Reading Comprehension Difficulties Faced by Primary School Children

Siti Shirin Bte Omar
Norhariaty Bte Md Ismail
Samsia Bte Sulaiman
Saleha Raj
Yusnita Bte Md Taib

West Grove Primary School,
Singapore

Abstract

The study looks at the difficulties faced by Primary 5 pupils from high performing and middle performing classes in reading comprehension. It also looks at the metacognitive and cognitive strategies these pupils employ when answering the comprehension questions. The results of the study show that although both groups of pupils made use of strategies, pupils from the middle performing class did not seem to use them as effectively. The study also suggests that teachers should adopt strategies such as 'think-aloud', particularly for the middle performing class pupils, to help pupils improve their reading comprehension.

Introduction

The study seeks to find out why some Primary 5 pupils fared badly in comprehension while others had excellent scores. From the interviews with the pupils, it was found that the pupils who did well for comprehension assessment and those who did not do well both appear to read a variety of books. (Some were more inclined to using English while others were more comfortable with using the home language. In Singapore, the home language can be English or the language of the student's ethnic group.) However, the same could not be said of their ability to demonstrate their understanding of the comprehension texts assigned to them. Some of the pupils were unable to respond correctly to the questions asked in their comprehension worksheets and test papers. There was also a disparity between the performance of the Middle Progress (MP) pupils (pupils who fared fairly well) and that of the High Progress (HP) pupils (pupils who fared well). This led the authors of the study to believe that there was a difference in the way in which the MP and HP pupils processed information. The study also seeks to find out what strategies MP pupils and HP pupils used to comprehend a passage and answer questions, and what difficulties these pupils faced when they read a comprehension passage and answered questions based on it.

Literature Review

Grabe (2008) defined the strategic reader as 'one who automatically and routinely applies combinations of effective and appropriate strategies depending on reader goals, reading tasks, and strategic processing abilities. The strategic reader is also aware of his or her comprehension effective-

ness in relation to reading goals and applies sets of strategies appropriately to enhance comprehension of difficult texts' (p. 220).

According to Grabe (2008), strategic readers know when and how to use comprehension strategies effectively. They can match the correct comprehension strategy to the correct part of the text. However, when they are not able to use their repertoire of strategies effectively, they become aware of a problem.

Good readers check their understanding, form mental summaries of main ideas, resolve difficulties, reflect on the information in the text and evaluate the information from the text in various ways (Grabe, 2008).

Metacognition is the readers' awareness of their comprehension processing methods such as monitoring, revising, summarizing and evaluating. According to Grabe (2008), students 'learn strategies that support […] comprehension […] awareness and […] learn how to carry out these strategies effectively […]' (p. 223). The readers are able to check their comprehension of the text and are aware of the strategies that they can use to enhance or restore comprehension.

Heightened metalinguistic awareness is the ability to reflect on one's own understanding of language knowledge and structures and to act on or manipulate that knowledge consciously. This also allows learners to use a range of skills that are important to reading comprehension. Thus, being a strategic reader involves a metalinguistic awareness that supports the application of comprehension strategies as well as the metacognitive control for using these strategies.

Zhang, Gu, and Hu (2008) stated that 'successful readers demonstrated their overall metacognitive awareness of the reading process, the reading task at hand and themselves as the major participants in the reading event' (p. 265) On the other hand, the unsuccessful readers showed that they were not aware of the connection between the demands of the reading task and the attempt at meaning-making. Grabe (2008) argued that unsuccessful readers applied comprehension strategies but they did not make use of the most suitable strategies for the tasks involved in comparison to more successful readers.

Grabe (2008) outlined the following strategies used by engaged readers:

1. They read selectively according to reading goals.
2. They read carefully in key places.
3. They reread as appropriate.
4. They monitor their reading continuously and are aware of whether or not they comprehend the text.
5. They identify important information.
6. They try to fill in gaps in the text through inferences and prior knowledge.
7. They make guesses about unknown words.
8. They use text-structure information to guide understanding.
9. They make inferences about the author, key information and main ideas.
10. They attempt to integrate ideas from different parts of the text.
11. They build interpretations of the text as they read.
12. They build main-idea summaries.
13. They evaluate the text and the author and, as a result, form feelings about the text.
14. They attempt to resolve difficulties. (p. 228)

The research question that the study aimed to address was:

What strategies do High Progress (HP) pupils and Middle Progress (MP) pupils use in reading comprehension?

