Chapter 5: Qualitative Results in Relations to Questions 1 and 2

5.1. The Results of Think-aloud Protocols

In this research, the think–aloud protocols were used to gather data with respect to the cognitive and metacognitive strategies students employed while reading a text. The text utilized in this study consisted of 9 paragraphs and 31 lines, and was approximately 568 words in length (see Appendix A). Students were asked to verbalize whatever they were thinking and why they were thinking. This part of the research discusses the results of the investigation of reading strategies used by the Iranian high school students in this study through verbal protocols, observing their reading process while reading an English passage. The report of the results is organized based on the reading strategies used by Iranian high school students, reading strategies used by high-proficient students and low-proficient students, and reading strategies used by male and female students.

A number of reading strategies were identified while reading English texts as suggested in Table 5.1. Students' proficiency levels played a role in use of reading strategies as suggested in Table 5.2. The use of reading strategies between male and female students is investigated as suggested in Table 5.3.

Table 5.1 Iranian high school students' reading strategies based on the think-aloud protocols

Categories	Strategies	F	Sum of f	Percentages	Total
Cognitive Reading Strategies(CRS)	Resourcing	22	240	7.30	79.73
	Substitution	17		5.64	
	Use of L2 knowledge-Semantic awareness	32		10.63	
	Use of L1-L2 knowledge-mix	17		5.64	
	Guessing meaning from context	24		7.97	
	Elaboration	6		1.99	
	Prediction	5		1.66	
	Repetition	20		6.64	
	Translation	36		11.96	
	Decoding	34		11.29	
	Grouping	9		2.99	
	Summarization	18		5.98	
Metacognitive Reading Strategies (MRS)	Evaluation	9	61	2.99	20.27
	Planning	13		4.31	
	Monitoring	10		3.32	
	Selective attention	15		4.98	
	Problem identification	14		4.66	
Total		301	301	100	100

Table 5.2 Reading strategies in relation to proficiency level based on the think-
aloud protocols

Categories	Strategies	High-proficient students (N=10)				Low-proficient students (N=10)			
		F	Sum of f	Percentages	Total	f	Sum of f	Percentages %	Total
Cognitive Reading Strategies (CRS)	Resourcing	12	134	6.70	74.86	9	107	7.2	85.6
	Substitution	11		6.14		5		4.0	
	Use of L2 knowledge- Semantic awareness	12		6.70		7		5.6	
	Use of L1-L2 knowledge-mix	11		6.14		6		4.8	
	Guessing meaning from context	20		11.17		11		8.8	
	Elaboration	6		3.35		3		2.4	
	Prediction	7		3.91		4		3.2	
	Repetition	12		6.70		8		6.4	
	Translation	14		7.82		23		18.4	
	Decoding	10		5.58		21		16.8	
	Grouping	8		4.46		4		3.2	
	Summarization	11		6.14		6		4.8	
Metaognitive Reading Strategies (MRS)	Evaluation	6	45	3.35	25.14	3	18	2.4	14.4
	Planning	13		5.02		4		3.2	
	Monitoring	7		7.26		2		1.6	
	Selective attention	10		5.58		4		3.2	
	Problem identification	9		7.26		5		4.0	
Total		179	179	100	100	125	125	100	100

Table 5.3 Reading strategies in relation to males and females based on the think- aloud protocols

		Male				Female			
Categories	**Strategies**	**F**	**Sum of f**	**Percentages**	**Total**	**f**	**Sum of f**	**Percentages%**	**Total**
Cognitive Reading Strategies (CRS)	Resourcing	13	139	7.42	79.42	9	102	7.07	80.31
	Substitution	10		5.71		8		6.29	
	Use of L2 knowledge-Semantic awareness	12		6.85		10		7.87	
	Use of L1-L2 knowledge-mix	9		5.14		7		5.51	
	Guessing meaning from context	17		9.71		14		11.02	
	Elaboration	4		2.28		2		1.57	
	Prediction	3		1.71		3		2.36	
	Repetition	12		6.85		9		7.07	
	Translation	22		12.57		14		11.02	
	Decoding	21		12.0		13		10.23	
	Grouping	5		2.85		5		3.93	
	Summarization	11		6.28				6.29	
Metaognitive Reading Strategies (MRS)	Evaluation	5	36	2.85	20.58	4	24	3.15	19.69
	Planning	7		4.0		5		3.93	
	Monitoring	7		4.0		4		3.15	
	Selective attention	9		5.14		6		4.73	
	Problem identification	8		4.57		5		3.93	
Total				175	100	100		126	100	100

