

CHAPTER 4

RESULTS, ANALYSIS AND DISCUSSION

The aims of this study were 1) to investigate the metacognitive strategies used by thirty (30) EFL learners while reading an English text and 2) to determine the frequency of the metacognitive strategies used. The research questions were: -

- a) What are the metacognitive strategies used by Thai university students while reading an English text?
- b) Which are the most frequently used metacognitive strategies while reading an English text?

The data were collected by asking 30 first-year students majoring in Elementary Education in the Faculty of Education, Prince of Songkla University, Pattani Campus, Thailand in the academic year 2007, to read an English text, i.e. Mount Fuji (see Appendix 1.4), aloud and to verbalize their thoughts while reading in order to determine their use of strategies. After each of them finished reading, he/she was interviewed so as to find out the reasons why they paused and to confirm of their understanding and difficulties. All recordings of the think- aloud sessions were transcribed in verbatim and analyzed and the data from the interview were also analyzed. Some excerpts of transcripts from the think-aloud sessions will be shown in boxes which represent what the subjects said.

This chapter presents the results derived from the analysis of the data collected from think-aloud protocols and from the interviews. Thai university students as EFL readers utilized a number of strategies while reading and had some reading difficulties which will be discussed.

4.1 Types of Metacognitive Reading Strategies used

Researchers have named and categorized the metacognitive strategies differently (see Chapter 2 table 2.6). The focus of this study was the use of metacognitive strategies termed ‘metacognitive reading strategies’ or MRS. There are four main elements of MRS: planning, monitoring, problem-solving, and evaluating – which would be termed **‘macro metacognitive reading strategies’** or **Macro MRS**. In addition, the term **‘micro metacognitive reading strategies’** or **Micro MRS** is used for the sub-strategies of each macro MRS.

The data were analyzed to answer the research questions and findings showed that the subjects actively used a number of metacognitive reading strategies in order to understand the text (see Appendix 4.1 for the use of MRS by each subject). The strategies are listed in Table 4.1.

Table 4.1: Types of Metacognitive Reading Strategies used

No	Macro MRS	Micro MRS	Verbal Protocol
1	Planning	Predicting	Predicting what the text was about when reading the title or the first opening sentence
2	Monitoring	1. Self-questioning	Asking whether what one thought/ understood was making sense/ correct
		2. Translating from English into Thai	Translating the English sentences into Thai in order to check their understanding of such sentences
		3. Informing	Informing the researcher that one cannot pronounce or understand some words
		4. Self-encouraging	Attempting to carry on reading even when one did not understand/pronounce some lexical items
		5. Pausing	Pausing and laughing when encountering numbers and some unknown lexical items probably because one did not know how to pronounce or did not know what they meant
3	Problem-Solving	1. Guessing	Activating linguistic schema in guessing the meaning of some vocabularies
		2. Substituting	Speaking in Thai when reading numbers
		3. Reading digit by digit in English	Breaking the number up digit by digit when reading aloud
		4. Avoidance	Avoiding pronouncing numbers and some lexical items which one did not know
4	Evaluating	Summarizing	Evaluating one's comprehension of the reading text by summarizing it into one's own words

As shown in Table 4.1, the analysis of the think-aloud sessions revealed that the subjects used all of the 4 macro metacognitive reading strategies and 11 micro metacognitive reading strategies. These will be discussed next.

4.1.1 Planning Metacognitive Reading Strategies

Planning Metacognitive Reading Strategies refer to the process by which the subjects try to predict what the reading text is about. The subjects in this study used only the predicting strategy in reading.

4.1.1.1 Predicting

Only 10% (3) of the subjects used the predicting strategy to guess what the story was about when reading the title or the first opening sentence. Subjects 1, 8 and 10 attempted to predict the story they were going to read. They said:-

Example 1: Subject 8- Planning – ‘predicting’

<p>There is very famous mountain is Japan <i>man khong ja kiaokub prathed yi-pun a-rai sakyang</i> (It is probably about country Japan, something like that.) [= This story is probably about Japan, something like that.]</p>
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As can be seen from her comment after reading aloud the first sentence in the text, Subject 8 predicted that the story would be about Japan. In contrast, Subjects 1 and 10 were more specific in their prediction and said that the story they were going to read would be about Mount Fuji (see Examples 2 & 3).

Example 2: Subject 1- Planning – ‘predicting’

Mount Fuji

kor na ja pen phu khao fuji ka

(would be mountain Fuji particle used by women)

[= it would be Mount Fuji.]

Example 3: Subject 10- Planning – ‘predicting’

Mount Fuji *song sai kiao kub phukhao Fuji mang*

(wonder about mountain Fuji ?)

[= I wonder whether this story is about Mount Fuji.]

Subjects 1 and 10 predicted that the story would be about Mount Fuji after reading the title. They were the only ones who knew about Mount Fuji and so were able to predict that the text was about this mountain.

Although none of the subjects used other micro strategies of Planning, these three subjects predicted the storyline. The three subjects used words like ‘*khong ja*’ (probably), ‘*kor na ja*’ (would) and ‘*song sai*’ (wonder) suggesting the use of predictive strategies.

However, none of the other 27 subjects showed any sign of using planning strategies during the think-aloud sessions.

4.1.2 Monitoring Metacognitive Reading Strategies

These refer to the processes that the subjects undertake so as to check their understanding of the difficult words. If the subjects encountered some problem in their reading, they would talk themselves through it. They also paused and informed the researcher that they could not understand some terms in the text. The subjects in this study used 5 monitoring reading strategies in their reading.

