THE IMPACT OF READING PURPOSES ON TEXT PROCESSING STRATEGIES

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ABSTRACT

Readers' reading purpose is of great significance to their use of text processing strategies, their achievement in recall and reading comprehension in L1 reading research. To test its role in EFL learning, the author conducted an experiment to 18 EFL Chinese learners of English. Think-aloud and written recall methods were adopted and the result indicates that readers with the reading purpose of getting information are likely to use more global text processing strategies, focusing their attention on tackling comprehension problems at discourse level rather than solving problems at sentential or word level. As a result, they are more likely to get higher score in both written recall and reading comprehension test. Despite the limitation of the study, the result is quite significant in reading practice.

Key words: Reading Purpose, Text Processing Strategies, Think Aloud and Written Recall, Reading Comprehension.

INTRODUCTION

With the shifting of emphasis of second language acquisition from teaching to learning, the research on reader factors have received more attention in the field of reading in both L1 and L2 contexts. Among them, those on reading purpose and text processing strategy perhaps are the focuses of most researches on reading. However, efforts probing into the impact of reading purpose on text processing strategies were made only in L1 and none has been carried out systematically in L2 or EFL. As Chinese EFL students' overall reading proficiency is far from satisfactory despite the effort exerted and reading purpose and text processing strategy are two critical factors deciding readers' reading proficiency, it is quite necessary and significant to conduct a similar study in Chinese EFL context.

A Brief Review of the Literature

Reading Purpose

Readers' reading purposes refer to their aims and objectives in reading texts. The importance of purposeful reading has been recognized by many (Hussein 1998; Brown, 1980; Harri-Augstein, Smith & Thomas 1982; Knutson, 1998). According to them, reader's reading purpose is an integral part of successful reading. Harri-Augustein et al. (1982) proposed that reading purpose is important for two reasons: (i) The way one reads a text varies with purposes; (ii) The success for reading can only be checked against purposes. Knutson (1998) also pointed out that the nature of reading varies according to the reader's purpose and situation and that reader's reading purpose inevitably determines his/her approach to the text, the amount of attention paid, the time spent, as well as what features or parts of the text are focused on.

In L1 literature, there are two major reading purposes: reading for getting information and reading for pure fun (Brown, 1980; DuPuis & Askov, 1982; Harri-Augustein et al., 1982; Swanborn & de Glopper, 2002). However, L2 reading purposes may not be the same as L1 reading purposes. Of the two L1 reading purposes, "reading for pure fun or enjoyment" is not supposed to be the major goal for L2 readers since it is only when one's language proficiency goes to quite a high level can he/she take reading as a pure fun or enjoyment. In fact, the language proficiency of most L2 readers, especially EFL readers in China, is far below that level. However, despite the difference in reading purposes between L1 and L2, there are also some features that are characteristic of the purpose of all language acquisition in the world. Since the primary goal of any language in the world is to facilitate communication and to provide or gain information no matter whether it is acquired as the first or second language, it is assumed that reading for "getting information" is a universal reading

purpose. Therefore, the first major purpose in L2 reading is thought similar to that in L1 reading, namely, reading for getting information. Meanwhile, as linguistic competence is a major factor that affects L2 reading, improving language proficiency is hypothesized to be the second major reading purpose in L2 reading while it is not so in L1 reading (Horiba, 1996).

Text Processing Strategies

Text processing strategy is "how readers conceive a task, what textual cues they attend to, how they make sense of what they read, and what they do when they do not understand." (Block,1986, p465) Text processing strategies reveal a reader's resources for understanding (Block,1986). Text processing strategies are helpful in the reading process in several ways. First, they help the reader to make predictions and test his/her hypothesis. Second, they help the reader to make inferences to solve comprehension problem. Third, the reader can use the strategies to monitor or regulate his/her understanding (Zou,1999). Both Meyer (1984) and Brown, Armbruster and Baker (1986) also discussed that what strategies or processing patterns the reader uses in reading are of great significance to his/her comprehension.

The classification of text processing strategies in reading literature is much diversified. However, based on the classifications put forward by Cohen (1998), Block (1986) and Hayashi (1999), we proposed two groups of text processing strategies for the present experiment: global text processing strategies (further divided into anticipating, questioning, elaborating, commenting and integrating information) and local text processing strategies (further divided into word-guessing, word-solving, grammar-analyzing, referent-identifying, and paraphrasing or translating).