5.2. Synthesis of Cognitive and Metacognitive Reading Strategies and Think-aloud Protocols

There is consistency between what students claimed to do and what they actually did. For instance, students' responses to item 13, "I use reference materials (dictionary, textbook, computer programme, etc.) to help solve reading comprehension problems" were consistent with what they actually carried out in the protocols. To protect the identity of the subjects, the names used are pseudonyms. As shown in Table 5.1, students used this strategy 36 times or 11.96%. For example:

Ali: I use a bilingual dictionary to translate "volunteers" to Persian to understand the meaning of the word.

Another important characteristic shown by the analysis of the transcript was that students made use of L1 knowledge to solve their problems by paying attention to the linguistic features of the words, in this case morphology. They divided the words into their smallest meaning or morphemes so that the words made sense to them. This is also consistent with the responses given to item 20, "I try to solve vocabulary problems using morphological knowledge". As shown in Table 5.1, students used this strategy 17 times or 5.64%. For example:

Farzad: "Scholarship" has two parts "scholar" and "ship", the root of scholar is school and ship is the suffix which makes it into a noun. So it is a gift that is related to school.

Armin: "Contest" has two parts "con" mean all, "test" means exam. So it is an exam that all students take part in it.

This might be an indication of teachers' instructional goal which is based on focusing on word meanings in teaching reading, and the general education system in the country that is based on the grammar-translation method which focuses on linguistic features.

The results also indicated that students tried to guess the meaning of the words from the context. As shown in Table 5.1, students used this strategy 24 times or 7.97%. For example:

Nazila: I can understand the meaning of "partnership housing" from the sentence following it "the people who will live in the homes, like Evinor work together with volunteers on the construction and then gradually pay off the basic cost of the homes" so the meaning of this word is that people cooperate with each other to have a house.

This was consistent with item 16, "I guess at unfamiliar vocabulary items through contextual clues".

Another finding that was observed in the transcripts was that students want to make a brief summary of the text after reading it. This was consistent with item 18, "I summarize main ideas either orally or in written form". As shown in Table 5.1,students used this strategy 18 times or 5.98%. For example:

Reza: I want to summarize the text after reading it.

This is consistent with Item 6, "I try to find out the organizational aspects of text" in the questionnaire. This might be an indication of the grammar-translation method which is used in the Iranian EFL educational system and focuses on linguistic features rather than on discourse features of language.

Concerning the metacognitive strategies employed while reading a text, it was found that students employed the selective attention strategy. They showed particular selective attention to difficult words and reading questions. As shown in Table 5.1, students used this strategy 15 times or 4.98%. This can be illustrated by Mortaza's response:

Mortaza: Before reading the text, I try to find the difficult words of the text and try to answer the reading comprehension questions.

The reason why students paid selective attention to difficult words and reading comprehension questions might be because during their reading classes, they are trained to know the meaning of difficult words and answer reading comprehension questions. Therefore, they use this strategy because of teachers' instructional goal in teaching reading.

It was also observed that students' actions were consistent with item 9 in the questionnaire, "While I read, I periodically check whether the material is making sense to me", which focuses on monitoring strategies. The reason might be the fact that during reading classes they are instructed to understand every word in the text, and so they want to check whether the text is making sense to them or not. As shown in Table 5.1, students used this strategy 10 times or 3.32%. Nasrins' response shows this occurrence taking place:

Nasrin: I try to see that whether I understand the text while I am reading.

Another finding was that students did not make use of their personal judgments most of the time. As shown in Table 5.1, students used this strategy 9 times or 2.99%. For example:

Afsaneh: I don't have any idea about the text. The author is more knowledgeable than me and I want to understand the text not give an idea about it.