Sample

All the Primary 5 pupils had already been streamed according to their abilities and placed into HP, MP and Low Progress (LP) classes. For this study, five Primary 5 pupils from each of the HP and MP classes were interviewed. Pupils from the LP classes were not included in the study because, for the study to be productive, the pupils sampled must not have any basic literacy issues. It was believed that pupils from the HP and MP classes would be able to give more insights for this study. Furthermore, the majority of the school's intake was mainly made up of a mix of HP and MP pupils. Altogether, four boys and six girls were interviewed. These pupils were randomly chosen, and were representative of the HP and MP cohort of the Primary 5 level. Table 1 shows the make-up of the interview sample.

Table 1
Profile of Students

Gender/Ability	HP	MP
Boys	2	2
Girls	3	3
TOTAL	5	5

As shown in Table 2 below, MP pupils demonstrated difficulties in responding to comprehension questions. They scored from 9 to 12 marks in the Comprehension section of their 2014 Semestral Assessment 2 (SA2) while HP pupils scored from 18 to 20 marks.

Table 2
SA2 2014 Comprehension Marks

HP	Max Score (20)	MP	Max Score (20)
Pupil A	20	Pupil B	10
Pupil C	18	Pupil F	9
Pupil D	18	Pupil G	12
Pupil E	18	Pupil I	9
Pupil H	18	Pupil J	8

Data Collection

We used the think-aloud procedure described in the following section to gain insights into the pupils' use of strategies to answer comprehension questions. This procedure enabled us to monitor pupils' cognitive and metacognitive processes.

Before the pupils performed the comprehension task, the pupils were interviewed about their reading habits. This segment also served as a warm-up before the pupils used the think-aloud procedure to do the comprehension task. (See Table 3 below.)

Table 3
Interview Questions on Pupils' Home Background & Reading Habits

No	Questions
1	Please introduce yourself. Your full name and your class.
2	What is the first language you use most often at home?
3	What is the next language after the first language that you use most often at home?
4	Which books do you read the most? English or Mother Tongue books?
5	How often do you read?
6	Which book do you enjoy reading the most?
7	Do you watch English language (EL) programmes on TV, read English texts on the computer or listen to English programmes on the radio?
8	Do you watch Mother Tongue programmes on TV, read Mother Tongue texts on the computer or listen to Mother Tongue programmes on the radio?
9	In a week, how many times do you watch EL programmes on TV, read EL texts on the computer or listen to EL programmes on the radio?
10	In a week, how many times do you watch Mother Tongue programmes on TV, read Mother Tongue texts on the computer or listen to Mother Tongue programmes on the radio?

Pupils were told to complete a comprehension worksheet. The passage was taken from one of the Primary 5 STELLAR units (see Appendix 1 for the full text and questions). They had to answer 10 questions based on the passage. The passage was an information text about the internet. This passage was chosen because the subject matter was familiar to the pupils. The pupils had not seen the passage prior to the study. The pupils did the worksheet individually.

The 10 pupils were individually observed and interviewed by all five teachers. The pupils were encouraged to verbalise their thinking processes. The questions asked by the authors were aimed at gaining insights into the pupils' introspective knowledge of metacognitive and cognitive strategies for dealing with information texts (see Appendix 1). The pupils were encouraged to say aloud what they were thinking about when they were looking for clues to answer the questions or how they arrived at their answers.

Table 4
Interview Script on Pupils' Use of Strategies

No	Script
1	Now I am going to give you a Reading Comprehension passage. Please read it quietly first.
2	When you are done, please let me know.
3	Now I would like you to look at the questions. Read them carefully first on your own. You may begin reading it quietly.
4	Next, look at Qn 1 & write down your answer. Stop writing once you have completed Qn 1.
5	Can you tell me how you decided on this answer?
6	What made you decide that there are no other possible answers to this question?

The pupils were observed by all the teachers to see what they did to help themselves answer the comprehension worksheet. It was anticipated that the pupils would annotate the text or highlight clue words as these were the strategies taught in the classrooms.

