

MAKING SENSE OF TEXT: STRATEGIES USED BY GOOD AND AVERAGE READERS

Ismail Sheikh Ahmad & Ratnawati Mohd Asraf

Email: drismail@iiu.edu.my
drratnaiiu@hotmail.com

Abstract

This paper discusses the reading comprehension strategies used by four good and four average readers in their efforts to understand L1 (Malay) and L2 (English) comprehension texts and why they used these strategies. A general exploratory hypothesis, that there is a difference in how good and average readers respond to the different question types as categorized into a hierarchy of eight subskills used by Lunzer and Gardner (1979) was forwarded. The analyses of the verbal protocol data collected through a series of face-to-face open-ended interviews support the above hypothesis and suggest the importance of teaching comprehension monitoring strategies in the teaching of reading comprehension skills. The findings also suggest that students learning to read in a second language should be given support to enhance their vocabulary skills, and that reading comprehension instruction should be viewed as reflective reading that encourages process-oriented instruction that can foster the students' abilities to react critically to text.

This paper is set in the context of the acknowledged debate, highlighted by the work of Lunzer and Gardner (1979), concerning the theoretical issue as to whether reading comprehension is a unitary competence or whether it consists of identifiable discrete subskills built in a hierarchical manner. As Lunzer and Gardner (1979) and many studies later demonstrate, the subskills are not hierarchical in nature. This paper describes a study that expanded on the work of Lunzer and Gardner (1979) as to the underlying strategies used by second language learners in responding to English texts. It describes how the learners select, comprehend, and integrate information in their efforts to comprehend these texts in the context of eight reading comprehension subskills. The subskills, which are in the form of comprehension questions, and as defined by Lunzer and Gardner (1979) are:

- **Word meaning (W):**
Recognizing the meaning of a word in isolation.
- **Words in context (WIC):**
Deriving the appropriate meaning of an ambiguous word from the context in which it appears.
- **Literal comprehension (L):**
Finding the answers to questions when these can be obtained directly by reference to a phrase or a sentence in the text.
- **Drawing inferences from single strings (ISS):**
A *string* is an uninterrupted sequence of words, usually a phrase or a

short sentence. Questions in this category require the reader to draw an inference from such a sequence as opposed to deriving its literal meaning.

- **Drawing inferences from multiple strings (IMS):**
These tasks are similar to *ISS*, except that the necessary information for making the inference cannot be found by reference to one phrase but must be deduced from a comparison of two or more facts appearing in different parts of the text.
- **Interpretation of metaphor (M):**
These questions require the reader to show an understanding or appreciation of meanings that are given indirectly by the use of metaphor.
- **Finding salient or main ideas (S):**
The ability to isolate the key points of a passage.
- **Forming judgement (J):**
The ability to offer an intelligent interpretation of ideas contained in the text or implied by them in the light of his/her own knowledge of related matters.

Purpose

The study was centered on two broad aims:

Firstly, it was aimed at determining whether the eight subskills or question types (QTs) are useful in differentiating between good and average readers in terms of their comprehension answering strategies. To do this, the researchers analyzed and coded the verbalized comprehension answering strategies of the readers, gathered from all of the QTs, into discourse units (in this case, 4243 discourse units were critically interpreted and coded into one or more of the eight discourse types (DTs). Thus, the strategies verbalised on each QT were coded as either belonging to one or more of the DTs. The accumulated occurrences of the discourse types for all of the QTs were averaged, and formed the Factor Specificity Index (FSI) (See *Definition of Terms*).

Secondly, it was aimed at investigating the comprehension answering strategies of the good and average readers in responding to L2 comprehension test passages and questions. By comparing the patterns in the distribution of the L2 discourse units, insights into the nature of the comprehension strategies employed by the readers could be gained.

With this view in mind the study forwarded the hypothesis that there is a difference between good and average readers in how they respond to the various question types within the framework of the eight subskills.

Definition of Terms

The following terms are used throughout this paper.

Average Students. They were selected in consultation with their class teachers, the school supervisor, the headteacher and their language teachers. The mid-year language test scores of the subjects were between 50 and 70. The monthly test scores for English were also used as one of the tools to select the students. Their verbal communication ability is good.