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This was consistent with item 19, "I make critical/personal comments on the text". The reason that students do not do so goes back to the general educational system which does not elicit their personal judgments on the texts. The reading comprehension questions which follow after the text also fail to do this. Further, the teachers do not ask students to form their own comments on the text.

It was also found that students did not use the evaluation strategy most frequently. As shown in Table 5.1, students used this strategy 9 times or 2.99%. As exemplified in the following:

Farhad: It's hard for me examine how I have accomplished the reading text. It is my teachers' responsibility to check how I have accomplished the reading text.

This was consistent with items 23 and 18, "I check whether I accomplished my goal for reading" and "I examine how well the text is understood". The reason for not using this strategy is a reflection of teachers' dominance in assessing their students' accomplishment. Further, students are not required to evaluate their own accomplishment. This shows that assessment format determines strategy use.

Another feature revealed by the analysis of the transcript was that students use different words and similar simple words instead of difficult words when making a summary of the text. As shown in Table 5.1, students used this strategy 18 times or 5.98%. For example:

Meisam: I use similar simple words instead of difficult words when I make a summary of the text. I thought the word "tackling" meant facing because the following sentence stated "the problem of inadequate

housing". Judging from this, I could understand that the meaning of tackling was a synonym to tackling.

This was consistent with item 14, "I summarize main ideas either orally or in written form". The reason for using this strategy is a reflection of assessment on its use. In the exam, students are expected to summarize the text.

It was also found in the transcripts that students employ the use of L1-L2 knowledge-mix. For example:

Anita: After I read the text in English, I speak about it in Persian.

The reason for using this strategy might be the fact that using L1 to talk about the text is easy for them to understand the L2 text. It was also observed in the transcripts that students predicted the content of the text by looking at the pictures it contained. As shown in Table 5.1, students used this strategy 5 times or 1.66%. For example:

Jaafar: I guess the picture here is going to talk about a person who got a medal and maybe he is "Adam Ezra Cohen", which is the title of the text.

This also was consistent with item 4, "I anticipate possible content of the text". The reason for using this strategy is that the pictures in the text are very clear, and students can predict the possible content of the text by looking at them.

Besides that, another feature revealed by the analysis of the transcript was that students repeated difficult words to memorize them and improve their pronunciation. As shown in Table 5.1, students used this strategy 20 times or 6.64%. For example:

Farzaneh:	After listing the difficult words of the text like "invention", "impressive" and "delight" I check their pronunciation in the dictionary and then try to repeat them to memorize them and improve my pronunciation.

This strategy was not consistent with points students claimed in the questionnaire. The reason for using this strategy is an indication of teachers' way of teaching where, before teaching the text, he repeats the difficult words for the students.

Examination of the transcripts also indicated that after reading the text, students try to group words related in meaning or to classify words that are used frequently in the text. As shown in Table 5.1 students used this strategy 9 times or 2.99%. For example:

Akbar:	After reading the text, I try to group the words like "build", "construct" and "fix" in one group such as the verbs used in the building.

Arezo:	I try to classify the words like "who decide", "who builds" and "who have" which were used frequently in the text.

This strategy was also not consistent with the points students said in the questionnaire. The reason behind this strategy might be that after classifying, it is easy for the students to remember the words and retrieve them in the exams. Additionally, students used the planning strategy before reading the text. As shown in Table 5., students used this strategy 13 times or 4.31%. For example:

Yaser:	I can see the main idea from the first sentence which is "each year, the top high-school science students in the United States enter the

Westinghouse Science Talent Search" which is about the Westinghouse contest. Or the title which is "Adam Ezra Cohen", a person who was the winner of this contest. Or the picture which shows Cohen's picture. *Planning (finding the main idea)*

Kobra: The first paragraph talks about the main idea of this text which talks about housing. And in the picture I see a picture which is about a house. So the main idea is likely to be about housing. *Planning (finding the main idea)*

Sakineh: In the second picture, the word "Guatemala" shows that it is about poor people, housing about poor people. *Planning (finding the main idea)*

Nesa: I see a kind of time sequence in the paragraph, by using "in 1976", "recently", and "since then". *Planning (organizing)*

This was also consistent with items 1 and 17, "I decide in advance what my reading purpose is, and then I read with that goal in mind" and "I look for relationships between main ideas (topic sentences) and details". The reason for using this strategy is that there are pictures in

the text that explicitly show the main idea or explicit discourse markers about time that allows students to easily see the sequence of time in the text.