Theoretical Framework

Reading is both a purposeful and strategic process (Brown, 1980). Different reading purposes may result in the reader's use of different text processing strategies (Harri-Augustein et al., 1982; Hussein, 1998; Knutson, 1998). In her study, Horiba (1996) suggested that due to limited linguistic competence, L2 readers tended to concentrate on lower-level micro-processing. Zou's experiment (1999) also implied that Chinese EFL readers who read for different purposes adopted different text processing strategies. Based on the literature, a flow chart representing the comprehension process of a text and the relationship among reading purposes, text processing strategies and reading outcome is shown in Figure 1.

Reader's reading purposes and the strategies he/she uses in processing a written text are likely to influence his/her reading performance. According to this theoretical framework, it is assumed that while processing a written text, readers with the reading purpose of getting information are supposed to make more use of global text processing strategies and thus are able to build up a mental representation of the text at discourse level. In contrast, readers with the reading purpose of improving language proficiency are supposed to use more local text processing strategies to process the incoming data and thus are able to understand the meaning of the text at sentential level. As a result, it is suggested that readers with the reading purpose of getting information will outperform those with the reading purpose of improving language proficiency in both recall and reading comprehension test.

The relationship among the three variables has been witnessed by previous studies in L1 and the theoretical framework established here is to serve as the basis for investigating the same relationship in Chinese EFL context.

Research Questions

Based on the theoretical framework proposed, the

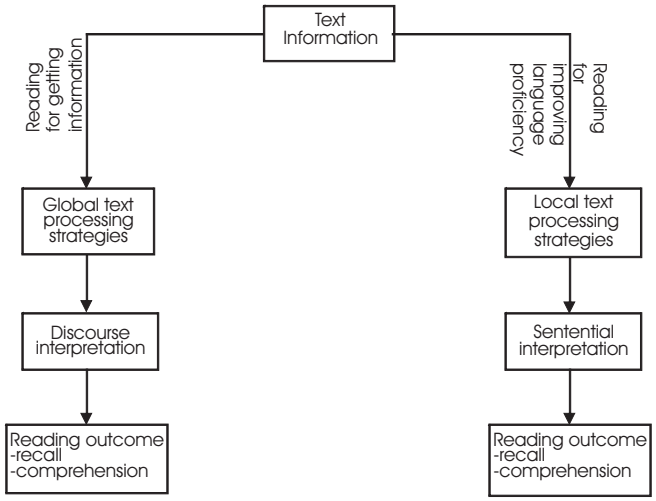

Figure 1. A Theoretical Framework for Reading Purpose

experimenter puts forward the following research questions:

- Will readers with the reading purpose of getting information make more use of global text processing strategies than those with the reading purpose of improving language proficiency? On the contrary, will readers with the purpose of improving language proficiency make more use of local text processing strategies than those with the purpose of getting information?
- Will readers using more global text processing strategies score higher both in recall and comprehension test than those adopting more local text processing strategies?
- Are there any individual strategies facilitative to recall and comprehension of English texts? If so, what are they?

Investigating Tools

Subjects

All the 18 subjects were from the faculty of School of Management, Guangdong University of Foreign Studies. The subjects were selected based on the following three criteria: (i) their reading purposes; (ii) their scores in CET4[2]; and (iii) their sex. The experimenter assigned 100 candidates into two groups based on their choices of reading purposes, namely reading for getting information (Group1) and reading for improving language proficiency (Group 2). Then in order to bring under control the sex factor against reading purpose, the present experimenter tried to work out two groups with the same numbers of male and female subjects. Finally, for the same experimental purpose, the experimenter selected the subjects with similar language proficiency level by checking their scores in CET4. A Mann-Whitney U-test on CET4 scores between the two groups showed that there is no statistical inter-group significance in terms of language proficiency ($Z = -1.511$, $P = .131$).

Methods

Questionnaire: An open-ended questionnaire was first used to collect information of the Chinese EFL subjects' perceived reading purposes, the result of which was served as the basis of the classification of reading purposes for this research (Table 1). Then, a Reading Purpose Investigation Form based on the classification was designed and distributed to 100 students for the purpose of sampling and grouping subjects.

