accepted by nearly all educators. [I think it's false.]</p> <p>The benefits of same-sex class education are supported by measurable data. [I think so, yeah, it's true.] The passage claims that mixed-class school study has produced conflicting results in the study. [I have to check this one again.] The passage claims that mixed-class school study has produced conflicting results in the study. [I'm not sure, but I would say this true.] Professor Gillian is an advocate for same sex class system of education. Basically, she would not advocate for same-sex class education. [Ah, yeah, definitely she is] she said that girls are going to be greater thinkers and boys will gain confidence. One argument in favor of same-sex class is</p>	<p>Reading the entire passage first</p> <p>Reviewing the passage once again</p> <p>Using one's own judgment</p> <p>Reviewing the passage once again</p> <p>Taking a chance to respond to challenging questions</p> <p>Recalling ideas</p> <p>Verifying concepts</p>

<p><i>that boys and girls both pay more attention to their academic work. [Ah, yeah, in the last paragraph.] It's true.</i></p>	
<p><i>Ok, at the same time, paragraph 4. At the same time, let me go and check “.... they say that when students go into the work force, they will have to work side-by-side with the opposite sex and attending all girls’ or boys’ school denies them the opportunity to learn how to do so.” Okay side by side, I think the answer is “side by side”. Okay, participating, Paragraph 6 again let me check it, paragraph 6, and finding similar term for participating “It should be evident that the arguments against same sex classes are not valid. On the contrary, many people involved in the middle school education say that same sex classes provide better learning environment. Boys and girls pay less attention to each other and more attention to their school work. Girls are more relaxed and ask more questions. They are also less disruptive and more focused. What is the meaning of disruptive? Girls are less fearful of making mistakes and asking questions in math and science.” Okay there are words like focused, involved, and evident Evident? no this must be involved</i></p>	<p>Examining the text carefully to identify the correct answer</p> <p>Examining the text carefully to identify the correct answer</p> <p>Trying to define words and phrases</p>
<p><i>Okay next question, Ok, why the mixed-school years are tough? A. Educators totally oppose same sex class. [Oh, this is false.] B. There is no uniformity between girls and boys regarding their intellectual performance. Yeah, this might be true. C, The idea of teaching students in separate classes is accepted in order to get public... [Ah, no.] I think this is “B”. Somehow difficult question, I will see it again.</i></p> <p><i>Question number 10, as used in paragraph 3, which one can be the best definition of <u>out think</u>?</i></p>	<p>Making use of the information that has been read</p> <p>Taking a temporary break to work on difficult questions and intending to return</p>

<p><i>The meaning of outthink in paragraph 3, “New York university professor Carol Gilligan is certain that girls are most likely to be creative thinkers and risk takers as adults if educated apart from boys in middle school. Boys, too, gain confidence when they do not have to compete with girls. Boys at this age become very angry and fight back in middle school because they feel inferior when compared to girls, who literally “out think” them. With no girls in the classroom, they are more at ease with themselves and more receptive to learning.” Okay the answer could be either do well or do better. Do well or do better? Ambiguous, I think it is do well.</i></p>	<p>Going back to specific paragraph/line</p> <p>Re-referring to the passage</p>
<p><i>According to paragraph 2, question number 11, [Hmm. Ok,] A. There is a clear research finding regarding... No. B. All psychologists believe that test scores are wrong measuring sticks. I think some psychologists think that. [Hmm. Ah.] So, it's not all about many psychologists. C, Self-esteem is more important than test score due to the fact that it's easier to see the scores. [Ok, this might be true.] D, According to the proponent of mixed sex education, there is no difference in score between girls and boys. [Hmm, I don't think so.] [This must be checked again.]</i></p> <p><i>Question number 12, the author mentioned Girls are more relaxed, and ask more questions (Paragraph 6) to illustrate ----- what does this illustrate? Choice ‘C’, girls think better than boys if they learn in separate classes or choice ‘B’, the benefit girls obtain if they are taught apart from boys. I think it is B, I will read it gain if I have time.</i></p>	<p>Expresses uncertainty</p> <p>Double- check the text</p> <p>Tries out possible answers before deciding</p> <p>Asking questions to gain a better understanding</p> <p>Plans to recheck</p>
<p><i>Okay next question, According to the information in the passage, which statement shows discrimination in mixed sex class, Ok, the first choice, Teachers call on boys to ask questions less often than they call on girls, this is false. B, Teachers call on boys to answer questions more often than they call on girls. Yeah, this is true because the question talks about discrimination.</i></p> <p><i>Next question, what does the phrase ‘learn how to do so’</i></p>	<p>Using the question’s key terms to guess the answer</p> <p>Make use of the paragraph’s context</p>