4.1.2.1 Self-questioning

Self-questioning is a micro strategy of Monitoring. The subjects occasionally used this strategy in order to check their understanding when they were confused by some parts of the text they read. 33.33% (10) of the subjects (Subjects 1, 2, 6, 10, 11, 15, 18, 20, 27, 30 - see Appendix 5) monitored their comprehension by asking whether what they thought/ understood was making sense/ correct. For instance, Subject 1 asked the following question whilst reading (Example 4).

Example 4: Subject 1- Monitoring – ‘self- questioning’

It is symmetrical *symmetrical kor pen sam-liam rue pao*
(which is triangle, isn't it?)
[= It is triangle, isn't it?]

Subject 1 said “*rue pao*” (isn't it?) to check her comprehension of a lexical item after she translated the word ‘symmetrical’ as ‘*sam-liam*’ (triangle). She was using the monitoring strategy to check her understanding of the word. Another subject used a similar strategy as shown in Example 5.

Example 5: Subject 2- Monitoring- ‘self- questioning’

There is very famous montain in Japan. It called Mount Fuji or Fuji-san
emm wa nai pratet yi-pun nai pratet yi-pun ja mii chue siang kwio kub nai
(*emm that in country country in country Japan will have reputation about in*)

kwio kub phu-khao mak phu-khao rue pao (laughs)
(*about mountain much, mountain, isn't it?*) (laughs)

laew kor ja riak ‘Mont Fuji’ rue Fuji-san
(*then will call “Mont Fuji” or Fuji-san.*)

[*= emm it says that in Japan there is a well known mountain. This means mountain, doesn't it? (laughs) It is called ‘Mont Fuji’ or Fuji-san.*]

After reading the first and second sentence, Subject 2 translated the text and wondered if the word “mountain” meant “*phu-khao*” (mountain).

Subjects 1 and 2 both used the same expression in Thai ‘*rue pao*’ (isn’t it? / doesn’t it?) indicating they were guessing at its meaning. Both subjects were using the monitoring strategy as they wanted to verify if their understanding was correct. This expression ‘*rue pao*’ (isn’t it?/ doesn’t it?) is a suffix used at the end of a Thai utterance to indicate a question with a low tone. Tuwayanonde and Wallis (1999: 7) explain that “there are five separate tones in the Thai language, and one particular tone is specific to each word.” Allison (1973: iv) supports that “Thai is a tonal language, with the tone frequently varying from syllable to syllable.” These tones are: high, rising, mid, falling, and low tones (ibid.). Thus, the word ‘*pao*’ or ‘*plaaw*’ (Kesornsukorn, 1967: 186) or ‘*bplow*’ (Allison, 1973: 35) is a low tone which is normally used after the word ‘*rue*’ at the end of a question (see Kesornsukorn, 1967: 186; Allison, 1973: 35). Such a question tag is used to check whether one’s understanding is correct. 16.66 % (5) of the

thirty subjects used the question tag as a monitoring strategy (Subjects 10, 11 & 18- see Appendix 5).

Another example follows:-

Example 6: Subject 6- Monitoring - ‘self- questioning’

then they can watch the sun come up <i>korn duang-a-thid khuen rue wa tok</i> (laugh) (before sun rise or set?) (laugh) [= before the sun rises or the sun set?] (laugh)
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Subject 6 varied the lexical items used when monitoring although the semantic significance was the same as the other subjects who used the question tag ‘*rue pao*’ (isn’t it?/ doesn’t it?). She used the word ‘*rue wa*’ (or) between the word ‘*khuen*’ (rise) and the word ‘*tok*’ (fall/set), thus indicating a question. Subject 6 appeared to be asking herself whether the sun was rising or falling so as to check her comprehension.

There is another word which indicates the same meaning as ‘*rue pao*’ (isn’t it/ doesn’t it). It is ‘*mai*’ (isn’t it / doesn’t it?), which was used by four subjects (Subjects 2, 15, 27 & 30-see Appendix 5) when they were monitoring their comprehension. Subject 30 said: -

Example 7: Subject 30- Monitoring- ‘self- questioning’

dangerous <i>ni mai-thueng an-ta-rai mai a</i> (this “dangerous” means dangerous, doesn’t it?)

Subject 30 used the question tag ‘*mai*’ (isn’t it? /doesn’t it?) after the word ‘dangerous’ because she was wondering what the word meant and was guessing.

The problems the subjects faced were not only lexical. Sometimes pronunciation was a problem they faced. One subject used the same term ‘*mai*’ to check on the pronunciation of a word. Subject 20 used the word ‘*mai*’ (correct?) to check on her pronunciation as shown in Example 8.

Example 8: Subject 20- Monitoring - ‘self- questioning’

a large number-about thirteen percent of them come from f fore-ing *took mai ni*
(correct?)
fore-ing countries

Subject 20 was not sure if the word ‘foreign’ could be pronounced as ‘*fore-ing*’/fɔ:ɪŋ/, so she questioned herself by using the term ‘*mai*’ to monitor her pronunciation.

Self-questioning was mostly used by Subject 2 who used it 9 times (see Appendix 5).

4.1.2.2 Translating from English into Thai

Translating was another strategy used by the subjects to review their understanding of the text. It is part of the monitoring MRS because it functions to check comprehension.