Types of reading purposes	Sub-purposes included
Reading for getting information	• increasing knowledge • getting information • identifying macro structure and main idea • satisfying interest • understanding western culture
Reading for improving language proficiency	• enlarging vocabulary • improving reading speed and skills • improving ltest performance • getting lfamiliar with grammar • improving writing skills

Table 1. Classification of reading purposes in this study

Think-aloud protocol: The think-aloud method was used to obtain information of how readers with different reading purposes process the text and how they deal with text comprehension problems. The subjects were asked to read an English text of about 200 words and report faithfully what was going on in their mind sentence by sentence. The think-aloud protocols were transcribed and coded in terms of the two types of text processing strategies worked out previously using a coding schema of Table 2. The types and number of reading strategies thus obtained then were entered into a Think-aloud Measurement Form for overall calculation.

Written recall: The written recall method was used to examine the reader's mental representation of the text and the one used in the experiment was the immediate recall method. The subjects were asked to write down in detail as much as possible what they remembered of the text as soon as they finished the think-aloud task. The data of the recall protocol was assessed by the number of idea units (top-level idea unit, macro-idea units and micro-idea units) recalled and the overall score was calculated with an

	Global Strategies					Local Strategies				
Marker	Ant.	Que.	Ela.	Com.	Int.	WGu	Wso.	Gra	Ref.	Tran.
red	Str1	Str2	Str3	Str4	Str5					
black						Str6	Str7	Str8	Str9	Str10

Legend: Str=Strategy Rev.=Reviewing Ant.=Anticipating Que.=Questioning
Ela.=Elaboration Com.=CommentingInt.=Integrate information
WGu. = Word-guessing WSo.=Word-solving Gra.=Analyzing grammar
Ref.=Identifying referent Tran.=Paraphrasing or translating

Table 2. Coding System for the Think-Aloud Protocols

[2]CET4, shorted for the College English Test Band 4, is a nationwide test in China to test the English proficiency of the non-English majors in schools of higher learning.

allocation of 10 percent to the top-level idea unit, 60 percent to the macro-idea units and 30 percent to the micro-idea units.

Reading comprehension test: A multiple-choice test was used to test the reader's comprehension of the text having been processed. The same text used for think-aloud method was given to the subjects a month later and the subjects were asked to answer 5 multiple-choice questions within a time limit of 5 minutes.

Validity and Reliability of the Tools

To ensure the validity and reliability of the investigation tools, two pilot studies were conducted before the experiment. Instruction for thinking-aloud task and the text processing material were improved after the first pilot study and all the tools have been proved to well serve the research purpose in the second pilot study.

To ensure the reliability of the coding and scoring systems, another teacher was involved to co-rate both the think-aloud and written recall data after receiving some training. After rating, two correlation analyses were conducted to test the consistency of the results. The result showed a high correlation between the two co-raters ($r_{think\text{-}aloud}$ = 0.958, p = .000; r_{recall} = 0.936, p= .000), which suggested that the coding and scoring systems in the present study are reliable, and that the operational definitions for the 10 types of reading strategies and the three types of idea units are clear and operational.

Results and Discussion

Readers' reading purposes do affect their choice of text processing strategies. As indicated in Table 3, the readers with the purpose for getting information in reading English texts made more use of global text processing strategies, directing their attention more to the overall understanding of the text, while the readers who read English texts mainly for improving language proficiency adopted more local text processing strategies, focusing more on solving language problems at word or sentence level.

	Group	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	P (2-tailed)
Global strategies	1	13.67	123.00			
	2	5.33	48.00	3	-3.327	0.001**
Local strategies	1	6.67	60.00			
	2	12.33	111.00	15	-2.279	0.023**

Table 3. Results of the Mann-Whitney U-Test of the two types of text processing strategies

This result is in consistency with the findings of the previous research on the role of reading purposes in reading process: reading purposes direct the readers' attention to those parts of information in a text that are relevant to meet his/her reading purposes (Harri-Augsteni et al., 1982; Hussein, 1998; Swanborn, 2002; Zou, 2000). This finding also corroborates readers' assessments of their own reading processes, in particular their perception that getting information involves getting the overall meaning of the text while improving language proficiency focuses on solving word or sentence meaning or grammatical problems. Besides, it also contributes to the "search-after-meaning" principle (Narvaez, Broek & Ruiz, 1999), according to which the reader attempts to explain each element in the text before continuing on to the next element, applies particularly to readers who are reading to improve language proficiency rather than to those who are reading for getting information.