<p><i>in paragraph 4 refers to? Ok, A. going to workforce, B. working with the opposite sex, C. children’s interaction with parents, and D. attending all girls or boys schools. I think it is engaging with opposite sex in work place.</i></p>	
<p><i>Number 15, which one of the following statement is false according to the information in the passage? A, Psychologists believe that self-confidence and self-esteem can be measured by tests. Can a self-confidence measured by tests? B. Some research shows improvement in the test scores of students in single sex classes. What about mixed class? C, There is research to show no improvement in the test scores of students in single sex classes. I don’t think. D. Positive adolescent attitude towards math and science helps them to be successful later in life. Okay, I choose this one.</i></p>	<p>Making use of the information that has been read</p>
<p><i>Okay, which of the following is true about middle school education? A, Mixed sex classes in middle school education provide a better learning environment. [Okay, Maybe.] B, Separating middle school boys and girls does not lead students’ higher test scores. [Is it? I should read it again] C, The debate on where same sex or mixed sex class is a better learning environment is settled long ago. What does settled mean? Does it mean decided? D, The debate on whether same sex or mixed sex class is a better learning environment is still unresolved. [Yeah, the passage doesn’t specify a better learning environment. So, [it must be D.]</i></p>	<p>Reading the passage once again to acquire a clear understanding</p> <p>Self- reflection to have a thorough understanding</p>
<p>Question Number 17, the phrase... “Tough years” in paragraph 1 means -----</p> <p><i>Okay, let me go to paragraph 1, “The middle school years (grades 7 and 8) are known to be the tough years. These are the years when the uneven pace of girls’ and boys’ physical, emotional, and cognitive development is most noticeable.” Okay, “Tough years” it means difficult time.</i></p> <p><i>Okay, next question, “ They” in paragraph 5, line 5 refers to ----- let me read it “Several studies have shown that boys dominate discussions and receive more attention</i></p>	<p>Reading the text carefully to gain a clear understanding</p> <p>Reading the entire paragraph to enhance reference skill</p>

<p><i>than girls and that teachers call on boys more often than they call on girls, even” okay, it is about teachers. Number 19, the word “opponents” in paragraph 4, line 1 means ----- okay, paragraph 4, line 1, “Opponents also maintain that separate classes or separate schools send the message that males and females cannot work together.” Opponent means? Yeah it is A, Protesters</i></p> <p><i>The last question, “These” in paragraph 2, line 7 refers to ----- “In same sex classes, girls report increased confidence and improved attitudes toward math and science, for example. These are results that cannot be calculated by a test but that will help adolescents become successful adults long after the difficult years of middle school are past. Okay, A. math and science B, same sex classes, no C, test scores, no D, confidence and attitude, yes this could be the answer</i></p>	<p>Going to paragraph/line</p> <p>Inferring meaning</p> <p>Using sentence meaning</p> <p>Checking all answer choices</p> <p>Rejecting choices</p>
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Appendix 24: Transcription of the students' interview (main study)

T = Teacher (Interviewer)

S = Student (Interviewee)

Student 1: Derartu Tulu (High Achiever)

T: I am grateful for your presence at this session. I have a few inquiries for you regarding the use of your reading strategies and your prior experiences.

S: I'm also grateful to be here.

T: The first question is what basic guidelines do you follow when answering reading comprehension questions? What procedures do you keep to from start to finish, exactly?

S: I start by reviewing kinds of questions that are included in the exam paper, like true-false questions, inference or vocabulary questions, reference or questions that concentrate on relative pronouns, etc. While I am reading, I write the main idea of each paragraph on the side of the paper. And then, most of the time, there are some bold words, and I perceive those as, they may be the words that I could be asked later as vocabulary questions. So I try to guess the meaning based on the context, if I don't know it, and I'll write the meaning of that word between the lines of the passage. And if there are any relative pronouns that confuse me in the reading comprehension, I try to relate it with some subjects and objects in the reading text.

After I have done that, I'll go to the question, and I'll do the questions, and if I encountered some vocabulary questions or questions related to the relative pronouns, I would go back to the passage and check the notes that I have made on the passages, the definitions I gave to the vocabularies, and the relationships I made with the relative pronouns and the subjects and objects included in that sentence.

T: Fine, Do you have the habit of planning your work in reading tests? Like number of paragraphs, lengths of the passage, illustrations, bold items, and italics. Do you have that kind of experience in a reading comprehension test?

S: Yes. I have the experience of giving attention for bolded items, but regarding illustrations and italic items, I haven't had that much experience.

T: Good, Do you focus on each paragraph to get the main idea of the reading test as a whole? For example, what is the main idea of paragraph 1, 2, 3, 4, 5?

S: I outline the main ideas of each paragraph, but to get the main idea of the whole text as a whole, I usually focus on the first and the last paragraph.

T: The first and the last?

S: Yes.

T: What about the middle?

S: The middle, I consider them as supporting paragraphs, supporting details, but sometimes when I read them, if I found them to be the main part of the passage, I might deal with them.

T: Wow! So you focus on the beginning, the opening paragraph and the concluding.

S: Yes.

T: Alright, How about circling and underlining important points, words and phrases in a passage? Do you have that kind of experience?

S: Yes, especially I underline pronouns and complex sentences. I try to associate them and try to understand what each sentence means based on their context. I also underline vocabularies that I think I will be asked later on in the questions and I try to guess the meanings based on the context used in the sentence. So, I use underlining and circling techniques.

T: You either underline or Circle them?

S: Yes

T: Do you read the entire passage first or reading the questions and going to the passage? Which kind of style do you follow when you are doing a reading test?

S: I first read instructions and questions. I mainly read questions to understand for what questions I have to be ready while reading the passages.

T: let me clear this question. Some students, they read the whole passage, right? For example, if the passage has some five paragraphs, they read the entire passage before doing the questions. The other students, they read the questions first and then come back to the passage.

S: I first read the whole passage and then doing the questions.