Good Students. The same selection criteria were applied, except that their mid-year language test scores were between 80 and 100. They had very good oral and written ability.

Discourse Unit (comprehension answering strategies). In a restricted sense, the term is used to simply mean the *comprehension strategies* of the readers in responding to the comprehension questions. The verbal inputs from the readers for each comprehension question were critically examined and coded into one or more of the eight discourse types. In this study 4243 discourse units were interpreted according to the eight discourse types. Each discourse unit, which normally found consists of one complete meaningful sentence or utterance, is thought to represent an embedded comprehension strategy.

Discourse Types (DT). Each comprehension answering strategy was rigorously coded to fit into one or more of the eight discourse types. The eight discourse types are *word meaning in isolation (W)*, *words in context (WIC)*, *literal comprehension (L)*, *drawing inferences from a single string (ISS)*, *drawing inferences from multiple strings (IMS)*, *interpretation of metaphor (M)*, *finding salient or main ideas (S)*, and *forming judgements (J)*.

Question Types (QTs). The eight comprehension subskills are also known as Question Types.

Factor Specificity Index (FSI). An FSI is the proportion of the number of times each factor occurs for each Question Type (QT) and Discourse Type (DT). The index is expressed in terms of the percentage of occurrence of each QT and DT. For example, as shown in Table 1, an FSI score of .38 is an average percentage score of all the FSI scores which had been calculated separately for each of the eight students.

Design of the Study

In the beginning, a total of 8 good and 8 average readers were interviewed. However, due to time constraints, only 16 out of a total of 64 different interviews were transcribed and translated into English language and later coded as one of the eight specified discourse units (see Table 1). It was necessary to translate the interviews from Malay to English because the taped verbal responses were conducted in Bahasa. The translated interviews were taken from 4 good and 4 average readers. In order to find the inter-rater reliability of the coded discourse units, the transcribed data were chosen at random and coded by three co-raters. This was calculated by summing up the number of agreements among the co-raters, and dividing the total by the number of discourse units coded by the

co-raters before multiplying the answer by 100. In this case it was .88, and considered to be highly reliable.

Hypothetically, it was assumed that by analysing the verbal discourse units using the eight categories of subskills, the data will highlight some kind of relationship in terms of the distribution of the discourse units between the eight categories of question types and the eight discourse types. It was also predicted that there would be a difference between the good and the average readers not only in terms of the patterns of the discourse units but more importantly, in terms of the distribution of the discourse units in L2 comprehension tests.

Choosing the Research Method

The nature of this study was to understand the "how" and "why" aspects of the students' chosen and written answers to the comprehension tests. For these reasons, in this research inquiry, a case study approach was considered the most relevant research strategy. Yin (1994) suggests that a case study is appropriate when a 'how' or 'why' question is being asked about a contemporary set of events over which the investigator has little or no control.

The process of understanding how and why the students selected or wrote a particular answer to every comprehension question asked is a challenging and time-consuming task. In the context of this study, the students were directly interviewed after completing each comprehension test. This immediate interview strategy was considered the most appropriate method since it was assumed that the reasoning process(es) for answering each question would be fresh in their minds. During each interviewing session the authors were very cautious in asking questions as to why they had chosen or written a particular answer on the grounds that any improper questioning might help or lead the students to the answers. It was thought that leading or unintentionally guiding the students to the answers would not yield original responses.

In any case, during the face-to-face interviews, the authors adopted a flexible and adaptable questioning strategy to determine the comprehension answering strategies of the students. The interviewing methods, styles and tactics of this study were based on several techniques (Yin, 1994; Robson, 1993; Cohen and Manion 1989). It was also anticipated that during any interviewing session the students' non-verbal cues could be observed, which would further inform the study.

Although the interviewing sessions were time-consuming, the authors managed to maintain a friendly atmosphere. This was vital to the aim that in each session each student would provide as much information as possible. In any case, the style of the face-to-face interview was semi-structured: the author read the questions from the tests but would adjust the order of the questioning to match the context of the interviewing session (Robson, 1993). It is acknowledged that an in-depth face-to-face single case interview would not yield adequate data and thus may not be compelling or robust enough to be regarded as a good study. Due to the nature of the above hypothetical construct, a multiple-case design was deemed to be of paramount importance if the study is to produce compelling and robust findings (Yin, 1994). To be more specific, in an attempt to produce valid results, the interview procedures were repeated or replicated for all the chosen students.