Results

Common reading comprehension strategies used by the pupils were coded from the transcripts of the interviews with students. The transcripts were carefully read and the coding of the transcripts of one teacher was compared with the coding of another teacher to ensure validity. Any disagreement was discussed till a consensus on the coding of the comprehension was reached. We also observed how the pupils answered the questions. For example, some pupils highlighted words and made notes next to the paragraphs.

The table of the frequency of the reading strategies used by students of different proficiency levels from Zhang et al. (2008) informed the coding categories. Through the interviews carried out, it was found that both HP and MP pupils used strategies when they answered the questions as shown in Table 5. We chose to focus on the Metacognitive and Cognitive Strategies as listed in Table 5 as they were the strategies most frequently used by the pupils. We also compared how frequently HP and MP pupils used the reading strategies. The results are shown in Table 5.

Table 5
Frequency of reading strategies used by HP and MP pupils

Categories & Sub-categories of Reading Strategies	Mean Frequency per Pupil	
	HP	MP
Metacognitive		
• Evaluating	3.8	2.6
• Monitoring	4.8	2.4
• Follow-up decision making	1.0	0.6
Cognitive		
• Contextualisation	1.2	1.0
• Inferencing	5.0	3.4
• Relating to personal experience	1.2	0.6
• Summarising	0.2	0.2

HP: Pupils from top classes
MP: Pupils from average classes

Table 5 reflects the results for the frequency of reading strategies used by both the HP and MP pupils. All the pupils interviewed used these strategies. However, the degree of success with which they used these strategies differed as indicated by the comprehension scores indicated earlier.

This finding corroborates the study done by Zhang et al. (2008) in which they stated that the use of the Cognitive and Metacognitive strategies by the two groups in their study indicated that the differences in outcome were possibly due to the different entry language proficiency levels of the two groups of pupils.

The following tables illustrate the differences or similarities between HP and MP pupils' use of evaluative strategies. As can be seen below, MP pupils tried to use metacognitive strategies but the results were not productive as they obtained the wrong answers. The first set of tables look at the use of metacognitive strategies by the pupils. (See Appendix 1 for the full comprehension text and questions.)

Table 6
Analysis of the use of metacognitive strategies by HP and MP students

6.1 Evaluating strategy

Metacognitive Strategy: Evaluating	HP (Pupil A) Active	MP (Pupil B) Passive
Evidence from Question 5: Comprehension Question	What is the difference between the internet users of the 1980s and those of 2009?	
Interviewer's Question	How did you decide on this answer?	
Pupils' Responses	*Since the question is asking about the internet users of 1980s and 2009, paragraph 5 is talking about internet usage of 1980s to 2009. However, there … in this paragraph they had said that 1980s there were four locations. However the question is not asking for this.*	*For question 5, I look for the answer at paragraph 5 as the question shows 1980s and 2009 and I look at the paragraph and I saw 1980s and 2009. Once I saw it I will read what they are asking for the question before I read is written in the paragraph if it is similar I will write it down on the paper.*

Pupil A compared the information from the text to the question's requirement. He demonstrated his skill at aligning information obtained from the paragraph to the requirement of the question. He noted the disparity in the information presented and chose not to use the information.

Pupil B found a match between the question and text content by looking for 'likeness' of information from the text. He believed that the key to obtaining the answer was through a matching activity.

The active comprehension demonstrated by HP learners was characterized by their ability to evaluate the information from the text in various ways. From the two examples above, it is evident that the HP learner was able to evaluate information which he deemed unnecessary in meeting the requirements of the question. He showed an understanding of what was required of the question and was always conscious of this need. The passive comprehension of MP learners was demonstrated as they tried to evaluate the information from the text, but at a more surface level. The ideas expressed above by an MP learner were also rather unclear, suggesting a vague understanding of his comprehension process, specifically how he evaluated the relevance of the text in answering the question.

6.2 Monitoring strategy

Metacognitive Strategy: Monitoring	HP (Pupil A) Active	MP (Pupil B) Passive
Evidence from Question 3: Comprehension Question	What do Internet Service Providers from Singapore need to have before they can give internet access to users?	

