

The Effects of Pre-Reading Instruction on the Comprehension of Text by ESL Readers

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Introduction

In the last few years, much discussion has been centred on the importance of the reader's contribution, in the form of his background/prior knowledge or schemata, to the reading process. To attain meaning, the reader has to interact with and reconstruct the text he is reading with what already exists in his head. Contrary to earlier speculations, the reader is an active participant in his attempt to make sense of what he is reading. Failure to comprehend a text may be attributed to the reader not having the appropriate schemata. It may also be prompted by insufficient clues provided by the author to invoke the appropriate schemata (Rumelhart, 1977). Implicit in this model of reading is the tacit assumption that the reader already knows the language of the text, and does not encounter decoding problems. Can this model of reading, then, be applicable to non-native readers?

A number of investigators have concluded that language proficiency is an important variable to consider in foreign/second language reading.

Due to their imperfect knowledge of the language of the text, meaning often deludes readers. This is hardly surprising as they are inclined to read in small chunks and pay more attention to syntactic and graphophonic information instead of concentrating on the semantic content (Yorio, 1971; Cziko, 1978; Clarke, 1979, 1980; Cooper, 1984). The lower their proficiency in the language of the text, the more these readers are dependent on the linguistic aspects of the text.

Linguistically competent or advanced foreign/second language readers, on the other hand, are not only less dependent on the graphic input but also use top-down processing strategies while reading. Their reading behaviour closely simulates the interactive strategies adopted by native readers.

Examined from this angle, comprehension appears to be a function of the foreign/second language reader's competence in the target language - the degree of his comprehension depends on his level of proficiency. A reader of low proficiency will not be able to derive much meaning from the text. Given that comprehension is reliant on the foreign/second language reader's linguistic input, improving the foreign/second language proficiency of readers does seem to be a solution to comprehension problems.

However, it must be borne in mind that language mastery requires time, and it may be years before a reader of low proficiency in the target language achieves near-native proficiency. At post-secondary and tertiary levels, an immediate solution is imperative, to enable foreign/second language readers, especially those of low proficiency, to cope with prescribed texts and other references written in the non-native language, English.

To meet the immediate needs of readers whose proficiency in English is low, a few investigators have explored the possibilities of preparing these readers conceptually for the reading task. A growing body of research has indicated that the amount of prior knowledge ESL readers possess influences their reading comprehension (Johnson, 1982; Osman 1984; Koh 1985). The underlying idea is that with the appropriate schemata, readers will not become too reliant on the linguistic features of the text. The conceptual framework could reduce the linguistic strain on the processing skills and enable such readers to concentrate on the content. Using the schema-theoretic framework, Hudson (1982) attempted to instantiate relevant background knowledge through three different types of pre-reading activities:

1. a set of visuals about the general topic of the passage, and a set of accompanying questions about the visuals;
2. a vocabulary list of essential lexical items;
3. a task in which readers had to answer a multiple choice comprehension test after reading. This method was designed to allow self-reconciliation through exposure to the test.

The findings indicated that different pre-reading activities were effective at different levels of ESL proficiency but in general, pre-reading activities were more effective at lower levels of ESL proficiency. Schemata instantiation was less effective at advanced levels. Hudson's findings found support in a study carried out by Tudor (1988). In his study, Tudor prepared two pre-reading formats: a text summary (which he refers to as a constrained form of pre-reading) and a set of pre-questions (which he considers to be an open form of pre-reading). The facilitative potential of these two formats was compared, based on the doze test performance of ESL readers at different proficiency levels. The results indicated that ESL readers at lower proficiency levels benefited from these pre-reading activities. The lack of treatment effect was evident in the case of advanced proficiency ESL readers. The facilitative potential of the more constrained format was slightly higher than the open format. To account for the lack of treatment effects among advanced ESL readers, both Hudson and Tudor speculated that possibly, these groups of readers had already attained the level of proficiency at which they could activate the appropriate schemata spontaneously from the cues present in the text.

Judging from the results reported by these two investigators, a lot of experimentation still needs to be done regarding the effects of other pre-reading activities on ESL comprehension. The aim of the present study is to address this need. It is the intention of the present investigator to further examine the effects of pre-reading instruction on good and poor ESL readers' comprehension. The comparative effects of two types of pre-reading instruction were also studied.

Methodology

Forty Malay students pursuing an intensive English course at the School of Mass Communication, Institut Teknologi Mara (ITM), participated in the study. Among them, twenty were teacher-rated to be good readers and twenty, poor readers. Good readers were also rated to have a better proficiency

in English than poor readers. To verify the difference in their reading ability and proficiency in English, all subjects were required to sit for the Reading Ability Test prior to the study. The Reading Ability Test comprises two sections:

- A. a reading comprehension test for all students pursuing the intensive English course;
- B. a cloze test designed by the experimenter.