Selecting the Schools and the Students.

Three secondary school headteachers were willing to allow the interviews to be conducted. It must be emphasized that the yardstick for choosing the schools for the interviews was not the academic

standing of the schools. Rather, it was the availability and the willingness of the schools to allow the research to be conducted, and should not be regarded as trying to show that one school is academically better than the other. What was important was the proper timing of the interviews and the willingness of the students to spend their schooling hours on the tests and the interviews, since each student had to spend between 6 to 8 hours of their schooling hours in reading, answering and verbalizing the comprehension answering strategies for the four selected comprehension texts and tests.

The Design of the Interviews

The following table outlines the 64 interviews conducted in the three selected schools.

Table 1: The Plan of the Interviews.

Boy/Girl	Coding Reference	Adventurous Texts		Biographical Texts	
		Ali	Si Pintar	Ahmed Idris	Maimunah
Good Readers					
Girl 1	J. J.	E	M	E*	M*
Girl 2	M. M. A.	E	M	M	E
Girl 3	A. M. A .	E	M	E	M
Girl 4	Z. F. M. Z.	E*	M*	M	E
Boy 1	A. F. S.	M	E	M	E
Boy 2	A. H.	M	E	E*	M*
Boy 3	R. R.	M*	E*	M	E
Boy 4	I. S.	M	E	E	M
Average Readers					
Girl 1	A. Z.	E	M	E*	M*
Girl 2	N. A. M.	E	M	M	E
Girl 3	E. M.	E	M	E	M
Girl 4	L. M.	E*	M*	M	E
Boy 1	M. F. J.	M*	E*	M	E
Boy 2	M. F. S.	M	E	E*	M*
Boy 3	A. D.	M	E	M	E
Boy 4	E. S. R.	M	E	E	M

Note: 'M' stands for Malay texts and tests and 'E' for English texts and tests. The asterisks denote the interviews chosen for the data analysis.

Analysis

The analysis of the data was generally divided into two main tasks:

- The Wilcoxon Matched-Pairs Signed-Ranks Test for two related samples. This test was used to find the size of the difference between the two sets of related scores. The good and the average students' scores from the L1 and L2 codings were ranked and summed with the same sign.
- Finding and analyzing the Factor Specificity Index (FSI) for all codings regardless of language, sex, ability, and text-type variables. An FSI is the proportion of the number of times each factor occurs for each Question Type (QT) and Discourse Type (DT). The index

is expressed in terms of the percentage of occurrence for each QT and DT. An FSI score is calculated in the following way:

- (i) First, by referring to Table 1, the FSI score for QT (*WIC*) and DT (*W*) is .25. Each student's responses that was coded as belonging to the DT (*W*) was added up and divided by the total of all the coded discourses. This gives the student's mean percentage for the DT. The same procedure was followed for all students. The FSI score of .25 means that when responding to the QTs (*WIC*), 25% of all the coded discourse units for that QT were judged as belonging to DT (*W*).
- (ii) Second, all the mean scores for all eight students for the said DT were added together. This gives a total mean score.
- (iii) Finally, the total mean score of all the students was divided by the number of the students. The resulting score is called the FSI. Thus, the FSI of .25 is an average percentage score of all the FSI calculated separately for each of the eight students.

Table 2: Proportions of Discourse Units in Students' Commentaries on Answers Separated in Terms of Reading Ability for L2 Tests (8 Interviews = 4243 Discourse Units)