T: How frequently do you make or take notes while you are doing a passage?

S: I do it frequently

T: For what purpose do you take the notes?

S: To save time. You know, when I do the questions, I don't have to go back and read it again, the whole paragraph or passage.

T: Good, Do you double-check your answers while you are doing comprehension questions?

S: Yes, I do.

T: Okay, Do you generate questions while you are reading a passage? Of course this doesn't include the formal questions in the reading test.

S: I usually don't. Well, this question, I can answer it in a personal way. If the passage interests me, I can generate questions for myself. But as I sit down for an exam, my first prioritization is to do the exam, the exam questions. So, I don't usually generate questions for myself, but it depends on the context of the passage; I mean the content.

T: What do you mean by the content?

S: If I find the passage is very interesting, I generate questions. Conversely, if I feel bored, I don't do that.

T: Okay, What about keeping attention throughout the test, during the exam hour? Meaning, some students, they might lose their attention while they are doing a passage. Do you keep your attention throughout the exam hour?

S: Yes, most of the time I do. As long as I am in a quiet environment, that's not going to be a problem for me.

T: Do you regularly evaluate and analyze your work? I mean, it could be on the progress while you are doing the test, or it could be after finalizing the test.

S: Yes, I do. I double check with the outlines I've made and I also check the outlines I've made, if they are correct, based on the contents in the passage.

T: Okay, Do you infer the intention or the purpose of the text after you read or after you

S: Yes I do. I usually do that because I think that's one of the questions that might be included in the exam questions.

T: What if it's not included?

S: I still do it. If that question isn't in there, then I just keep it for myself.

T: Very nice. Let's come back to the emotional aspects. Do you feel at ease when you are doing reading passage? Because most students, they find it difficult to do the passage.

They might have a kind of anxious feeling, being nervous, and worried. What can you say about this?

S: I do feel at ease. I don't usually get anxious or any of the feelings you mentioned when I read some passages. First, I calm down and I read the title first and foremost. That's one of my strategies. Then, I read the title and I understand what I can perceive from the passage. And I read the passages and I try to find those things that I wanted to perceive from the passage based on that title. so these make me feel concentrated on that passage.

T: Do you have the experience of taking deep breaths, stretching your hands and your body, right?

S: I have a habit of drinking water.

T: Drinking water? Okay,so, this is the way that you manage your emotional space.

S: Yes

T: Okay, Aman, thank you for your cooperation.

S: Thank you for having me.

Student 2: Dj. Wondirad: (High Achiever)

T: Okay, Berhanen, prior to anything else, let me thank you for coming to the interview. Today, I will be interviewing you about the reading strategies you use when doing reading comprehension activities. Can you share with me your overall experience?

S: First I look at the length of the passage. If it's short, like two or three paragraphs, I read it twice. The first round of reading is about getting an overall overview and understanding what the passage is about. My second round of reading helps me anticipate what type of questions the passage is asking. And then I go through the questions one by one. Most of the times reading comprehension questions are centered on either citing information from the text or determining the main idea presented in each paragraph.

So when I read I try to state the idea first. This helps me to answer the questions easily and to figure out where to find the idea. A question that asks the main idea of the paragraph could be another type of question that could be asked.

So, I read the paragraph again to better understand the idea. In the mean time I manage the time given to do the reading comprehension.

T: I understood from your statement that you have experience in planning your work. I mean you start by looking at the number and length of paragraphs, checking bold and italicized words and phrases, and figures, right?

S: Yes.

T: Do you read the entire passage while taking a reading comprehension test? Or do you go to the questions first and then come back to the passage?

S: As I said, I first look at the length of the passage. If it's two or three paragraphs, I just read it quickly and go to the questions. But if it is more than four paragraphs or six or seven paragraphs, I go to the questions first. Previously I was familiar with different types of comprehension questions such as, questions that ask about the main idea of a paragraph, about the author's intention or the message that he/she wants to convey, about what prepositions refer to etc... So, I just look at the questions and I will try to point out where this information belongs in the passage. So, I don't have to read the whole passage, I just read the first line of each paragraph to know what the topic sentence is about. In some cases I just read a specific paragraph that the question indexes.

T: Thank you very much. . So you focus on each paragraph to understand the main idea.

S: Yes.

T: How about circling and underlining the main points? Do you have a habit of doing something like that?

S: Yes. I don't usually circle because circling just makes the paper look dirty.

But I like to underline.

T: You just underline.

S: Yes. I like to underline the main points. And sometimes we're asked about inference questions, there are pronouns in the reading text and we infer the meaning of those pronouns. So, I point out them with an arrow sometimes. But most of the time I underline the pronouns and main points.

T: How frequently do take notes? For example, after you finish reading the first or second paragraph, do you make very short notes, which help you to understand or remember the main point of the paragraph?

S: Usually, I don't because there is a time constraint.

T: Do you double-check your answers?

S: Yes, I do it. Because most of the time I finish the reading questions before the seated time. So, I will have the chance to revisit some questions particularly those questions which make a challenge on me. And also I read long paragraphs once again so that I could be sure about my answers.

T: Good, Do you generate questions? I mean, do you ask questions for yourself? This doesn't include about the formal questions on the reading test.