Metacognitive Strategy: Monitoring	HP (Pupil A) Active	MP (Pupil B) Passive
Interviewer's Question	How did you decide on this answer?	
Pupils' Responses	*I refer to the question and write down "before they can give internet access to users" because if I continue writing it would be considered as direct lifting*	*I read other sentence which look alike and I read a few times to make that they are different and once they are different I can find out which one suits this question answer.*

The HP pupil, Pupil A, was aware of what was not acceptable (i.e., direct lifting) and actively monitored his comprehension process as well as the final expression of his answer. However, what Pupil B did was to find a match between some words in the question and the text content by looking for similar chunks of information from the text.

Both HP and MP pupils applied monitoring strategies when they wanted to achieve their reading goals which were to answer the comprehension questions. However their results varied greatly. HP pupils were able to get more than five correct answers while MP pupils were unable to do that. This could be due to differences in their approaches with regard to monitoring strategies. This is consistent with the findings of Grabe (2008) who listed the monitoring strategy as one of the metacognitive processes for good comprehension. Good readers monitor their comprehension to maintain good understanding of the text.

The next set of tables looks at the use of cognitive strategies by the pupils. In looking at the results, the reader might find it useful to look at the full text and questions found in Appendix 1.

Table 7
Analysis of the cognitive strategies used by MP and HP students

7.1 Contextualisation

Cognitive Strategy: Contextualisation	HP (Pupil A) Active	MP (Pupil B) Active
Evidence from Question 8: Comprehension Question	Give one piece of evidence from the passage that showed the internet can connect people in remote places.	
Pupils' Responses	*In this case that they only asked for one evidence so I had decided on the most appropriate one which was in paragraph 12. They said that the internet and the web provide wonderful services for people at home, at school and at work. This showed that the internet can be used in different types of areas and can connect them*	*I look for the answer at the next page. I look at it when I saw the words 'internet connect that allows millions to send and receive information instantly around the world'*
Interviewer	Ok alright… now how do you decide that this is the correct answer?	

Cognitive Strategy: Contextualisation	HP (Pupil A) Active	MP (Pupil B) Active
		Uhh after I read that and it stated computer maybe the next paragraph stated mobile phones or hand-phones so I will read the next sentence. If the next sentence state like satellite out in space and information travel … travel very fast so I can know this kind of fits the question answer.

Both MP and HP pupils looked for contextual clues to answer the questions. Contextual clues are key words in the questions that the pupils think will help them to derive their answers. The HP pupil was more successful in answering this question. He was able to look for contextual clues and looked for further information given in the other paragraphs to support his reasoning. The MP pupil looked for sentences that contained the same key words as in the question; in this case they were 'internet' and 'connect'. Then he picked 'travel very fast' as the contextual clues to arrive at his answer. However, his answer was wrong and this showed that the MP pupil lacked an understanding of the text and was unable to substantiate his reasoning. This could indicate some uncertainty in picking out relevant contextual clues and the use of mere guesswork on his part.

7.2. Inferencing

Cognitive Strategy: Inferencing	HP (Pupil A) Active	MP (Pupil B) Active
Evidence from Question 9: Comprehension Question	Based on the passage, state whether each statement in the table below is **True** or **False**. Then give one reason why you think so. Statement: Using the World Wide Web has no disadvantages.	
Pupils' Responses	And the next statement it says that 'using the world-wide web has no disadvantages'. I feel that this statement is false as people who are using the worldwide web do not actually know or meet the people they are talking to online and do not know if their background is good or bad	…I think is false because using the web there is lots of disadvantage because you don't know the person you are talking to on the computer…you anyhow send any document or your personal document they can hack into your account so they can know what will happen in that account.

Both the HP and MP pupils used inferencing strategies with the HP pupils using them more often than the MP pupils (refer to Table 5). Inferencing strategies refer to making educated guesses based on evidence and reasons. The MP pupil was unable to distinguish the difference between making a guess that was based on the information from the text from that of his personal experience. The HP pupil was, however, able to infer the information correctly based solely on the text. He was also able to support his inferences with reasoning that was more credible and text-based.