Qs. Type (QT)		Discourse Type (DT)								Total
		W	WIC	L	ISS	IMS	M	S	J	
W	G	.38	.30	.08	.07	.13	.00	.00	.03	.99
	A	.32	.17	.05	.06	.14	.00	.00	.13	.87
WIC	G	.25	.29	.07	.13	.09	.00	.00	.13	.96
	A	.40	.25	.00	.04	.07	.00	.00	.19	.95
L	G	.06	.00	.42	.25	.07	.00	.00	.18	.98
	A	.11	.03	.25	.17	.05	.00	.00	.30	.91
ISS	G	.04	.05	.12	.60	.03	.00	.00	.14	.98
	A	.10	.01	.18	.26	.18	.00	.00	.21	.94
IMS	G	.01	.00	.18	.02	.45	.00	.00	.32	.98
	A	.03	.00	.06	.08	.31	.00	.00	.48	.96
M	G	.07	.03	.07	.36	.02	.32	.00	.11	.98
	A	.14	.08	.07	.21	.12	.14	.00	.12	.88
S	G	.01	.01	.03	.04	.54	.00	.21	.16	1.0
	A	.09	.01	.02	.06	.44	.01	.03	.26	.92
J	G	.00	.00	.00	.01	.25	.00	.00	.73	.99
	A	.03	.00	.01	.02	.14	.00	.00	.80	1.0

Note: G stands for good students. A stands for average students

Strategies Used by the Good and Average Readers

As shown in Table 2, the reading ability of the two groups of students is more or less the same. However, there are striking differences between the two groups in the context of the L2 reading comprehension tests. First, looking diagonally (top-left to bottom-right), the above average readers are found to be consistently higher in the FSI scores than the average readers in all of the skills except in the (*J*) skill, where the average readers are slightly higher by 7%. These differences of all of the good and average FSI scores taken diagonally (top-left to bottom-right) were then analysed by the Wilcoxon Matched Pairs Signed-Rank Test. The result of the Wilcoxon test on the diagonal FSI scores was significant at the $p < 0.05$ level. This suggests that the diagonal FSI differences between the good and the average students in the L2 tests are unlikely to be due to chance alone (The two-tailed or non-directional hypothesis is used simply because the direction of the FSI scores differences could not be predicted). It was thus concluded that good readers differ from average readers in how they respond to English texts (As can be observed from Table 2, good readers used more comprehension answering strategies than average readers).

Discussion

Diagonal FSI scores suggest that contextual information facilitates the construction of meaning of the tested (*W*) skill. Still, differences in an individual's ability in using or not using contextual clues in answering the (*W*) QTs are not tested. The evidence seems to suggest that there is a critical link between the (*W*) skill and the other remaining comprehension skills. This will be discussed later, in the context of the interactive-compensatory model of reading (Ruddell and Ruddell, 1994).

It is interesting to note that when responding to the (*W*) QTs in the L2 tests, the average readers showed a sharp decline in using DT (*WIC*), in this case 17% in L2. However, in comparison, for the above average readers or proficient readers, there no sharp decline was observed. That is, for the same QT, the decline was minimal: from 38% to 30%. For the same (*W*) QT, the average readers consistently maintained their reliance on the (*J*) DT: 13% of the reasoning processes for the (*W*) QT. When looking at the (*WIC*) QT, the above average readers were found to reflect considerably less than the average readers. This is in sharp contrast to the average readers who showed a slight increase in the FSI of the (*WIC*) questions. The average readers, when responding to the (*WIC*) QT, were found to be reflecting considerably more on DT (*W*) than the above average readers: 40% against 25%. This suggests that the average readers were very concerned about the meaning of words or vocabulary.

Interpreting the Discourse Units

Looking at the QT (*W*) of the L2 tests, the above average readers reflect on only 6% more information than the average readers. This is not to say that there is a direct causal link between vocabulary and comprehension. But what can be learned from previous research, in the context of the relationship between vocabulary knowledge and comprehension, is the fact that knowing more words is statistically related to better comprehension of text (Ruddell and Ruddell, 1994).

In terms of attempts to establish a direct link between vocabulary knowledge and comprehension, Ruddell and Ruddell (1994) claim that contemporary research efforts on this issue "...have been equivocal and inconclusive...(and) from the evidence available, the most we can say with assurance is

that sometimes it does and sometimes it doesn't..." (p. 414). In the context of the discussed evidence of the reasoning process of the (*W*) skill in the L2 tests, this suggests that all the readers, regardless of the groups, verbalised more reasoning strategies for that particular skill in the L2 tests. Interestingly, the above average readers participated more actively in the (*W*) QTs than the average readers. Still, in the context of this comprehension-process analysis, it is not known whether the higher FSI scores observed in the vocabulary skill in the L2 tests reflect a problem faced by the readers in understanding the meaning of the tested words.