The cloze test was included based on its strength as a valid and reliable means of measuring overall [2] proficiency and reading ability (Oller and Conrad, 1971; Oller, 1973; Hinofotis, 1976). The raw scores obtained for the two sections were correlated. The high correlations (Group I: .9667; Group II .8939) indicated that good readers were also those with a high overall proficiency in English while poor readers were those with a overall low proficiency in English. The raw scores for these two sections were then added. The one way analysis of variance (ANOVA) applied to the scores revealed that there was a difference between good and poor readers in each group. Table 1 presents the one way ANOVA results:

Group	Source	DF ¹	SS ²	MS ³	F ⁴
I	factor	1	994.0	994.0	69.22
	error	18	258.0	14.4	
	total	19	1252.5		
II	factor	1	708.0	708.0	28.54
	error	18	446.5	24.0	
	total	19	1154.5		

Table 1 Difference between Good and Poor Readers of Group I and Group II in the Reading Ability Test

Note: Critical Value: 4.09 p > 0.05

All subjects also took the prior knowledge assessment test two days before the treatment was administered. As the aim of this test was to elicit the extent of their knowledge of fifteen key concepts used in the experimental passage, subjects could free-associate the concepts either in Bahasa Malaysia or English, whichever language they were more proficient in. Subjects' active knowledge of English was therefore not a variable to contend with in the prior knowledge assessment. The scoring procedure adopted for this test was based on that developed by Langer (1980, 1984). That there was no difference in the amount of prior knowledge possessed by the subjects in Group 1 and Group II was confirmed by the one way ANOVA results, which are presented in Table 2.

Source	DF	SS	MS	F
Group	1	1	1	0.07
Error	38	4461	117	
Total	39	4462		

Table 2 Prior Knowledge Scores: Difference between Group I and Group II Readers

Note: Critical value: 4.09 p < 0.05

A day before the administration of the experimental passage, subjects in the two groups were given an hour's pre-reading instruction on concepts dealt with in the experimental passage - a 'constrained' form for subjects in Group I, and an 'open' form for subjects in Group II. In the former, key concepts were linked together in the form of two charts. The links among the concepts were thoroughly discussed and explained. In the latter, key concepts were also discussed and explained thoroughly, but each was taught in isolation. No effort was made to demonstrate how they were linked in any way, especially with regard to the elements and process of communication, the subject matter of the experimental passage. When it was clear that the subjects had understood the pre-reading instruction, the post-training test was administered. In this test, Group I subjects obtained a mean of 92.65 while Group II subjects' mean was 90.3. The mean scores indicated that the concepts had been well comprehended among the subjects.

The next day, the 587-word long expository passage, "Communication" was administered to all subjects in a large classroom. Twenty minutes was allocated for reading. Immediately after the reading, a comprehension test was distributed to all subjects who were given an hour to answer six open-ended comprehension questions: two textually explicit (TE), two textually implicit (TI) and two scriptally implicit (SI) questions. TE questions have both the question information and answer information stated in a single sentence in the text. In the case of TI questions, the question information and response information are stated in different sentences in the text. They require the reader to combine separate pieces of information in order to produce an answer. To answer SI questions the reader must combine some information from the text and his prior knowledge. These questions were drawn up using the taxonomy developed by Pearson and Johnson (1978) and care was taken to ensure that they were passage dependent.

The one way analysis of variance was performed on the data to determine treatment effects.

Results

As far as the answering of textually explicit questions was concerned, there was no significant difference between good and poor readers in each group. Neither was there any significant difference between poor readers in Group I and those in Group II. Good readers in both groups performed equally well. The results are presented in Table 3.

Group	Category	Source	DF	SS	MS	F
I	good vs poor	factor	1	633	633	3.49
		error	18	3266	181	
		total	19	3899		
II	good vs poor	factor	1	125	125	1.00
		error	18	2250	25	
		total	19	2375		
I & II	good vs good	factor	1	0.0	0.0	0.00
		error	18	1125.0	62.5	
		total	19	1125.0		
I & II	poor vs poor	factor	1	195	195	0.64
		error	18	5516	306	
		total	19	5711		

Table 3 Textually Explicit Questions

Note: Critical value: 4.41, $p < 0.05$

Group	Category	Source	DF	SS	MS	F
I	Good vs Poor	factor	1	281	281	1.35
		error	18	3750	20	
		total	19	4031		
II	Good vs Poor	factor	1	0.0	0.0	0.00
		error	18	1125.0	62.5	
		total	19	1125.0		
I & II	Good vs Good	factor	1	1125	1125	0.80
		error	18	1875	104	
		total	19	3000		
I & II	Poor vs Poor	factor	1	281	281	1.69
		error	18	3000	167	
		total	19	3281		

Table 4 Textually Implicit Questions

Note: Critical value: 4.41, $p < 0.05$

In the case of textually implicit questions, good readers in each group did not outperform the poor readers despite possessing superior reading skills and better proficiency in English. In fact, in Group II, there was hardly any significance in the performance between good and poor readers. When the results were scrutinized, it was noticed that good readers of Group I obtained significantly better scores than their counterparts in Group II. However, for poor readers, there was no significant difference in their performance when compared. The one-way ANOVA results are set out in Table 4.