26.66 % (8) of the subjects read and translated the English text to Thai so as to review their comprehension of the text (Subjects 1, 2, 3, 10, 12, 15, 23 & 29 –see Appendix 5). Only half of them (Subjects 1, 2, 3 & 12 – see Appendix 5) translated from English (FL/L2) to Thai (national language) almost every sentence of the text as seen in Examples 9, 10, 11, & 12. The other half translated the text only part of it (see Examples 13 & 14).

Example 9: Subject 1-Monitoring - ‘translating from English into Thai’

People can see it from many part of the country

or

[I see!]

khao bok wa rao samart mong man chak bang phuen ti ti yu nai mueang,

(they say that we can look it from some area which is in town,)

kor kue rao samart mong hen phu-khao Fuji trong nan nha

(which is we can look see mountain Fuji there)

[= they say that we can see the mountain from somewhere in the town. This means we can see Mount Fuji there.]

Example 10: Subject 2 - Monitoring - ‘translating from English into Thai’

It is wonderful to look at. Many people took photo of it. Artists often draw or paint picture of it

man pen singmahassachan mak tha khon ahh jak ti prashakorn doo laew kor err

(it is wonderful much if people ahh from people saw then err)

thaiphab // kor wadphab lao-nan

(take picture // draw those)

[= It is very wonderful. If people ahh... When people saw err, take photos of it and draw pictures.]

Example 11: Subject 3 – Monitoring – ‘translating from English into Thai’

Many people take pho-tos for it

phu-khon suan yai kor ja thairoob err phukhao nia

(people most will take photos err mountain.)

[= Most people will take photos err, of this mountain!]

Example 12: Subject 12 – Monitoring – ‘translating from English into Thai’

There’s too much snow and bad weather
Ja mi hi-ma lae arkad laewrai
(*There will be snow and weather bad*)
[= *There will be snow and bad weather.*]

After reading one sentence or part of the story in English, Subjects 1, 2, 3 and 12 then translated the English sentence into their national language (Thai) in order to check on their comprehension. The use of the national language (Thai) to understand the FL (English) text was used by these subjects for the entire story.

While half of the 8 subjects translated almost every sentence, the other half only translated one or two sentences of the English text to aid comprehension (Subjects 10, 15, 23 & 29 - see Appendix 5). For example, Subjects 10 and 15 used the translating strategy as follows:-

Example 13: Subject 10 -Monitoring – ‘translating from English into Thai’

It’s wonderful to look at. Many people take photos of it. *or thairoob*
(*I see!, take photos.*)
[= *I see! they take photos of Mount Fuji.*]

Example 14: Subject 15 - Monitoring – ‘translating from English into Thai’

It’s cal-led Mount Fuji or Fuji-san
khao riak wa phookhao Fuji rue
(*they call mountain Fuji or*)
[= *They call it Mount Fuji or...*]

Both Subjects 10 and 15 understood the story quite well as they reviewed their comprehension in Thai and both were correct in their understanding of the text (See more in Appendix 5 for Subject 23- line 11a & Subject 29 – line 1 &2).

Subjects 1, 2, 3 and 12 attempted to translate almost every sentence.

4.1.2.3 Informing

Informing was another micro strategy of monitoring used by the subjects. When the subjects realized that they could not pronounce or understand some words, they used the informing strategy to inform the researcher of their problems (see Chapter 3 section 3.3.2- the reading task). In the think-aloud sessions, 73.33 % (22) of the subjects (Subjects 1,2, 3, 5, 6, 7, 8, 9, 10,12, 15, 16, 18, 19, 20, 21, 23, 24, 26, 27, 29 & 30 - see Appendix 5) used the ‘informing strategy’ to check their understanding and production - when they could not read or understand some words i.e. ‘unusual’, ‘foreign country’ and numbers such as ‘12,000’ and ‘200,000’. For example, Subject 26 informed that she could not read or understand a particular lexical item (see Example 15). She said:-

Example 15: Subject 26 -Monitoring – ‘informing’

They love the mount they love the mountain beautiful and
and un- u-sua usua a-rai mai roo shap. It is symmetrical.

(what? not know)

[= what is it? (unusual)]

Subject 26 faced the problem in pronouncing the word ‘unusual’. She read and said softly that she did not know what it meant.

Another example follows:-

Example 16: Subject 9 – Monitoring – ‘informing’

They love the mon-tian beautiful and err *arn an nii mai khoi dai* sharp shape.
(read this cannot)
[= I cannot pronounce “unusual”.]

Subject 9 also informed that she could not pronounce the word ‘unusual’ before carrying on reading.

Subject 5 could not read the number ‘12,000’. She said:-

Example 17: Subject 5 – Monitoring – ‘informing’

It’s more than// *ah arn mai pen*
(read not)
[= I don’t know how to read “12,000”//]

When faced with the number ‘12,000’, Subject 5 paused for two seconds and said aloud that she could not pronounce the number. Another subject used a similar strategy (see Example 18).

Example 18: Subject 19 – Monitoring – ‘informing’

More than// *arn mai pen a kham ni* (laugh)
(read not can word this) (laugh)
[= I can not pronounce “200,000”.] (laugh)

Subject 19 did not know how to read ‘200,000’. She paused for two seconds and said that she could not pronounce the number and then nervously laughed to conceal her embarrassment.

The informing strategy was mostly used by Subject 2 who used it 10 times (see Appendix 5).

4.1.2.4 Self-encouraging

Another form of monitoring is self-encouraging. This is the strategy that the subjects used when attempting to carry on reading even though they did not understand or could not pronounce some lexical items.