A closer look into the individual strategies related to reading purposes found that Questioning, Elaborating and Integrating Information were positively related to reading purposes while Wording Guessing and Translation and Paraphrasing were negatively related (Table 4).

This and the analyses of the qualitative data revealed that the readers with the purpose of getting information often questioned the information in the text, used their background knowledge to explain the information, to make inference or to bridge information gap, and attempted to integrate information in the text to establish the logical connection of the information within the text. On the contrary, readers reading for improving language proficiency tended to translate everything into their mother tongue, directing their attention to understand the meaning of individual words and grammatical structure.

Strategy	Group 1 Mean Rank	Group 1 Sum of Ranks	Group 2 Mean Rank	Group 2 Sum of Ranks	Z	P (2-tailed)
Questioning**	12.89	116.00	6.11	55.00	-2.766	0.006
Elaborating*	12.06	108.50	6.94	62.50	-2.054	0.040
Integrating information**	12.83	115.50	6.17	55.50	-2.670	0.008
Word-guessing*	6.61	59.50	12.39	111.50	-2.374	0.018
Paraphrasing or translating**	6.22	56.00	12.78	115.00	-2.965	0.009

Table 4. Results of Mann-Whitney U-Test of the ten items of text processing strategies

This lends support to the viewpoint in the schema theory that the readers' reading purpose shapes the way they process a text (Adams, 1979). Furthermore, the theoretic framework of the study also stated that readers with different reading purposes rely on text processing strategies at different levels to build up their interpretation of text information. Therefore, with the reading purpose of getting information, readers will certainly focus their attention on the macro-propositions of the text and thus may use Questioning strategy to raise questions about the content which seems to be in conflict with their existing schemata, use Elaborating strategy to associate their background knowledge with the text information, and use Integrating Information strategy to find logical and coherent relations between propositions in various parts of the text to tackle problems hindering their understanding of such propositions.

Readers' reading purposes also affect their reading comprehension. Based on the statistics displayed in Table 5, the author can concludes that global text processing strategies is significantly related to the scores of both written recall and reading comprehension respectively, statistically significant at 0.05 level. However, no significant regression correlation has yet been found between local text processing strategies and recall score and reading comprehension score.

This lends support to the assumption that varying the reading purpose influences readers' performance (Swanborn, 2002). Another possible explanation of the results in this study is the nature of reading comprehension questions. In most Chinese English tests, students' reading ability is examined largely by the questions focusing on the understanding of the whole text. For example, the reading comprehension questions in the test of the present study are information-oriented. 15 out of 25 questions were designed to test whether the students could understand the text or passages at discourse level, a percentage of 60%. For this reason, the subjects who read for getting information were likely to get more correct answers to the questions in the comprehension test than those who read for improving language proficiency.

	Reading recall		Reading comprehension	
	t	P	t	P
Global strategies	2.166	.047	2.305	.036
Local Strategies	-.168	.869	-1.350	.197

Table 5. Results of Regression Coefficients between text processing strategies and reading outcome

Some individual text processing strategies do facilitate reading recall and reading comprehension. The results of the correlation between individual text processing strategies and recall score and reading comprehension score are presented in Table 6.

According to the results shown in Table 6, elaborating strategy is significantly correlated to both recall and reading comprehension score (P=0.001) and Word-guessing and Word-solving strategies are negatively related to reading comprehension score ($P_{Word\ guessing}$ =0.039; $P_{Word\ solving}$ =0.037). These results suggest that elaborating strategy is an effective strategy and background knowledge is positive in producing better performance in both recall and reading comprehension test while Word-guessing and word-solving strategies are ineffective strategies in terms of the performance in reading comprehension test. The results are in line with the Natural Approach jointly proposed by Krashen and Terrell (1988) that we acquire language when we focus on meaning and not when we focus on form.