Another finding that was observed in the transcripts was that students used problem identification. As shown in Table 5.1, students used this strategy 14 times or 4.66%. For example:

Amir: I clarify the problems in the text by focusing on the reading comprehension questions which are followed by the text and trying to solve these (questions) problems by using the text.

This also was consistent with item 12, "I identify what I don't understand in the reading, and I ask a precise question to solve the problem". The reason behind this strategy is a reflection of teachers' instructional goal in teaching reading which focuses on answering reading comprehension questions rather than on understanding the whole paragraph.

5.3. Frequency of Strategy use in Terms of Think-aloud Protocols

The participants reported employing cognitive reading strategy (CRS) and metacognitive reading strategy (MRS) at different frequencies. As shown in Table 5.1, CRS was used most frequently.

As presented in Table 5.2, high-proficient students reported higher use of metacognitive reading strategy than low-proficient students. Within the CRS category, translation was used most frequently.

As shown in Table 5.3, for the category of metacognitive reading strategies (MRS), both male and female students employed Selective attention most frequently. However,

Evaluation was the strategy least used by both male and female students. However, in this study students preferred using *Monitoring Metacognitive strategies (Selective Attention)* more frequently than *Evaluation Metacognitive* strategies.

As shown in Table 5.2, there were differences in the use of reading strategies between high-proficient students and low-proficient students and also in the use of metacognitive reading strategies. These results suggest a positive relationship between reading strategies and high proficiency levels.

As shown in Table 5.3, it is possible to conclude that gender had no influence on the use of cognitive and metacognitive reading strategies both categorically and individually.

5.4. The Type and Quality of Strategies between High-Proficient Students and Low-Proficient Students

Although there were differences in general strategy use between high-proficient and low-learners, the analysis of transcripts in think-aloud protocols shows that the way they use strategies is different. For example, the analysis of thin-aloud transcripts shows that high-proficient learners used more pliably and were good at adapting the, in contrast, low-proficient learners did not use strategies efficiently and were not able to use various strategies: For example,

Low-proficient student: when the word is significant, I only try to find its meaning from

dictionary.

High-proficient student: when the word is significant, I look it up in the dictionary, but when the sentence is clear enough, I avoid using the dictionary.

This student's approach focused on one strategy: looking up the word from the dictionary.

Low-proficient student: If I don't know the meaning of the word, I only try to refer to dictionary.

High-proficient student: when I can not understand the word, I try to use various ways to know it. For example, I try to guess the meaning from the context or from analyzing the word. If I cannot grasp it's the meaning by using these ways, I try to look it up in a dictionary or ask a more proficient person to tell me the meaning of the word.

Low-proficient students repeated employing ineffective strategies. In contrast, high-proficient students employed strategies with pliability.

Low-proficient student: I do not want to spend a lot of time on understanding the text. I only try to decode a word which is a very easy way.

High-proficient student: I read the first paragraph, I try to understand its main idea, while continue reading the other paragraphs to find the organization of it.

Another difference between high and low-proficient students is that low-proficient students focused on details more, whereas high-proficient students focused on the general aspects of the activity.

High-proficient student: when I encounter the word that I can not understand it, I keep on

reading to understand the overall meaning of the text.

Low-proficient student: Before reading the text, I list all of the words that I don't know to

decode their meanings.

After *Translating, Decoding* was the second strategy that used by low-proficient students most frequently (21 times or 16.8%). As shown in Table 5.2, low-proficient students often kept on employing decoding of a word more without employing the other strategies. In contrast, high-proficient students employed guessing some words from context more frequently (20 times or 11.17). Although they sometimes decoded words (10 times or 5.58%), they employed guessing individual words from context more frequently (20 times or 11.17).

Guessing meaning from context was the reading strategy that high-proficient students used most frequently (20 times or 11.17%). Low-proficient students employed translation strategies most frequently (23 times or 18.4%). For example:

Low-proficient student (Akbar): I try to memorize most of the difficult words that I can no understand them while reading the text.