Only 10% (3) of the subjects attempted to use this strategy to encourage themselves to continue reading. For example, Subject 1 in the final sentence of this extract said that she did not understand a particular sentence and so would continue reading (see Example 19).

Example 19: Subject 1- Monitoring- 'self-encouraging'

Dere is a very f fa-mous mountain in Japan *Kor kue pen khao bok wa*
(which is be they say that)
[= they say that]

a ve-ry famous *Kor kue praman wa chao-na yer yer*
(which is about that farmer many)
[= It is about many farmers.]

bok wa ti ti phukhao nai yi-pun na ja me chao-na yer loey a-rai baeb ni
(say that at mountain in Japan would have farmer many what like that)
[= It says that there are many farmers at the mountain in Japan.]

It is call Mount Fuji
or *khao ja riak wa riak wa phu-khao Fuji*
(I see! they will call that, call that mountain Fuji)
[= They call it Mount Fuji.]

kor mai khao-jai wa man ja sumpun gun yang-ngai kor long doo tor pai na ka
(not understand that it will refer how try continue)
[= I don't understand how it will refer to each other. So, I will try to read more.]

Subject 1 read and translated from English to Thai, sentence by sentence to ensure she understood. However, she translated 'famous' as 'chao-na' (farmer) so she did not know how 'chao-na' (farmer) and 'Mount Fuji' were connected. Therefore, she

encouraged herself to continue reading in order to gain more information by telling herself to continue ‘*kor long doo tor pai na ka*’ (try to read more).

Subject 20 encouraged herself to persist and continue reading when she was not able to pronounce a word (see Example 20).

Example 20: Subject 20-Monitoring- ‘self- encouraging’

De air is thin on the mountain, so it is hard to breath

ik laew arn mai ork ik-laew tam ngai a arn pai korn ///

(Again read not can again What to do? Continue reading)

[= Again, I can not read. How can I do? Well, Continue reading anyway!]

Subject 20 did not know how to pronounce the word ‘breathe’ but she still carried on reading as she tells herself ‘*a arn pai korn*’ (continue reading).

Another example follows:-

Example 21: Subject 18– Monitoring – ‘self- encouraging’

It is more than (laugh)

arn mai dai tong pai khon/// pai rerm mai khon nai a rai kor dai ti pen
(read not can have to search ///go start again in whatever sources whis is)

jam nuan/////kid kid kid/////kor pan na ka mai kaojai jing jing tong pai
(number///// think think think ///let skip not understand really have to)

ha mai
(search again)

[= I can not read “12,000”. I have to search again/// from any sources available which is about number/////think think think (talking to herself)///// Let me skip this part, I really do not understand.]

Encountering the number '12000', Subject 18 suddenly laughed as she realized that she could not read such a word and talked to herself aloud. She encouraged herself as she said '*pai rerm mai khon nai a rai kor dai ti pen jam nuan*' (I have to search again/// from any sources available which is about number) because she wanted to find the suitable term to call it and asked herself if she should use available sources to help read such a number. After a moment, the subject gave up trying to read and told herself that she really did not know how to read the number.

Although the three subjects used different statements to self-encourage: '*kor long doo tor pai na ka*' (try to read more), '*a arn pai korn*' (continue reading) and '*pai rerm mai khon nai a rai kor dai ti pen jam nuan*' (I have to search again/// from any sources available which is about number), these statements have the same function – to encourage oneself carry on reading. Self-encouragement was mostly used by Subject 20 who used it 3 times (see Appendix 5).

4.1.2.5 Pausing

Pausing is part of the monitoring strategies. This is because the subjects, when faced with some unknown lexical items (in terms of meaning and pronunciation), wanted nevertheless to complete the reading text. Their pauses revealed that they were thinking and attempting to retrieve the meaning of such unknown words or to decide on how to pronounce such lexical items. Such pauses or silences showed the working of cognitive processes. Thus, they were activating their own metacognitive processes. When asked in the unstructured interview sessions for the reasons why they paused during reading, the subjects said that they did not know the meaning of the words or how to pronounce the numbers and some lexical items. They tried to obtain the meaning

of difficult words and pronounce some lexical items. When they could not succeed they laughed to conceal their embarrassment and carried on reading. Therefore pausing was part of the metacognitive reading strategies. In short, pausing refers to the strategy that the subjects used when encountering numbers and some unknown lexical items because they did not know how to pronounce and did not know the meaning of these words.

All of the subjects or 100% paused when they faced words they did not know or numbers they could not pronounce (see Appendix 5). For example, Subject 7 paused and laughed when she did not know the meaning of a word as shown in Example 22.

Example 22: Subject 7 – Monitoring – ‘pausing’

It's///(laugh) <i>man mai kwam wa ngai a?</i> sym sym-me-tri symmetrical. (<i>it mean what?</i>) [= <i>what does “symmetrical” mean?</i>]

When facing the word ‘symmetrical’, Subject 7 first paused for three seconds and then laughed because she did not know how to pronounce it and did not know what it meant. Then she tried to pronounce it as she said “sym sym-me-tri symmetrical”. Subject 8 also faced difficulty in pronouncing a word as seen in Example 23.

Example 23: Subject 8 – Monitoring – ‘pausing’

Many people take photos of it// <i>emm arn mai ork</i> often draw or paint picture of it. (<i>read cannot</i>) [= <i>I cannot pronounce “Artists”</i>]

After finishing reading the preceding sentence, Subject 8 paused to think about how to pronounce the word ‘Artists’. The pause (//) indicates the attempt and thought processes of the subject. Finally, she could not obtain the correct term to call it, thus informing the researcher that she could not pronounce the word.