S: Yeah, as I have said, when I read a passage, I like to assume what type of questions could be asked and what the topic is really about and trying to focus more on the passage, what it is trying to convey. Even if it's in a short period, I try to understand deeply. I usually think about the main idea of the text, the major concept that the author wants to convey, and the characters involved in the text. So, I usually assume different questions and usually some of them appear on the test, and also generating questions helps me to understand the passage.

T: Okay, that's awesome; let's move to the other question, do you keep your attention throughout the exam hour?

S: Yes, I've practiced that since I was a kid. I like to read different books, especially fiction books.

So, the habit I have been practiced helps me not to wonder away from reading activities. Even I don't look out of the window.

T: Do you regularly evaluate and analyze your work? It could be, while you are doing the reading test or after doing the test.

S: Yes, because it helps me for my future exams and for my general understanding.

T: Do you infer the intention or the purpose of the text?

S: Yes, because that is important to understanding contents of the text and once you understand what it is about, it's easy to answer questions about the text. So I try to understand it deeply, like as you said, immersive reading. So, I try to understand full concepts, grasp them deeply and then I will move to the questions.

T: Let's come back to the emotional aspect. Do you feel at ease while you are reading the passage and doing the questions? Because of emotional instability, some students find it difficult doing the reading passage. How do you tackle such problems?

S: I feel like I'm not even doing the test. It's like I just tell myself this is just a reading passage, reading the passage and doing questions. I always try to remove emotional barriers and pressure that affect an exam performance. Moreover I look at my watch to manage the time that I have to do the exam.

T: I understood from your response that you are too much confident on yourself and you find it very easy doing the passage. What is the secret behind that?

S: I think, as I said, since I was a child, I have the experience of reading different books both academic and fictions; I think this helps me to do the exam questions easily.

T: Okay, very nice, do you have the experience of taking deep breaths, stretching your hands and body, drinking water etc... while doing the exam?

S: Yeah, these kind of experience help me to relax more; not only in English exam but also in other exams. Usually, I have my bottle of water under my feet and I constantly pick it up and have a sip. So I think this helps me focus more and also refresh my body. Sometimes I stretch my feet and my hands more because I feel cramped when I'm reading.

T: Ok, thank you very much for our stay

S: thank you too

Student 3: Dagmawi Menelik (High Achiever)

T: Okay, Mahder, first of all I would like to say thank you for coming the interview session. My first question is what general procedures you follow while doing reading comprehension?

S: At first, I try to observe what the passage is about. I try to observe its topic, what the passage is talking about by looking at the first sentence of each paragraph; and this helps me to infer the general idea of the passage. Then I proceed doing the questions. I do not fully read the passage to do the comprehension questions. After seeing the first question I try to refer back to the passage in order to answer those questions.

T: Okay, what is your exact procedure of doing comprehension questions? Do you read the entire passage first or reading the questions first and then go to the passage to find the answer?

S: At first I just see random sentences throughout the whole passage, and I start doing the questions. If I can answer the questions in my first round rough reading I go on that way, but if the questions need extra reading and investigation I will carry on intensive reading.

T: Do you have the habit of planning your work on the reading test? For example, overviewing the passage, counting the paragraphs, looking at the figure, bolded items, italicized words and phrases etc.....

S: You mean during exam sessions?

T: Yes, tell me your practice, assuming you are taking an exam.

S: Yes, first I try to get a general overview of the passage but I do not pay attention to words and phrases in bold and italics unless they are part of the comprehension questions.

T: How about circling and underlining important words and phrases?

S: Yes, as I have mentioned earlier, I usually circle or put Mark up on specific lines so that I can immediately check my answers at the end.

T: Do you want to say any other significance about circling and underlining?

S: The significance of circling is that it makes sure about the answer that you've chosen. Particularly if the question is a multiple choice, underlining helps you for the actual decision.

T: Do you double check your answers?

S: Yes. I usually double check my answers after I finish the whole questions

T: Nice, how frequently do you make or take notes? For example, after you finish reading the first paragraph, do you have the habit of summarizing the paragraph's message with your own words?

S: Yes, I try to write some key phrases on the left side of the paragraph, so that I can remember the message of each paragraph quickly. If I want to read the paragraphs, I do not have to read the whole paragraphs; in the meantime, I can conserve my time by doing and re-checking some challenging questions.

T: Very nice. The next question is about generating questions. Do you generate your own questions while you are doing and reading comprehension test?

S: No, I do not usually do that because my objective is to achieve a great score. So I will focus only the exam questions, I will not think about other questions to generate. I try to

conserve my time because there are other sections of English exams like grammar and vocabulary. So in order to consume my time, I don't do that.

T: Okay, Let's talk about keeping attention and focus. You know, some students they might lose their focus due to different reasons. Lengthy passages, vague instructions, challenging questions etc... make students lose their attention. What is your position regarding those issues?

S: I believe that the human attention span is much shorter to complete one a specific task, and there will be destructive factors in the environment. so I will try to minimize those obstacles as much as possible.

T: Do you regularly evaluate and analyze your work while the exam is going on?

S: Yeah, I usually evaluate my work while the exam is underway, which helps me re-check some of the difficult questions I might have missed.

T: Do you infer the intention or purpose of the text after completing the reading passage?

S: After I finish reading the passage, I try to conclude the specific theme of the story; because mainly the passage questions are centered upon that theme. So, I try to look at the passage's theme.