High-proficient students, on the other hand, depended on the general meaning of the text. For example:

High-proficient student (Reza)   : I can not understand the meanings of the words <u>Tackles</u>

or <u>Inadequate.</u> If I read keep on reading the text, I will

understand it.

High-proficient student   : I don't understand "huts", and I can understand from the

sentence "they live in huts" that huts is a kind of place.

Low-proficient student   : It is easy for me to decode the meaning of the "huts"

from the dictionary.

Another difference is that high-proficient students utilized L1 to manage the text. The low-proficient students used L1 to translate the text directly. For example:

High-proficient student: I use and think in the Persian language to find out the text structure and text characteristics.

Low-proficient student: I use the Persian language to translate a word directly from L2 to L1.

Another difference is that high-proficient students used the *Translation* strategy 14 times or only 7.82%, while low-proficient students used *it* 23 times or 18.4%. However, high-proficient students employed this strategy efficiently. For example, they continued reading even though they did not understand some of the word; they employed organizational and contextual factors in the text to translate it. On the other hand, low-proficient students tried to translate *Word-for-Word.* Therefore, it can conclude that high-proficient learners used meaning translation, but low-proficient learners used word-based translation. In this study, low-proficient students reported 18 *Word-based Translation* items and only 5 meaningful *Translation* items. Meanwhile, high-proficient students reported 3 *Word-based Translation*

items and 11 *meaningful Translation* items. The following text shows that an example of different ways in which both of students employs the translation strategy differently. From the first text, paragraph 5, sentence 1 (By tackling the problem of inadequate housing, HFHI tackles other important social problems as well):

Participant 1(low-proficient students) a word-for-word translation:

The sentence in the paragraph: By tackling the problem of inadequate housing, HFHI tackles other important social problems as well.

English meanings of Persian words: = face,   = facing a problem,

     = inadequate,   = inadequate housing,   social.

 "   means facing" would be "tackling "in English. "By tackling the problem"

should then be "   ", " Inadequate" would be "   .

 "Inadequate housing" is "   ", "social" is "   ". So, this sentence should mean

"   HFHI,   "

Participant 1 (high-proficient students): integrative translation

           "I know that "Inadequate Housing "means "   " in English. So, if I put the meaning together the whole sentence should mean that   . "What do we do with Inadequate Housing? We face it. So by general guessing, I think that it not hard to catch the whole sentence."

From the following comments, it can be concluded that the difference between high-proficient and low-proficient students is not only related to overall strategy use, but also the wat they employ strategies. High-proficient students made predictions about the text and elaborated on the relationship between the title and the picture. In contrast, low-proficient students did not elaborate on this relationship.

High-proficient student: Before I read the text, I look at the picture and the title of 'Adam Ezra Cohen' and also look at the relationship between them. It shows that the text is about a person who won a medal.

Low-proficient student: The title and the picture show that the text is about a person that I should read the text and understand more about him.

High-proficient students employed different strategies (context of the text, word root, and decoding) to determine the meaning of new words. On the other hand, low-proficient students did not use different strategies to understand the text. For example:

High-proficient student: I try to understand the meaning of 'Volunteers' by guessing through analyzing the word into its root, prefix and suffix. If I cannot understand it, I try to guess through the words that are before and after the word. If I cannot understand, I use decoding to understand the meaning of the word.

Low-proficient student: I use decoding to understand the meaning of unknown words, like to understand the meaning of 'Volunteers'.

Thus we may conclude that high-proficient students use different strategies to understand the new words. They use them with pliability, while low-proficient students did not use different strategies. High-proficient students used meaningful translation; low-proficient learners used word-level translation. More proficient students used l1 for managing the text. The low-proficient students used L1 to translate the texts directly. Moreover, low-proficient students kept on using decoding of a word more without trying to use other strategies. In contrast, high-proficient students used guessing strategy more. High-proficient students focused on the overall aspect of the text, while low-proficient students focused on the specific aspect of the text.