Another example shows the subject’s use of pausing strategy when encountering difficulties in pronouncing is seen in the extract below:-

Example 24: Subject 24– Monitoring – ‘pausing’

<p>in seventeen(laugh)//// <i>tualek arn maiork luem</i> <i>(number read can’t, forget)</i> <i>[= I cannot pronounce the number “1708”, I forget.]</i></p>
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Encountering the number ‘1708’, Subject 24 attempted to pronounce the word as she read ‘seventeen’ and suddenly laughed. She paused for a while as she tried to think of the right term to call it. Then the subject informed the researcher that she could not pronounce the number because she forgot.

Pausing was mostly used by Subject 2 who used it 19 times (see Appendix 5).

It is clear that more subjects (100%) used the monitoring strategy as compared to those who used the planning strategy.

4.1.3 Problem-Solving Metacognitive Reading Strategies

These refer to the strategies that the subjects used to help them complete/comprehend the reading text. These were used when the subjects realized that they did not understand some words so they tried to guess the meaning of the words, used the Thai language, split the word up to help them read, and avoided words they could not read or did not know the meaning of. In this study, 4 micro problem solving strategies were found to be utilized by the subjects.

4.1.3.1 Guessing

Guessing was a strategy used by the subjects when they wanted to construct the meaning of unknown lexical items. They activated linguistic schema as well as content schema to guess the meaning of some words.

Only 10 % (3) of the subjects attempted to activate their background knowledge in order to decode unfamiliar words. For example, Subject 1 made a guess based on her linguistic schema whilst reading aloud as shown in Example 25.

Example 25: Subject 1-Problem solving- ‘guessing’

Mount Fuji is aek actual-a volcano *act act kor na ja* *maa jak action*
(*act would probably be from action*)
[= The word “Act” would probably derive from “action”.]

Subject 1 tried to guess the meaning of ‘actually’, so she looked at the word ‘act’ which she thought derived from ‘action’. Therefore, the meaning she arrived at was ‘situated’. Another subject used a similar strategy (see Example 26).

Example 26: Subject 12- Problem solving- ‘guessing’

It’s symmetrical

Man pen sanyalak kid wa na ja pen sanyalak pror wa
(it is symbol probably be symbol because)

mi kham wa ‘sym’ pramannan
(there is word ‘sym’ something like that)

[= It is a symbol, probably be a symbol because there is a word ‘sym’, something like that.]

The prefix- ‘sym’ triggered Subject 12 to think about ‘symbol’ and he guessed that ‘symmetrical’ suggested a symbol. The decoding is off tangent as ‘symmetrical’ is not what was meant.

Guessing by activating the linguistic schema was not the only strategy used by the subjects. Sometimes content schema played a role in retrieving the meaning of lexical items. Subjects 10 and 12 activated their world knowledge to help them guess the meaning of words. Subject 10 said:-

Example 27: Subject 10- Problem solving- ‘guessing’

There’s too much snow and bad weather *song sai kiaokub un-ha-phoom*
(wonder about temperature.)

[= I wonder whether this is about temperature.]

After reading “There’s too much snow and bad weather”, Subject 10 guessed that it would be about the temperature. This indicated that the subject understood the term ‘weather’. The statement ‘*song sai kiao kub un-ha-phoom*’(I wonder whether this is about temperature) already implied the subject’s comprehension of the sentence. The subject understood the term ‘weather’ and this might have come from her prior

knowledge of other lexical items like *'temperature'*. Subject 12 also used content schema to guess the meaning of a word as seen in Example 28.

Example 28: Subject 12: Problem solving- 'guessing'

Mount Fuji <i>Phoo khao fai Fuji</i> (<i>Mountain fire Fuji</i>) [= <i>Volcano Fuji</i>]
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After reading the title, Subject 12 said quickly that Mount Fuji was a volcano. This indicated that the subject was familiar with the term; thus, he could instantaneously translate the term 'Mount Fuji' as "*Phoo khao fai Fuji*" (Volcano Fuji). Guessing was mostly used by Subject 12 who used it 2 times (see Appendix 5).

Although the three subjects used 'guessing' as a problem-solving strategy, they did not arrive at the correct meaning. These findings were opposed to Goodman (1967) who claims that cues help construct the meaning from the printed text. The findings also revealed that incorrect 'guessing' did not impact on the subjects' understanding of the text. It was clear that the three subjects could understand the gist of the text and the basic story line as they used the 'translating from English into Thai' strategy to review their comprehension of the text (see section 4.1.2.2). The subjects' understanding of the text is in line with Weaver (1980) who claims that meaning results not necessarily from the precise identification of every word in a sentence, but from the interaction between the mind of the reader and the language of the text.

4.1.3.2 Substituting

When encountering a problem in reading numbers, the subjects spoke in Thai to overcome the problem (see Chapter 3, section 3.3.1). This strategy differed from the translating from English into Thai strategy in monitoring because it functions to get around the problems by substituting Thai words for English numbers (see Chapter 2, Table 2.4). This strategy is a micro strategy of the macro strategy- problem solving. Here, 16.66 % (5) of the subjects (see Appendix 4.1) realized that they could not read numbers, i.e. 12000, 200000, and 30% in English; thus, they used the Thai language to read these numbers. For example, Subject 2 used the Thai word for 12000 as seen in the extract below.