7.3. Relating to personal experience

Cognitive Strategy: Relating to personal experience	HP (Pupil A) *Active*	MP (Pupil B) *Passive*
Evidence from Question 9: Comprehension Question	Based on the passage, state whether each statement in the table below is **True** or **False**. Then give one reason why you think so. Statement: Using the World Wide Web has made our lives easier.	
Interviewer's Question	How do you decide on this answer?	
Pupils' Responses	*I feel that this statement is true as world-wide web allows information to be obtained quickly, it can also improve communication and can … people can also use it anywhere where there is web connection.*	*… you anyhow send any document or your personal document they can hack into your account so they can know what will happen in that account.*

We also observed that both HP and MP pupils used cognitive thinking processes such as relating the text to personal experiences. Pupils leveraged their existing knowledge about the topic to make informed decisions and judgments about what they were reading. They often co-related the two – both prior knowledge and knowledge of the text – to validate their understanding.

In both examples, pupils drew upon their prior knowledge about the topic to come to this decision. The information shared showed that they did have a schema about the topic enabling them to propose a reason for their responses.

Discussion

The study indicated that pupils did use some strategies in answering the comprehension questions. However, these strategies might be beneficial for some but not for others as the way in which the students used these strategies made a difference. When tasked to answer the questions, pupils might unpack the questions differently. The MP pupils might identify the answer by zooming in on one or two key words to look for in the text whereas the HP pupils might have taken further steps to evaluate the relevancy of their answers. Based on the data gathered, there was a strong indication of the use of monitoring and inferencing strategies by both groups of pupils. However, the test results showed that despite the use of such strategies, the MP pupils fared poorly as compared to their HP peers. This could be attributed to the different ways the strategies were understood and applied, which led to the difference in the test results.

Through a detailed examination of the different strategies of monitoring, evaluating, inferencing, contextualisation, relating to personal/past experiences and follow-up decision-making that the pupils used when answering the comprehension questions, certain attributes of the pupils began to surface. The MP pupils tended to evaluate their answers at the surface or local level and showed only a vague understanding of the content of the text. They looked for visual clues such as key words in the question to match the ones found in the paragraph and did not look at what the question actually entailed. They also used the elimination process in which other paragraphs that did not contain the key words were eliminated and assumed not to contain the answer. This strategy and its outcome often did not align and the pupils lacked an understanding of what was actually correct by employing such quick elimination strategies. For such learners, comprehension is

very often at the local level, focusing primarily on individual word recognition (Zhang et al., 2008). The MP pupils also spent a large portion of their time decoding the text to arrive at an understanding of what they had read. This coincided with what Zhang et al. (2008) had found about decoding bits of text in isolation and focusing narrowly on individual words. Even with the use of inferencing and predicting, MP pupils did not rationalize their attempts nor monitor or evaluate their inferences as they lacked the global understanding of the text and awareness of the demands of the question requirements.

In our study, HP pupils, on the other hand, were able to sieve out unnecessary details to meet the question requirements. They often showed understanding of what was required and actively monitored their comprehension processes as well as the final expression of their answers. According to Zhang et al. (2008), HP learners often made sufficient predictions about the content on the basis of the linguistic cues available and their schematic knowledge, synthesizing other relevant information in order to approach the text in a coherent manner. These pupils had a high interest level in the text and a good command of vocabulary to evaluate the text in various ways. They often drew upon prior knowledge about the topic to come to a decision and were more concerned about the meaning of the text. Thus, strategies such as evaluating and monitoring were used to check on their own understanding. The use of these two strategies aligned with what Zhang et al. (2008) had found regarding the constant interaction between bottom-up decoding and top-down meaning-making processes among HP pupils. As a result, while the MP pupils spent a large portion of their time decoding the text at individual word level to arrive at an understanding of what they had read, the HP pupils inferred the textual meanings through contextual and linguistic clues and making connections to their real world knowledge.

Conclusion

The results of the study showed that the less successful pupils were not aware of the difficulties they faced in reading comprehension. This was due to the pupils' lack of understanding of the monitoring strategies needed for the comprehension of the passage. Whilst more successful pupils used comprehension strategies confidently and productively, there were others whose efforts proved to be counterproductive.

Future studies could focus on the explicit teaching of metacognitive skills by teachers that are to be used by pupils to help them become strategic readers. This may include the 'think aloud strategies' for the MP pupils. Teachers teaching the HP pupils may also want to consider emphasising monitoring skills, which could in turn help pupils to respond better in answering comprehension questions.