T: Okay. Now let's come to the emotional aspects. Do you feel at ease while you're reading and doing comprehension questions? I mean do you feel relaxed? You know, many students think reading comprehension is the most difficult part to perform than any other language skills.

S: To be honest it depends upon the passage. I'm not always at ease while doing the passage questions, especially multiple choice questions usually gives me a hard time to tackle them. I found it easy to do other kinds of comprehension questions like reference and inference. In most cases the destructors in multiple choice questions are not easily identified; in case if I fail to do the questions, it brings anxiety and stress on me but I will try all my best to tackle all the questions.

T: How do you manage your emotional stress?

S: I try to tackle emotional stress by telling myself that the final reward that I'll get is much greater than what I have faced on the exam.

T: What other mechanisms do you apply to minimize your stress other than telling yourself positive words?

S: I'm not clear with you!

T: Ok, for examples do you apply different mechanisms like taking deep breaths, stretching your arms, listening to positive and negative feelings etc....?

S: Yes, I do most of them. Encouraging myself is actually part of thinking about the final reward; furthermore, I usually drink water to make myself hydrated and relax body muscles.

T: Okay Mahder, thank you very much for your cooperation.

S: Thank you too.

Student 4: Kelemework (Low Achiever)

T: Okay, Noel, thank you very much for coming to the interview. Today I want to ask you a few questions about the reading strategies you follow. And my first question is what general procedures do you follow when answering reading comprehension questions?

S: Ok, the first thing I do is reading the whole passage thoroughly and effectively. Then, I go through the questions. I follow different techniques to answer the questions. For example the technique I follow to answer multiple choices will be different from inference and reference questions.

T: What are the techniques you follow? Tell me in brief.

S: For example, when I do true/false questions, I don't go back to the passage to refer to it again, but simply use my memory from my first round of reading to do the questions. When it comes to multiple choice questions, I go back to the passage every now and then to get the answer. I also eliminate the wrong answers from the options given and I deal with options that I think are correct. If I face any challenge from the questions I will refer specific lines of the passage in order to be sure about the answer. But if the questions remains challenging, I skipped them and doing the easy ones. Then I will come back and fix those challenging questions at the end.

T: The next question is: As you do comprehension questions, will you read the entire passage first or read the questions first and then return to the passage? What approach are you taking?

S: The first one. First I read the entire passage, and then I will do the questions

T: My next question is, do you focus on each paragraph to understand the main idea of the reading text? I mean, if the passage has like four or five paragraphs, do you pay attention to each paragraph to get the main points?

S: Yes, that is the most important thing I do when answering reading comprehension questions. As I go through the questions, I try to remember where to find the specific lines.

T: Do you generate questions as you do reading comprehension?

S: I believe it is essential to the test; generating questions allows me to answer the reading passage questions effectively. Maybe I will get similar questions on the test. Even I subconsciously generate questions while reading a passage.

T: Let's go back to how to focus attention on the passage. You know, attention is very important. Do you keep going through the passage evenly? Some students are unable to keep their attention for various reasons. Do you maintain throughout the exam?

S: Well, it's hard to say that I fully maintain my full attention during the exam hour. But I always do my best to keep my attention. One way to keep my attention is to make a note to myself after completing each paragraph. If I lose my attention, instead of reading the whole paragraph, I read my notes and stay focused.

T: Do you recognize the intent of the text? This may happen while you are reading a passage or after you have answered the questions.

S: Well, it depends on the type of passage. Most of the time I wouldn't do this, but if the passage is somehow inspiring, I might think about the intent or purpose of the passage.

T: Do you feel comfortable while reading a passage? Tell me how you feel.

S: Yes, I always feel comfortable in reading comprehension because nervousness ruined my overall performance. Therefore, I will try to relax as much as possible and minimize anxiety.

T: Okay, Noel, thank you very much for giving me your time.

S: Thank you.

Student 5: Medehanialem (High Achiever)

I: Ok, Yoftai, thank you very much for coming to the interview. I would like to forward some questions about reading strategies. My first question is, what general procedures do you follow when answering reading comprehension questions?

S: The first thing I do is I take a rough look at the entire passage. If there is no number, I provide a number for each paragraph. Then I skim each paragraph and see what the main idea is about. Then, I move on to the questions. If the questions relate to one of the main ideas of the paragraph, I go into the details of the paragraphs.

T: Alright, it appears that you are familiar with skimming the passage before moving on to other tasks.

S: Yes, especially I pay attention to bold and italicized words and phrases.

T: What relevance does it have to pay attention to those topics?

S: Bold and italicized words/phrases in the passage are most likely to be asked in the reading questions

T: Good. Are you focusing on the main idea of each paragraph?

S: I don't usually do this, but rather skim the entire passage to understand the main idea. However, if there are questions concerning the particular idea of a given paragraph, for example, which of the subsequent claims regarding paragraphs 1, 2, 3 is true or false, or what the idea of paragraphs 1, 2, 3, is etc... I will go over each paragraph to find out the specifics.

T: How about circling and underlining important terms and phrases in a paragraph? Can you say something about that?

S: Yes, I usually circle and underline key terms and phrases, and this helps me answer comprehension, reference, and inference questions.

T: Nice. Let's move to the other questions: Do you read the entire passage first or start with the questions? Which style do you prefer? Some students read the entire passage first and then move on to the questions. The other students read the questions and go to the passage to find answers.