5. 5. Mediation of Exam-based Reading Strategies in Strategy Choice

The Analysis of the transcripts suggests that students use exam-based reading strategies which are likely based on the Iranian-specific educational situation where examinations are considered to be the most important aspect of students' lives. Students used mostly exam-based strategies unlike others who said that they like English and want to both understand the whole meaning of the text and answer the questions. Iranian EFL students used different strategies because of their exam-oriented attitude due to the specific Iranian educational situation. Some claimed that the examinations prevented them from using other strategies. Thus, assessment and examination formats may determine how learners will deal with strategies that they use. Low-proficient students onlt focused on using exam-based reading strategies, whereas high-proficient students not only focused on exam-based reading

strategies but also tried to use them effectively to increase their English proficiency. For example:

Low-proficient student 17: First I look at the difficult words in the text and try to find out their meaning because of the importance of difficult words in the exam.

Low-proficient student 14: In reading English, it is not necessary for me to know main ideas; I want to answer the reading comprehension questions which are important for the exam.

High-proficient student 1: Not only do I try to memorize words for the exam, but also I try to memorize the words in the sentences to increase my English proficiency.

High-proficient student 19: In addition to trying to understand words in the sentences due to the exam, I try to read the text two or three times to understand the whole text.

5.6. Mediation of Teachers' Instructional Goals in Strategy Choice

The analysis of the transcripts also suggests that teachers' instructional goals determined the reading strategies that they used. This may be related to the grammar-translation method which is used in the Iranian education system. Therefore when students read, they focus on the structures of the sentences instead of the whole meanings of the sentences. Teachers expect their students to provide the exact meaning of words in the paragraphs. If they use

their own words, the teachers will decrease their marks. However, if they explain the exact meaning of words, they will be given high marks. Teachers also expect students to translate the texts word by word. If they do not know the meaning of the word, they will not be allowed to guess its meaning. Instead, they are expected to tell its exact meaning and translate the sentences word by word, not the whole meaning of the sentence. Thus, the teachers' instructional goals are an important factor in choosing strategies. Students in this study tried to answer the reading questions only because teachers' instructional goals are based on answering reading comprehension questions and not on understanding the whole meaning of the text. Thus, this goal may determine how learners use strategies.

Low-proficient and high proficient students focused on fulfilling teachers' expectations to obtain high marks. For example:

Low-proficient student 8: I try to read word by word without considering the meaning of the whole sentence to encourage my teacher to give me a high mark.

Low-proficient student 15: My teacher expects me to answer reading comprehension questions, so my main goal from reading is to just answer the reading comprehension questions. It is not important for me to understand the whole meaning of the text because teachers' goal of teaching reading is based on answering reading comprehension questions, not on understanding the whole meaning of the text.

Low-proficient student 16:   My teacher assesses our understanding of the text by focusing on reading comprehension questions. So I don't read the text. I try to answer to the reading questions of the texts by finding the words of the questions in the text, and then by matching I try to find the answers.

High-proficient student 3:   I summarize the text by using the exact words to satisfy my teacher to give me a high mark.

High-proficient student 13:   In spite of the fact that I don't like memorizing the exact sentences of the text to summarize the text, because of my teachers' expectations, I am forced to memorize them.

5.7. The Type and Quality of Strategies between Male and Female Learners

Although there was no difference between males and females in general strategy use, the way they use strategies are different from each other. Males focused on details more, whereas females focused on overall aspect of text. Males were also involved in decoding. Female students tried to decode words but counted on employing prior and contextual knowledge to guess the meanings of words. Male students used *Decoding* strategy 21 times or 12% and female students used *Decoding* strategy 13 times or 10.23%. For example:

Female student: I know the meaning of "Westinghouse Winner" from this sentence of the paragraph: "the top high-school science students in the United States enter the Westinghouse Science Talent Search". It is a kind of competition among the top high school students.

Female student: I don't understand "Habitat for Humanity" and if I read the main text I will

understand.

Male student: I try to look the unknown words up in the dictionary, and find their

meanings.

5.8. Summary of the Findings

From the analysis of the above discussions, we may conclude that assessment formats and teachers' instructional goals may determine how learners use strategies. Therefore, it is conclude that Iranian certain context of learning that is, teachers' instructional goals and assessment formats determine the learners' strategy use.