As regards scriptally implicit questions, good readers' performance was no better than that of the poor readers in both Group I and Group II. The one-way ANOVA results as presented in Table 5 did not record any significant difference. When a comparison was made between good readers in both groups, the data showed that the difference in their performance did not reach the point of

significance. However, among the poor readers, those in Group I performed better than their counterparts in Group II, in the answering of scriptally implicit questions.

Group	Category	Source	DF	SS	MS	F
I	Good vs Poor	factor	1	500	500	1.81
		error	18	4969	276	
		total	19	5469		
II	Good vs Poor	factor	1	1479	1479	3.98
		error	18	6698	372	
		total	19	8177		
I & II	Good vs Good	factor	1	383	383	0.87
		error	18	7891	438	
		total	19	8274		
I & II	Poor vs Poor	factor	1	1272	1272	6.06
		error	18	3776	210	
		total	19	5048		

Table 5 Scriptally Implicit Questions

Note: Critical value: 4.41. $p < 0.05$

With respect to overall comprehension, the performance of readers in Group I was superior to that of the readers in Group II. The results of the one-way ANOVA performed on the data are laid out in Table 6.

Source	DF	SS	MS	F
Factor	1	476	476	4.73
Error	38	3824	101	
Total	39	4300		

Table 6 Overall Comprehension Difference between Group I and Group II Readers'

Note: Critical value: 4.09. $p < 0.05$

Discussion

When the raw scores were examined, a clear pattern emerged in both groups: readers obtained the highest scores for TE questions, followed by the scores for TI questions. The lowest scores were obtained for SI questions.

The high scores obtained for TE questions suggest that both good and poor readers were equally adept at answering TE questions. One plausible explanation lies in the nature of TE questions. As answers to TE questions can be found verbatim in the text, the reader only needs to identify a structurally similar sentence in the text and match it with the TE question posed to him. It is therefore quite easy to understand why good and poor readers were of the same ability in answering TE questions.

As far as TI and SI questions were concerned, readers did not perform as well as they did for TE questions, as the lower scores imply. Unlike TE questions, answers to such questions cannot be obtained verbatim in the text. In the case of TI questions, the reader has to comprehend the text first, and then combine related ideas in the text to arrive at the required response. For SI questions, the task is even more exacting as the response demands the reader to combine some information the text with relevant schemata or background knowledge. From the results presented in Tables 4 and 5, it is clear that there was no significant difference between good and poor readers in each group, as regards the answering of TI and SI questions. One can therefore conclude that poor readers could answer TI and SI questions as well as good readers in each group. Possibly, background knowledge which had been administered in the form of pre-reading instruction enabled the poor readers to perform as well as the good readers, despite the latter's superior reading and language skills over the former.

With respect to the comparative effectiveness of the two types of pre-reading instruction, the key concepts showing links type proved to have been more beneficial to good readers than poor readers in the answering of TI questions. This conclusion was made based on the fact that good readers in Group I had performed significantly better than good readers in Group II. This type of pre-reading instruction was superior, too, to the key concepts taught in isolation type for poor readers, in the answering of SI questions. This observation was made from the fact that poor readers in Group I had outperformed their counterparts in Group II.

The findings of the study do echo those of Hudson (1982) and Tudor (1988) that L2 readers of lower proficiency derive benefits from pre-reading activities. Both forms of conceptual support (constrained and open) could have made the text more accessible to them during reading and enabled them to interpret and answer the questions as well as those with a higher L2 proficiency. When a comparison was made between the constrained and the open forms, the findings here do not support those of Tudor (1988) that good readers do not benefit from a constrained form of pre-reading instruction. Both good and poor readers in this study were assisted by the conceptual framework provided by a constrained form of pre-reading instruction in the answering of implicit questions. The open form could have generated too many ideas, making it difficult for readers to relate them to the text. The myriad ideas generated by the open form of pre-reading could have also made it difficult to choose relevant points when it came to answering comprehension questions. In the case of the constrained form, only background knowledge relevant to the text was discussed in the pre-reading session. There was therefore minimal 'distraction' when it came to comprehension and subsequent answering of comprehension questions.

Conclusion

The findings of previous investigators (Hudson, 1982; Johnson, 1982; Koh, 1985) that prior knowledge or schemata is an important variable in L2 reading comprehension have found additional support in this study. However, before one hastens to prepare reading comprehension materials based on schema-theoretic notions, it is important to realize that research into this area is just beginning. Further experimentation still needs to be done. Studies using a bigger sample size, a variety of texts, different kinds of comprehension measure and a host of other types of pre-reading instruction might yield further evidence to lend further support.

Endnotes

1. DF - degrees of freedom
2. MS - mean square
3. SS - sum of squares
4. F - F value

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