S: My style is that I look through the passage first, see the main ideas, and then move on to the questions. I pick up the questions again and focus on the passage.

T: How often do you make or take notes? As you read a passage, do you have the habit of making a note in your own words about the main idea of each paragraph?

S: No, I don't. I found it time consuming. Rather, I simply catalogue all the information in memory.

T: Okay, do you double check your answers, or predictions?

S: Yes, I usually double check my answers. If the question is very challenging, I might sometimes triple check.

T: Okay, let's move on to the other question: Do you generate questions while answering reading comprehension questions? This could be any question that comes to mind apart from the formal questions in the passage.

S: Yes. As I read the passage, I try to guess what types of questions will appear on the test. So, generating questions helps me prepare for the questions that will be asked in the formal reading test. Words and phrases written in bold and italics also help me generate questions.

T: Ok, let's talk about focusing attention on the exam. How do you explain yourself on this topic? Some students found it difficult to maintain their attention throughout the exam period.

S: Well, it depends on the difficulty of the exam. If the questions are very easy, I may not pay much attention to the test. However, if the questions are challenging, I will focus more of my attention on the questions. Again, I will pay attention to the difficult parts of the passage.

T: Nice, do you regularly evaluate and analyze your work as you go through the passage?

S: Yes, I answer the questions and at the same time I evaluate and analyze the accuracy of my overall work in the exam. For example, I might ask myself why I choose some alternatives as the best answer and why I ignore the others.

T: Do you infer the intent or purpose of the passage?

S: Yes. I might think about the type of essay. For example, is the purpose of the reading text to explain facts? To describe a particular situation or present an argument between two extreme ideas, etc...

T: Alright, Returning to the emotional aspect, how do you feel as you work through the passage? Are you at ease or relaxed?

S: I feel fairly confident in my ability to understand. For this reason, I never feel nervous before a comprehension test.

T: What is the secret to that?

S: Since starting the lower grade, I've read a lot of books, and some of them have comprehension –related questions. And I've already completed a good deal of those passages and questions.

T: Alright, I really appreciate your willingness.

S: I also want to thank you.

Student 6: Derartu Tulu (High Achiever)

T: Yordanos, thank you very much that you are coming for an interview. My first question for you is, what general procedures do you follow while doing reading comprehension questions? Tell me the steps from the very beginning up to the end.

S: Okay, first off, whenever I do these comprehension questions, the first thing I tend to focus on is just getting the right answer. It's not about being interested in the passage; it's about answering those questions. Gradually I will be familiar with the content of the passage. Meaning, I will be familiar with the plot and characters of the given story or passage; but this is a secondary issue for me. I always give priority to answer the questions.

T: Why you choose reading the question first? Why not you read the passage first?

S: Reading the questions gives me a hint on how I should read the passage, tackles the questions, and also saves time to complete the reading exam. Reading the questions initially also helps me to examine the nature of the questions; such as, are the questions asking me for a specific kind of vocabulary? Are they asking me to see what the specific word is referring in a particular part of the passage? Are the questions asking me the theme of a particular paragraph etc....., these kinds of questions are really common, in both formal school and national examinations.

S: And secondly, what I do is I read the passage. In doing so, I try to memorize the questions. When you read something, it stays for some time in your mind; and this helps me to answer the comprehension questions effectively. For example when I read the passage, I can retrieve the questions, Oh! This idea is found in question number 1, 3, 5

etc... Then I mark (underline or circle) the different parts of the passage with the corresponding questions. Immediately I get the ideas from the passage, I will give answers to the questions. That is how I approach any kind of comprehension question.

T: Nice, let's move to the other question, do you have the habit of planning your work while you are doing reading tests, such as, looking at the topic of the reading passage, the number and length of paragraphs, illustrations, bold and italicized items etc...

S: not always, it depends on the nature of the exam. If the exam requires doing those things, I will do it. Regarding the bold and italicized words and phrases they are already marked and I will deal with those words and phrases while I do the reference and inference questions.

T: Do you focus on each paragraph to get the main idea of the reading text?

S: Yes, because paragraphs are dedicated to a single topic and focusing on the theme of each paragraph helps me to understand the structure of the reading passage in general. Understanding the core idea of each paragraph helps me in understanding how ideas are transitioned between and among the overall reading passage. And I think paragraphs are really important, and usually questions are usually addressed to a single paragraph. For instance, if the first paragraph talks about the childhood of somebody and if there is a question that asks about the issue of childhood, I will definitely focus on that specific paragraph; instead of reading the entire passage

T: How about circling and underlining important words and phrases to understand the reading passage? Do you have the habit of circling or underlining important or key words and phrases?

S: Yeah, marking is a must, especially in doing reading passages. The reason is it helps me in navigating through the whole passage. When I'm asked a specific question, I will immediately rush to those marked (underlined) words and phrases to answer the questions. So marking is very important not only for reading exam, but also for any activity that requires reading; because it helps the reader to recapitulate ideas.

T: How about, taking notes? Taking very short notes while you are reading a passage?

S: Yes, I actually adopted the practice of making notes to grasp the major concept of paragraphs.

T: How do you take notes?

S: For example, if the first paragraph is talking about autobiography of a specific person, then I will just mark the whole paragraph, childhood. The second paragraph may be talking about his or her academic journey, and I will write in short educational background. This way I will take a note. So taking a note gives me a clear picture about the entire passage.