In summary, the results of the present study show: (I) reading purpose affects readers' use of text processing strategies. Readers with the purpose for getting information made more use of global text processing strategies, directing their attention more to the overall understanding of the text, while the readers who read English texts mainly for improving language proficiency adopted more local text

	Readcom. score	Recall score	Elaborating	Word-guessing	Word-solving
Readcom.	1.000	.802**	.698**	-.490*	-.495*
score	.	.000	.001	.039	.037
Recall score	.802**	1.000	.611**	-.330	-.303
	.000		.007	.181	.222
Elaborating	.698**	.611**	1.000	-.698**	-.402
	.001	.007		.001	.099
Word-guessing	-.490*	-.330	-.698**	1.000	.168
	.039	.181	.001		.504
Word-solving	-.495*	-.303	-.402	.168	1.000
	.037	.222	.099	.504	

Legend: Readcom. score = reading comprehension score

Table 6. Results of correlation between individual text processing strategy and recall score and reading comprehension score

processing strategies; (ii) Readers' text processing strategies affects their reading outcome. Readers who used more global text processing strategies outperformed those who relied heavily on local text processing strategies in both written recall and reading comprehension test; and (iii) Of the text processing strategies, elaborating was found to be most contributive to the readers' reading performance.

Implications

To conclude, the effect of information-oriented reading purpose and global text processing strategies, on a whole, are positive for better representation of text information, written recall and reading comprehension in Chinese EFL context. The result has great significance to reading instruction:

- The positive role of reading purpose in text processing and reading comprehension suggests that it is necessary and helpful for teachers to work out a purpose-oriented curriculum in any reading instruction program in Chinese EFL learning context, within which teachers should learn to shape students' reading purposes so that students' attention will be efficiently directed to the meaning of the text as a whole and to the adoption of more macro-processing strategies in text processing, thus helping them gain better recall and comprehension of the text being processed.
- The effectiveness of global text processing strategies implies that L2 learners should not dwell too much on the meaning of single words, phrases or sentences. Instead, they should concentrate more on the important information or macro-propositions of the incoming data and learn to use background knowledge as well as linguistic knowledge to integrate information when they process written texts.
- The effectiveness of Elaborating indicates the importance of background knowledge in text processing, which suggests that in EFL learning, the teachers should advise or require the students to extend their non-classroom reading in both L1 and L2 or recommend suitable reading materials for them to read after class. By doing so, the students are able to accumulate background knowledge about various topics and when they are asked to process a text with familiar topics, the knowledge about the topics will help them build up relative schemata to predict, explain or bridge information gap, thus helping them to gain a better understanding of the text being processed. It is also necessary for teachers to constantly remind the readers to activate their background knowledge in reading and to provide the necessary background information if the students do not have such knowledge in reading texts of unfamiliar topics.

Limitations and Suggestions for Further Research

As with any other studies, the present study has its own limitations. These limitations are discussed and recommendations for further research are offered.

First, the conclusions of the present study were drawn on the processing of one single text. However, text factors, such as text structure, topicality, readability and signaling system are also considered important factors in reading comprehension. As these factors have been proved to affect the readers' choice of text processing strategies and their comprehension of the text information, future studies are expected to use more texts with different structures, topics, signaling systems or readability so as to ensure more convincing results.

Secondly, the text used for the present experiment was not adequate enough both in length and difficulty, which made it possible for Chinese EFL subjects who are good at rote-memorizing to memorize the text information mechanically rather than depending on text processing strategies to understand the text. Therefore, it is recommended that longer and more difficult texts be used for future research so as to get a more precise picture.

Thirdly, in the present study, the subjects' language proficiency was determined by the result of their Comprehensive English Test. It was not the result of pure objective tests. Instead, it was a combined result of the subjects' performance in objective tests and the teacher's subjective impression of their performance in assignment and classroom activities. Furthermore, what has been tested in the objective tests mentioned before was mostly book knowledge. Therefore, the result may not indicate their real English proficiency. Further studies are hoped to

use authorized English proficiency test, such as CET or TOEFL (Test of English as a Foreign Language) to decide whether the subjects belong to the same or different English proficiency groups.

Finally, although it is impossible to involve a large number of subjects in a single study where think-aloud method is used, the number of subjects in this study is not big enough to provide convincing data for the conclusions of the present study grounded. Therefore, it is suggested that further research make use of more subjects in the study so that the conclusions will be better supported.

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