What is clear is that the evidence from the diagonal FSI scores suggests that contextual, or alternatively, that the (*WIC*) QTs, are causing them problems. This heavy reliance on the (*W*) DT for the (*WIC*) QTs by the average readers is in sharp contrast to the above average readers who seem to show an increase in using other DTs in the L2 tests, apart from the (*W*) DTs, such as DT (*L*) 7%, DT (*ISS*) 13% and DT (*IMS*) 9%. Comparing the different concentrations of the FSI scores of the (*WIC*) QT between the two groups of readers suggests that the good readers are more flexible than the average readers in terms of reflecting on the context of the texts rather than relying heavily on vocabulary skills as reflected by the average readers.

In responding to the (*L*) QT the good readers seemed to use more strategies than the average readers. The good readers increased their reliance on the other skills, notably on the (*ISS*) (25%) and (*J*) (18%) (see Table 1). The same increase in reliance on the other skills is also observed in the average readers: (*ISS*) 17% and (*J*) 30%.

In terms of the DT (*J*), both groups of readers reflected heavily on that skill alone, the scores being above 70%. Still, the good readers relied slightly less than the average readers on this skill, and this slight decrease is compensated for by an increase in reflection on the (*IMS*) skill: 25% in L2. In the case of the average readers, reflection on the DT (*J*) skill is consistently high but the patterns of the other DTs for that QT (*J*) are slightly disrupted: when responding to the DT (*J*) in the L2 tests, the average readers tend to use DT (*W*) 3%, which is not reflected on at all by the good readers.

In QT (*IMS*), the average readers referred more to DT (*J*) than the good readers. Almost 50% of the reflection for that QT is concentrated on DT (*J*). As for the QT (*IMS*), the average readers again reflected on the use of DT (*W*) 3%. This usage of DT (*W*) for QT (*IMS*) in the L2 tests was practised not only by the average readers but also by the good readers as well. In fact when comparing DT (*W*) and DT (*WIC*) in Table 1, especially when one looks from QT (*L*) downwards, there is an increase in the use of these vocabulary skills in the L2 tests in both groups of readers. This increase is particularly notable when both groups of readers responded to QT (*M*). It is possible that the questions asked for the (*M*) skill in the L2 tests caused problems for the students, and hence they had to reflect on DT (*W*).

Interpreting the Spread of the FSI

Table 2 suggests the fact that there is a strong relationship in the distribution of the discourse units between the QT and the DT. This is reflected by the high FSI scores of (*L*), (*ISS*), (*IMS*) and (*J*). They suggest that when the students are reflecting on their comprehension answering strategies they tend to talk more about those four skills than the (*W*), (*WIC*), (*M*) and (*S*) skills. All the readers repeatedly utilized the four dominant skills, (*L*), (*ISS*), (*IMS*) and (*J*), in their reasoning capabilities and relied less on the remaining four skills. This does not suggest that the remaining four skills are useless. It is just that they are not reflected upon as commonly as the other four skills. What matters is the fact that all the eight discourse types are very useful in categorizing the discourse units verbalized by the students. The FSI scores, as seen in Table 2, are unevenly spread in an interactive manner and this suggests that the relationship between DT and QT is well-founded. If one argues that deficiency in word recognition in L2 is a block to the understanding of the text, then the FSI scores on DT (*W*) suggest otherwise. When responding to QT (*W*) all the readers show a flexible interactive approach. This flexible

approach is also demonstrated in all of the other QTs. This may explain why all of the students seemed to be making use of all the DTs in making sense of their answers.

Interpreting Hypothesis 1

The analysed data from Table 2 supports the hypothesis: there is a difference between good and average readers in their response to the various question types within the framework of the eight subskills. The reasoning processes of the above average readers are much more focused on each QT than those of the average readers. This shows that the good readers were able to activate their reasoning processes within the sphere of each of the QTs individually, relying less on other skills. This phenomenon strongly suggests that instruction in improving poor readers' comprehension monitoring strategies should focus on this unique strategy of the good readers. In other words, reading teachers should improve the average and poor readers' awareness and knowledge in comprehension strategies because logically, an increase in awareness of strategic knowledge would improve pupils' performances in reading comprehension tasks. Furthermore, Paris, Lipson, and Wixson (1994) found that much research '... reveals that poor readers do not skim, scan, reread, integrate information, plan ahead, take notes, make inferences, and so forth as often as more skilled readers (do) ...'. Grabe (1991) also noted that there is evidence that in both L1 and L2 the '... young and less proficient students use fewer [comprehension strategies] and use them less effectively in their reading comprehension [than proficient students] ...'.