T: Do you apply underlining and taking a note at the same time?

S: As to me taking a note is ideal for lengthy passages, whereas, underlining is ideal for short passages.

T: Why?

S: If the reading text is very short you can easily remember the place where ideas are placed; but if it is a lengthy passage, it will be difficult to point out where the necessary information is placed and in some cases I may not quickly identify the theme of each paragraph. So for lengthy texts, it is very important to have both notes and underlining important words and phrases.

T: Very good. How often do you double-check your answers?

S: If I left with enough time, then I'll probably go through the questions at least two times.

T: Do you generate questions while you are reading a passage or doing comprehension questions? I mean questions other than the test?

S: No, my focus of attention is only on the reading comprehension questions.

T: Don't you think it has relevance for the reading comprehension test?

S: It has, even sometimes I generate questions subconsciously; but personally generating questions intentionally consumes my time during the exam sessions.

T: Let's come to keeping attention during exam hours. Do you keep your attention throughout the exam hour?

S: Yes, most of the time I totally immerse on the test.

T: Do you regularly evaluate and analyze your work? (Keeping the progress of your work while the reading test is going on)

S: Yes. Analysis, again, it's a must. Because analyzing my progress helps me to have a smooth flow in the exam. For instance, I usually test myself, how far I'm doing the questions. For instance, if there are 10 questions from a single passage and if I am certain about doing eight of them, I will take it as good progress. Conversely, if I am not certain

about the rest 2 questions, I would rather focus on these 2 questions. Even if I will not be able to answer the rest two questions, the questions that I will be sure of them develop my self-esteem to pursue well on the exam.

T: Thank you. Do you infer the intention or purpose of the text? For example, after you read and do comprehension question, do you infer the intention or the purpose of the text?

S: Yes. In fact, the very first question in almost any reading comprehension is about the purpose of the reading text. So, understanding the purpose of the passage is the first thing that I usually do. For instance, if the passage is talking about health disorder, I can guess that the purpose of the passage will be how we can prevent from contracting that type of disease. Moreover, understanding the intent of the passage also helps me to build my interest on the topic as well as the entire passage.

T: Let's come back to the last question. It's about the emotional aspect. Do you feel at ease while you are doing reading comprehension questions? You know, many students, they find it difficult to do comprehension questions and worried about doing comprehension questions.

S: Well, it depends. If I encounter very difficult passage to understand in terms expression and word usage, I tend to frustrate over those questions. That kind of scenario will not create a relaxed atmosphere for me. Conversely, if it is an ideal passage, I would build confidence on myself. Moreover, the amount of time given for the exam also determines my feeling of easiness during the exam. If I have ample time and I can go through the questions again I feel at ease. Conversely, if I am not fully understood the text as well as the questions, and shortage of time to complete the exam, I will probably develop a feeling of anxiety.

T: What kind of techniques do you use, in case anxiety or frustration comes on your reading comprehension test? Like, you know taking deep breaths, stretching your hands and arms, drinking water, encouraging yourself etc....,

S: As I told you the first thing that I do is reading the questions. When I read the questions, I will come to know the difficulty level of the exam; and this helps me to reduce my anxiety. Whenever I take the exam, I check my time. I usually ask myself, how much time do I left to finish the exam. so, managing my time helps me to reduce anxiety.

And of course, taking deep breath, stretching hands and self-encouragement are also strategies that I use to reduce anxiety.

T: Yordanos, thank you very much for your cooperation.

S: Thank you

Student 7: Medhanialem (Low Achiever)

T: Thank you so much coming for the interview.

S: It's a pleasure to be with you as well

T: Now, We'll be talking about your experience in using reading strategies when completing reading comprehension activities. Let me ask you my initial question. What procedures do you use while responding reading comprehension questions?

S: At first, I read the text at least one time and then I proceed to the questions for the solution.

T: Don't you take additional steps? Such as reviewing the types of questions, the length of the passage, the number of paragraphs, the time given, and the instructions?

S: To be honest, I don't follow those steps; I just jump right into the questions.

T: What about checking for words and phrases that are bold or italicized?

S: Actually, I do look for those because bold and italicized words and phrases can show up in the vocabulary questions.

T: Alright, let's move on to the next question. Do you pay attention to each paragraph to understand the overall idea of the reading passage? For instance, the main idea of paragraphs 1, 2, 3, 4, and 5?

S: Okay, I don't typically do that, but if a question asks for the main idea of a particular paragraph, I will focus on it.

T: Alright, what do you think about underlining and circling key points, words, and phrases in a text? Do you have experience with that?

S: Oh, definitely! I do that because, in most instances, the words I either underline or circle assist me in comprehending the text and also in answering the questions.

T: Do you take notes while you are doing a passage?

S: I don't usually do that

T: why?

S: probably I haven't had the experience since the lower grade

T: Nice, Do you double-check your answers when you are doing comprehension questions?

S: Yes of course, but I do it if I have enough time to recheck.

T: Okay, Do you generate questions when you are reading a passage? Of course this doesn't include the formal questions in the reading test.

S: I don't do that because my focus of attention is fully on the exam.

T: Okay, What about keeping attention throughout the test? Meaning, some students, they might lose their attention while they are doing a passage.