Example 29: Subject 2 - Problem Solving – ‘substituting’

People can see it from many part in the contry country It more than twen twelve
nueng muen song phan (soft voice) feet arn yang ngai a feet high
(twelve thousand) (read how?)
[= how to read “12,000”?]

Subject 2 was attempting to read ‘12,000’ in English and finally replaced it with the Thai word i.e. ‘*nueng muen song phan*’ (*twelve thousand*) softly. Subject 30 also used a similar strategy to overcome a pronunciation problem as seen in Example 30.

Example 30: Subject 30 - Problem Solving – ‘substituting’

It’s more than//
emm *nueng muen s nueng muen song phan rer cham mai dai (laugh)*
(ten thousand, twelve thousand, remember not can)
[= ten thousand..twelve thousand, I can’t remember how to pronounce it.]

Subject 30 also used the Thai language as a strategy to help solve the pronunciation problem. When encountering the year ‘12,000’, Subject 30 paused for a while before she said in Thai ‘*nueng muen song phan*’ which represented ‘12,000’. Then the subject informed the researcher that she could not remember how to pronounce the number.

Another example follows:-

Example 31: Subject 3- Problem Solving – ‘substituting’

More than twohundred/////two/////////	<i>song saen</i>	<i>phukhon</i>
	<i>(two hundred thousand</i>	<i>people)</i>

Subject 3 substituted ‘200,000’ as ‘*song saen*’ (two hundred thousand) because she could not pronounce this number in English. The pause (represented by /) also indicated that the subject was attempting to overcome the problem. Substituting Thai words for English words when pronouncing numbers was a strategy used by Subjects 1, 2, 3, 23, and 30 (see Appendix 5).

Substituting was mostly used by Subject 1 who used it 3 times (see Appendix 5).

4.1.3.3 Reading digit by digit in English

This was a micro metacognitive reading strategy of the macro problem-solving. When the subject encountered a problem in pronouncing numbers, the subject read it digit by digit in English in order to complete the reading text. This strategy was only used for reading the number ‘1708’ by only one subject as shown in Example 32.

Example 32: Subject 21- Problem Solving – ‘reading digit by digit in English’

one seven *arn yang ngai* **one seven zero eight.**
(*read how?*)
[= *how to pronounce this ‘1708’?*]

Subject 21 could not pronounce the number for the year (1708) in English, and broke it up digit by digit and read “one seven zero eight” for 1708.

4.1.3.4 Avoidance

Another form of problem-solving metacognitive reading strategies used was avoidance. The subjects chose to avoid pronouncing numbers, i.e. ‘12000’, ‘1708’, and ‘200000’, and some unknown lexical items i.e. ‘eruption’, ‘foreign country’, ‘once’ and so on. 66.66 % (20) of the subjects (see Appendix 4.1) used this strategy to avoid such difficulties and then continued reading the following sentences. For example, Subject 13 did not read the number “12,000” and the year “1708” as seen in Example 33.

Example 33: Subject 13- Problem Solving – ‘avoidance’

It’s more than//(laugh) feet high, higher than any other mountain in Japan.
.
.
The lat eruption was a long time ago (-)

Subject 13 did not think aloud or show any attempt in pronouncing the numbers he did not know how to read. He just avoided them and carried on reading until the end of the story.

Another example follows:-

Example 34: Subject 28- Problem Solving – ‘avoidance’

Mount Fuji is actually a volcano. People often forget that fact. The last eruption was a long time ago in (-). Now it is dormant sleeping. People can safely climb to the top of it. More than (-) people climb Fuji each year. Most of them are Japanese. However a large number about (-) of them come from the United States.

Subject 28 used the avoidance strategy to ignore numbers; ‘1708’ after the word ‘in’, ‘200000’ after the words ‘More than’, and ‘30%’ after the word ‘about’ ;then carried on reading. Subject 27 also used a similar strategy but for unknown lexical items as seen in Example 35.

Example 35: Subject 27- Problem Solving – ‘avoidance’

People often forget d often forget d////
emm (laugh)//// (-) the last e The last eruption was a long time ago
. .
Most of them want to climb it only only only only (-)

Subject 27 could not read ‘that fact’ after the word ‘forget’. She paused for 5 seconds and laughed to conceal her embarrassment; finally she omitted the word and carried on reading. Again in the final sentence of this extract, the subject repeated the word ‘only’ four times while attempting to read the following word ‘once’. However, she did not succeed and thus avoided reading the word.

One more example follows:-

Example 36: Subject 8 - Problem Solving – ‘avoidance’

The last (-) was a long time ago, in *mai thanad*
(*not fluent*)
[= *I can not pronounce “1708” .*]

Subject 8 did not know how to read the word ‘eruption’, thus she omitted it and carried on reading. But at the end of this sentence, the subject encountered a pronunciation problem again. She could not read the number ‘1708’ and informed the researcher ‘*mai thanad*’ (not fluent) and thus she avoided it.

Avoidance strategy was mostly used by Subject 9. The frequency of use was 6 times (see Appendix 5).

4.1.4 Evaluating Metacognitive Reading Strategies

This refers to the process where the subjects summarized their comprehension of the story after reading. In this study, only one strategy was found to be used by the subjects – ‘summarizing’.

4.1.4.1 Summarizing

Summarizing is a micro metacognitive reading strategy. The subjects used this strategy to review their understanding after reading part of the story or completing the entire story. 13.33% (4) of the subjects showed the use of the summarizing strategy. Subjects 6 and 11 summarized their understanding after reading the entire story as shown in Examples 37 and 38.