References

Grabe, W. (2009). *Reading in a Second Language: Moving from Theory to Practice.* Cambridge, UK: Cambridge University Press.

Zhang, L. J., Gu, P. Y., & Hu, G. (2008). A cognitive perspective on Singaporean primary school pupils' use of reading strategies in learning to read English. *British Journal of Educational Psychology, 78*(2), 245-271

Appendix 1 – Primary 5 STELLAR Units

Name: _____ (Pr. 5)   Date: _____

Read the passage and answer the questions that follow.

The Internet is a worldwide system of computer networks. It has become a common part of our daily lives. Everywhere you turn, you can find codes like 'www' or '.com' on household products and posters and in magazines and television advertisements.

Once you log on to the Internet, you enter a virtual world, one that enables you to do things as if you were in the real world. You can visit places, talk to people anywhere and find information – all at your fingertips.

To use the Internet, you must be connected to a telephone line or television cable, and a modem. The modem works like a translator, changing electronic signals into text and images which can be recognised by your computer. However, having a computer, telephone line or television cable, and a modem, does not mean you can connect to the Internet. You also need to find an Internet Service Provider (ISP). ISPs are companies that give you access to the Internet for a fee.

There are many ISPs to choose from. They provide a variety of services: connection speed, email accounts, anti-virus software and technical support. In some countries including Singapore, ISPs need a permit from the government to provide services according to certain guidelines.

In the early 1980s, the Internet reached only four locations and had just a few hundred users. The latest survey in 2009 records about 16 hundred million users or about 355 times the number of people that live in Singapore!

In fact, the Internet now reaches every continent. In 2007, the Internet reached the computers of scientists doing research in Antarctica, a continent at the South Pole. At about the same time, it was proven that the Internet also reached Canada's Melville Islands, a remote area near the North Pole.

Anything you can do on the Internet can be done in a short span of time. This is possible because the Internet is the connection that allows millions of computers to send and receive information instantly around the world. This information travels rapidly by way of telephone or television cables and satellites out in space.

The words Internet and the World Wide Web or 'Web' are often used interchangeably. However, **they** are not the same. The Web is one of the many popular ways to access the Internet. It was created using a different computer language for a specific reason – to share information.

The Web is considered by computer experts to be the best invention in the last 40 years. It has allowed information to be obtained quickly. It can improve communication with people across continents. You can use it anywhere in the world where there is a Web connection.

However there are drawbacks to its use. One concern is that you do not actually know or meet the people you are talking to online. There may be bad things that you do not know about them. That is why cyberwellness is important to make sure the Web is used in a proper and beneficial way.

Also, it can be frustrating when there is so much information with so many users. There can be the problem of a 'traffic jam' on the electronic 'highway'. Finally, there is also the worry of your computer either being infected with a virus or having personal information stolen from it.

When used safely and in moderation, the Internet and the Web provide wonderful services for people at home, at school and at work. A lot of things you can do online remain in a virtual or electronic world. It is equally important to include other activities from the real world such as sports, outings and dining with family or friends. Your computer cannot substitute for these activities.

1. What are the things that a person can do when he/she logs on to the Internet? (K)

   _____

   _____

2. Which word from the **second paragraph** tells you that the activities that one can carry out on the Internet are **"not real"**? (K)

   _____

   _____

3. What do Internet Service Providers from Singapore need to have before they can give Internet access to users?

   _____

   _____

4. State 2 reasons why the internet users can do things quickly on the Internet?

   _____

   _____

5. What is the difference between the internet users of the 1980s and those of 2009?

   _____

   _____

6. In what ways is the World Wide Web different from the internet?

_____

_____

7. What does the word **'they'** in **paragraph 8** refer to?

_____

_____

8. Give one piece of evidence from the passage that showed the internet can connect people in remote areas.

_____

_____

9. Based on the passage, state whether each statement in the table below is **True** or **False**. Then give one reason why you think so.

Statement	True	False	Reason
Using the World Wide Web has made our lives easier.			
Using the World Wide Web has no disadvantages			

10. How would you feel if your best friend preferred the computer to your company? Why?(A)

_____

_____