Another interesting point is that the average readers constantly relied more heavily on DT (*J*) than the good readers (See column DT 8 in Table 1). This surplus activation of the (*J*) skill suggests that the average readers had to assess the contents of the passages and judge them against their previous knowledge more often than the good readers. Whether this behaviour is time-consuming or effective and appropriate for each of the QTs is not known but it would be an interesting area for future research to study this over-use of DT (*J*) by average readers.

Summary of Results

To summarize, in the light of the above discussions several important conclusions can be drawn. First, by referring to the hypothetical construct, results indicate that there are marked differences between the good and the average readers in terms of the distribution of the discourse units (FSI) in L2 comprehension tests. In other words, in the English comprehension tests, the above average readers consistently showed higher FSI scores in almost all specific QTs, shown diagonally in Table 2, than the average readers. The gap in the FSI scores between the two groups of readers is apparent: the good readers consistently reflect higher FSI figures than the average readers except in the (*J*) skill. Second, the good readers' responses or DTs in L2 (as shown by higher FSI figures than the average readers) were very much focused on the QT. This suggests that for each QT, the good readers reflected on less information from the 'neighbouring' DTs and that the good readers were able to gear their answers specifically to the need and context of the questions. This higher-focus-phenomenon does not mean that the average readers were more able to spread their reasoning capabilities to all the other DTs than the good readers. It suggests that the good readers have less need to do so.

Third, since the reasoning strategies of the above average readers are repeatedly very much more 'bonded' to each QT than those of the average readers, this 'preferred-and-most-often-used' phenomenon reflects a kind of efficient reasoning strategy. In contrast, the average readers showed a less 'bonded' approach and a greater variability in reliance on the other DTs particularly in the consistent use of the (*J*) DT. It is not known whether the less 'bonded' patterns of the average readers

reflect inefficient reasoning strategy.

Finally, the diagonal FSI scores from Table 2 suggest that the good and average readers use the same comprehension answering strategies, but the good readers were more consistently focused or bonded to each QT than the average readers.

Conclusion and Implications

The findings from Table 2 suggest that there are important differences between good and average readers in terms of the distribution of the discourse units related to the language of the comprehension test passages and the language of the questions. Again, as seen in Table 2, although the two groups of readers used the same comprehension answering strategies, the above average readers were found to be more consistently focused on most of the QTs than the average readers. The fact that the good readers verbalised their comprehension answering strategies more frequently on each QT than the average readers reflects the importance of cognitive contextual awareness in mastering reading comprehension.

Less proficient L2 students need adequate assistance from teachers to help them to evaluate, regulate and compensate their answering strategies in reading comprehension tasks. In fact, Baker and Brown (1984) suggest that effective comprehension monitoring instruction is necessary because its main aim is to make the reader aware of the active nature of reading and the importance of employing problem-solving, trouble-shooting routines to enhance understanding. If the reader can be made aware of (a) basic strategies for reading and remembering, (b) simple rules of text construction, (c) differing demands of a variety of tests to which his knowledge may be put, and (d) the importance of attempting to use any background knowledge he may have, he cannot help but become a more effective reader. Such self-awareness is a prerequisite for self-regulation--the ability to monitor and check one's own cognitive activities while reading.

Other scholars in reading suggest that there are five reading comprehension strategies that can be effectively taught in producing skilled readers: determining importance, summarizing information, drawing inferences, generating questions and monitoring comprehension (Dole, Duffy, Roehler and Pearson, 1991; Harrison, 1996). Reading teachers should look into these five comprehension enhancement strategies that could be developed and later used or adapted by the readers when reading any kind of text. An important point that can be raised from this study is the danger of regarding the quantitative differences of the FSI scores as the only criteria in judging the students' reasoning capabilities. What is more crucial is the issue of *the acceptability of the reasoning process*.