Example 37: Subject 6-Evaluating- ‘summarizing’

nai ruang nii khao ard ja bok bok kiaokub phukhao Fuji sueng phukhao Fuji ja pen
(in story this he probably tell about mountain Fuji which mountain Fuji is)

phukhao ti mii chuesiang yu ti yi-pun khao riak wa phukhao Fuji rue wa Fuji-saen
(mountain has reputation at Japan. They call that mountain Fuji or Fuji-saen.)

[= In this story, it is about Mount Fuji which is famous in Japan. They call ‘Mount Fuji’ or Fuji-saen.]

Example 38: Subject 11-Evaluating- ‘summarizing’

kor khue khuam-khao-jai nai rueang ni na ka
(Which is understanding in story this)
[= My understanding in this story]

kor ja bork wa pood tueng phookhao Fuji a
(will tell that talk about mountain Fuji)
[= it is about Mount Fuji.]

Phookhao Fuji kor khue
(Mountain Fuji is)
[= Mount Fuji is]

Roo juk kun tua pai, mi chuesiang mak mai nai rueang khong phookhao ni
(Known widely, have famous very in about mountain this)
[= it is widely known as a very famous mountain.]

Laew kor phookhao ni yu nai Ja pan rue wa yi poon
(And mountain this is in Japan or Japan)
[= This mountain is in Japan.]

phoo khao Fuji krai krai roo wa Fuji saen
(Mountain Fuji everyone knows that Fuji saen)
[=everyone knows that Mount Fuji is Fuji san.]

After reading the entire story once, both Subjects 6 and 11 reviewed their understanding and comprehension by summarizing it in Thai. Both subjects understood that the text was about Mount Fuji.

Subject 29 also reviewed her understanding of the text after reading the entire story but she did not provide the specific details like Subjects 6 and 11. She said:-

Example 39: Subject 29-Evaluating- ‘summarizing’

bang wak kor phor khao jai bang mii phukhon suan mak tongkan ja pai
(some sentence can understand some. There is people most want to go)

ti sathanti thongtiao ti nan khao bok wera ti ja pai tiao ti nan
(place tourism there. They said when will go visit there.)

kor phor dai khae ni a ka
(That’s it. can understand only this.)

[= I can understand some sentences. Most people want to go to tourist attractions there.
They say what the time to travel. That’s it. I can understand only this.]

Subject 29 provided a short summary of her understanding of the story. She knew that this story was about the tourist attractions of Japan and that many people liked to visit there. She also knew the best time to visit the country i.e – July and August.

Subject 25 however chose to evaluate her understanding after each paragraph (see Example 40).

Example 40: Subject 25-Evaluating- 'summarizing'

M Mount Fuji is actually a volcano. People often forget that fact. The last eruption was a long time ago (-). Now it's dormant sleeping. People can safely climb to the top of it. More than (-)people climb Fuji each year. Most of them are Japanese. However, a large number about thirty percent of them-come from foreign countries

or khao bork wa suan mak khon ja chorb pai pai pin khao
(I see. They say that mostly people like go go climb mountain.)

a rai baeb ni
(Something like this)

laew kor mi duai khon nai prated jei paen eing kor bork wa tae
(And also people in country Japan itself. Said that but)

samsib percen
(30 percents)

nan ja ma jark pra man tang pra ted a rai baeb ni
(come from somewhere foreign country. Something like this)

[=I see! They say that most people like to go climbing the mountain.
Japanese people also go climbing. 30 % of climbers come from foreign country.]

Subject 25 read each paragraph and then in Thai made some comments; for instance in the extract above she says many people like to climb Mount Fuji.

In the think aloud sessions, only 9 subjects showed their understanding of the story. That was four of them used the summarizing strategy as seen in Examples 37, 38, 39 and 40 above. The other five used the translating from English into Thai strategy to review their understanding as shown in Examples 9, 10, 11, 12, and 13 above –i.e. the subjects translated to Thai almost every sentence which could best illustrate their comprehension of the story.

The other subjects (Subjects 4, 5, 7, 8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, and 30) were interviewed by the researcher because they did not say much during the think-aloud protocol and they did not directly show their understanding or lack of understanding of the text. For the overall comprehension, the subjects knew the gist of the text and understood the basic story line. For instance, the subjects were aware of the general facts regarding Mount Fuji that were presented in numerical figures; and no high linguistic competence was needed. However, they did not understand the meanings of certain lexical items (such as “symmetrical”, “eruption” and “dormant”). They informed the researcher that the reason they paused in the think-aloud sessions was because they were thinking about the meaning of some of the words or that they did not know how to read some words.

4.2 Discussion

From the analysis of the data, the answers were found to the research questions of this study:-

- a) What are the metacognitive strategies used by Thai university students while reading an English Text?
- b) Which are the most frequently used metacognitive strategies while reading an English text?

From the findings, 30 subjects used all of the four Macro MRS: planning, monitoring, problem-solving and evaluating, and used 11 Micro MRS. 9 strategies used by the subjects are congruent with Chamot et al.'s (1999) metacognitive strategies and Schunk's (2000) macro and micro metacognitive strategies which formed the framework for this study (see Chapter 2, Table 2.6). These 9 strategies were 'predicting', 'self-questioning', 'translating from English into Thai', 'informing', 'self-encouraging', 'guessing', 'substituting', 'reading digit by digit', and 'summarizing'. The other two, i.e. 'pausing' and 'avoidance', were congruent with Cromley's (n.d.) monitoring and fix-up strategies (see Chapter 2, section 2.1.4) which will be discussed next. The findings of this study are also consistent with the findings of Aegpongpaow (2008) who found that Thai EFL learners used a wide range of metacognitive strategies to enhance their understanding when reading English passages. However, few of them used planning (3 subjects), i.e. 'predicting', and evaluating (4 subjects), i.e. 'summarizing', metacognitive reading strategies.