S: Well, it depends. If the questions are very easy I will not be worried much, but if it is somehow challenging, I will give more attention to the test so that I could tackle the questions well.

T: Do you regularly evaluate and analyze your work? I mean, it could be on the progress while you are doing the test, or it could be after finalizing the test.

S: Again it depends on the nature of the exam. If I have enough time to do the test and complete the test in time, I might go and check questions that create a doubt on me.

T: Alright, do you infer the text's aim or purpose both during and after reading it?

S: Truly speaking, I don't do that very often. I only do this if the exam requires for questions of such type.

T: Very nice. Now let's return to the emotional aspects. Do you feel comfortable when you engage in reading comprehension activities? Because some students may experience feelings of anxiety, nervousness, and worry. How would you respond to this?

S: That varies, of course, on the type of exam. I will not worry if the exam is simple; however, if it is difficult, I may experience stress.

T: Have you ever found it helpful to take deep breaths and stretch your hands and body when doing reading comprehension?

S: Of course! But I usually do all these things intuitively; may be they are inborn activities that help humans in lowering anxiety.

T: Okay, thank you for your cooperation.

S: No problem.

Student 8: Medhanialem (Low Achiever)

Interview sample 8

T: I appreciate you coming in for this interview.

S: I'm glad to be here as well.

T: Today, we will discuss your experiences with reading strategies while participating in reading comprehension exercises. Let me start with the first question. What general steps do you take when answering reading questions?

S: First, I read the entire passage, and then I tackle the questions.

T: Don't you have any strategies you follow, such as getting an overview of the types of questions in the reading test, the passage length, highlighted words or phrases, the exam duration, and the instructions for each question type, etc.?

S: To be honest, I don't follow all those steps. I just dive into the passage and try to grasp the concept, and after that, I begin to answer the questions.

T: Many students at least pay attention to the bold and italicized words in the text; don't you do that?

S: Well, I only do that if the reading questions specifically reference them.

T: Alright, let's move on to the next question. Do you focus on each paragraph to grasp the overall idea of the reading passage? For example, understanding the main idea of paragraphs 1, 2, 3, 4, and 5?

S: No, I don't have that experience. I simply try to summarize the main idea of the entire text.

T: Don't you think that summarizing the main idea of each paragraph greatly enhances understanding of the text?

S: I think it can make a significant difference, but I haven't really experienced that since I was in lower grades.

T: Alright, let's discuss the practice of underlining and highlighting key words. Have you had any experiences with this during exams?

S: Honestly, I do it infrequently.

T: Why don't you do it more often?

S: As I mentioned about noting the important points of each paragraph, I don't have much practice with underlining words.

T: Alright, let's go on to the next question. Are you in the habit of going over your answer at least once?

S: I do so if I happen to have time for a final check.

T: Okay, do you generate questions while you read a passage? This doesn't include the formal questions from the reading test.

S: No, I typically don't do that.

T: Why is that?

S: Well, my complete focus is on the main questions related to the reading passage. I wouldn't have time to come up with other questions

T: Okay, what about maintaining attention throughout the test? Some students might lose focus while working on a passage.

S: Well, I can't say I fully maintain my attention on the test; some factors can distract me, but I try my best to stay focused.

T: Do you regularly evaluate and analyze your work? This could be during the test or after completing it.

S: Evaluating progress on the reading exam?

T: Yes.

S: I don't really do that because my focus is on finishing the exam.

T: Okay, Do you infer the text's aim or purpose both during and after reading it?

S: I only do this if it is part of the question.

T: Good, let's move to the next question. Do you feel comfortable engaging in reading comprehension activities? Some students may experience anxiety, nervousness, and worry. How would you respond to this?

S: Well, it depends on the exam; I usually get nervous when the exam is difficult. Otherwise, if the exam is average or easy, I won't experience those negative feelings.

T: Have you ever found it helpful to take deep breaths and stretch your hands and body while doing reading comprehension exercises?

S: Yes, of course, I do this regularly.

T: Okay, thank you for your help.

S: No problem.

Appendix 25: Response to the questionnaire (Main study)

Key

- | | |
|-----------------------|------------|
| 1. Never/Never almost | 4. Usually |
| 2. Rarely | 5. Always |
| 3. Sometimes | |

Students' ID	Score	Inferring word meaning	Using interpretation	Skipping unknown words	using text features	Focusing on opening line	Focusing on key points	Making notes	Generating questions	Using imagination	Developing assumption	underlining words	inferring general idea	Paying attention	Categorizing words	Using native languages	Making summary	Taking an overview	Using prior knowledge	Going back and forth	Reading attentively	Adjusting reading pace	Pausing and reflect	Double checking	Verifying assumption	Choosing what to read	Regaining attention	Review and analyze	Determining purpose	Progressive relaxation	Body response awareness	Self-immersion	Self-encouragement	Reducing anxiety	Taking risks	Using checklist	Discussing thoughts	
1	96	4	4	3	3	4	4	1	4	2	3	4	4	5	1	5	4	5	4	5	5	5	4	5	5	5	5	3	4	1	1	5	5	5	5	5	1	1
2	92	5	3	4	5	5	4	1	1	4	3	4	5	5	4	5	2	5	5	4	4	5	3	4	5	4	5	1	3	5	3	4	5	5	3	1	1	
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