In a way, a response with 'less' categories observed for a particular QT but which consists of 'fine-tuned' reasoning strategies is perhaps better than 'more' categories which are not appropriate or finely tuned to the interactive demands of the questions and the context of the story. A suggestive term for this fine-tuning or 'appropriateness of answers' phenomenon is Critical Reasoning in Reaching Conclusions from the Context of the Text, in short, CRITEXT. This aspect of reasoning within the hemisphere of the eight reading skills is crucial in developing a proper understanding of the text.

In conclusion, there are several important findings from the analysis of the FSI scores. First, the interactive-compensatory word recognition model forwarded by Stanovich (1980) could be extended to another paradigm: there are interactive-compensatory comprehension process patterns, as suggested by the behaviour of the eight 'subskills' which are complex yet interactive, as seen in the L2 diagonal FSI scores. Second, the diagonal FSI scores of the good readers in the L2 tests on DTs (*WIC*), (*L*), (*ISS*), (*IMS*), (*M*) and (*S*) are higher than those of the average readers. This shows that the good readers used more localized DTs for those skills than the average readers. Third, the diagonal FSI scores of the good readers in the L2 tests on DTs (*WIC*), (*L*) and (*ISS*) are lower than in L1; and finally, in the L2 tests the diagonal FSI scores of the good readers on DTs (*WIC*), (*L*) and (*S*) behave more like those of the average readers: in these three skills the FSI scores of the good readers go beyond the local DTs.

References

- Baker, L., & Brown, A. L. (1984). Metacognitive skills and reading. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 353-394). New York: Longman.
- Cohen, L., & Manion, L. (1989). *Research methods in education* (3rd ed.). London: Routledge.
- Dole, J. A., Duffy, G. G., Roehler, L. R., & Pearson, P. D. (1991). Moving from the old to the new: Research on reading comprehension instruction. *Review of Educational Research*, 61(2), 239-264.
- Grabe, W. (1991). Current development in second language reading research. *TESOL Quarterly*, 25(3) 375-406.
- Harrison, C. (1996). *The teaching of reading: What teachers need to know*. United Kingdom: UKRA.
- Sheikh Ahmad, I. (1997). *Reading comprehension processes and strategies in L1 and L2 in Malaysian primary and secondary schools*. Unpublished doctoral dissertation, University of Nottingham, England.
- Lunzer, E., & Gardner K. (1979). *The effective use of reading*. London: Heinemann Educational Books for The Schools Council.
- Paris, S. G., Lipson, M. Y., & Wixson, K. K. (1994). Becoming a strategic reader. In R. B. Ruddell, M.R. Ruddell, & H. Singer (Eds.), *Theoretical models and processes of reading* (4th.ed). Newark: International Reading Association.
- Robson, C. (1993). *Real world research*. Oxford: Blackwell.
- Ruddell, R. B., & Ruddell, M. R. (1994). Language acquisition and literacy processes. In R. B. Ruddell, M. R. Ruddell, & H. Singer (Eds.), *Theoretical models and processes of reading* (pp. 83- 103). Delaware: IRA.
- Stanovich, K. (1980). Towards an interactive-compensatory model in individual differences in the development of reading fluency. *Reading Research Quarterly*, 16(1), 32-71.
- Yin, R.K. (1994). *Case study research: Design and methods*. London: Sage Publications.

Ismail Sheikh Ahmad is an Assistant Professor at the Centre for Education and Human Development of the International Islamic University, Malaysia (IIUM), where he teaches English grammar and teaching methodology, and critical and creative thinking skills. He has presented a number of papers on reading and thinking skills, and his research interests include literacy, reading, and thinking skills.

Institution: Centre for Education and Human Development
International Islamic University Malaysia (IIUM)
Jalan Gombak, 53100, Kuala Lumpur, Malaysia

E-mail: drismail@iiu.edu.my

Ratnawati Mohd Asraf is an Associate Professor at the Centre for Education and Human Development of the International Islamic University, Malaysia. She has published numerous articles on second language acquisition, reading and literacy, writing, and the use of statistics in research.

Institution: Centre for Education and Human Development
International Islamic University Malaysia (IIUM)
Jalan Gombak, 53100, Kuala Lumpur, Malaysia

E-mail: drratnaiiu@hotmail.com