Flavell (1979) points out that students who do not perform as well as they should lack metacognitive awareness about their capabilities and the demands of the situation. Perfetti (1985) points out that metacognitive awareness is useful when reading. Lacking such metacognitive awareness might explain why most of the subjects in this study did not use planning and evaluating metacognitive reading strategies. In other words, the three subjects who used planning and the four subjects who used evaluating metacognitive reading strategies were aware of the strategies and were able to apply them to comprehend the text.

In the monitoring stage, 5 strategies were used by the subjects (see Table 4.1). Although 4 of them are in line with Chamot et al.'s and Schunk's strategies, 'pausing', used by every subjects (30), however is in line with Cromley (n.d.:189) who claims that if one reads a paragraph and realizes that one does not understand something, one is 'engaging in metacognitive monitoring.' In other words, realizing or being aware of one's own problem implies the cause or the influence on the reading behaviour of the subjects, i.e. pausing. Pausing is also congruent with Goodman (1976:103) who claims that "Everything the reader does is assumed to be caused in this linguistic process. Unexpected events in oral reading thus reveal the way the reader is using the reading process itself." (see Chapter 2) Thus, pausing indicated that the subjects were processing something in reading or engaging in the cognitive process. So, 'pausing' is the metacognitive reading strategy that helps facilitate understanding while reading.

The findings also showed that ‘informing’ was another strategy used by most of the subjects (22). Informing strategy was an aspect of Chamot et al.’s (1999) ‘ask if it makes sense’ (see Chapter 2, Table 2.3). This strategy helps keep track of progress and identify the problem. Thus, informing the researcher of the problems in understanding the text help facilitate understanding because the subjects were aware of their problems so they decided to use a problem-solving strategy, i.e. ‘avoidance’, to help remedy their lack of comprehension (see Examples 16 & 36). This ‘avoidance’ strategy was in line with Cromley’ s (n.d.:194) fix-up strategy, i.e. ‘reading ahead to try to make sense of the text’. Thus, avoidance strategy could help facilitate understanding too.

Most of the subjects (30) used monitoring and (26) problem-solving metacognitive reading strategies. The subjects in this study may not have been consciously aware of these strategies and could have used them automatically; when they were questioning themselves about the meaning of lexical items; when they informed the researcher of their problems in understanding the meaning of some words; when they translated the text in Thai to review their comprehension; and when they encouraged themselves to carry on reading. This is in line with Chamot et al. (1999) who claim that some students may never have thought of using a particular strategy and some may have used the strategy without really thinking about it.

Apart from using metacognitive monitoring strategies, the subjects also used metacognitive problem-solving strategies. Cromley (n.d: 194) explains that when learners realize they do not understand what they read, they use a wide range of problem-solving strategies in order to overcome their lack of comprehension. The subjects in this study were able to facilitate their reading by using various problem-solving metacognitive strategies such as substituting Thai words for English numbers,

breaking down numbers and reading them digit by digit, and also avoiding reading unknown words/numbers. When the subjects used monitoring and problem-solving strategies, this indicates that the subjects were trying to complete the reading task effectively. It was clear that monitoring and problem-solving processes are relevant to each other. When the subjects realized that they did not understand what they had read, they engaged in monitoring process; therefore, they tried to understand the text and applied the problem-solving strategies to complete the task. As the goal of reading is to construct meaning from the printed text, monitoring and problem-solving strategies were used more in this study than planning and evaluating strategies (see Chapter 2 section 2.1.4). More subjects (30) in this study used monitoring and (26) problem-solving metacognitive reading strategies as compared to planning and evaluating strategies to read the text.

A combination of the strategies used was found (see Appendix 4.1 for the strategies used by each subject). Twenty six subjects (86.66 %) used a combination of the strategies whereas four subjects (13.33 %) (see Appendix 4.1) used a single strategy. For example, Subject 8 used the 'pausing' strategy when encountering the word 'artists' as she did not know how to pronounce the word. Then the subject used the 'informing' strategy to tell the researcher of her pronunciation problem as she was aware of her problem, and she decided to use the 'avoidance' strategy to keep reading (see Example 23). These findings confirm the claim of Chamot et al. (1999: 31) that "normally we use strategies in combinations to complete a task" as these strategies "are complex behaviours that rarely occur as single instances".

The practice of using L1 (Thai) in L2/FL (English) reading emphasized by David (2002) was also found in this study. She argues that “L1 could be more easily used to activate relevant schemata as compared to L2, to point out contextual clues, to discover/rediscover meanings, etc.” (David, 2002: 41) Five subjects used the national language (Thai) in pronouncing the numbers. Eight subjects reviewed their comprehension in Thai and four (4) translated almost every sentence in the text.

The essential skill in reading is to get meaning from a printed or written message (Carroll, 1970; Weaver, 1980; Goodman, 1967; Smith, 1994). The subjects were clearly seekers of meaning.

This chapter presented the analysis of the data and showed the metacognitive strategies used by the subjects. Discussion of the data was also provided in this chapter.