A Comparative Study of Referential Strategies Used
by Japanese and Chinese College Students

I. Introduction

Reading strategies are mental representations of actions and consequences of actions that guide a reader's behavior toward a goal. L2 reading comprehension strategies may be either conscious and controlled or unconscious and automatic, and they serve to direct the various components of the reading process toward efficient understanding of a given text. Many studies have identified processing strategies. The studies can be roughly categorized into four types: studies on lexical inferencing strategies (e.g. Bot and his collaborators 1997, Fraser 1999), comparative studies on L1 and L2 reading strategies (e.g. Clarke 1979, Yamashita 1996), studies on the role of background knowledge (e.g. Yoshizawa 2000, Zhang 2001) and, comparative studies on relationships between L2 reading strategy and L2 language proficiency (e.g. Hosenfeld 1977, Nuttall 1982, Stanovich 1980).

The findings of these studies present insightful views concerning behaviors taken in L1 and L2 reading processes. Readers evaluate their current levels of understanding, plan to cope with a comprehension problem, regulate comprehension and fix-up strategies. For example, comparative studies on L1 and L2 reading strategies (Bot et al 1997) indicate that native speakers rely more heavily on semantic than on syntactic clues, and attend to word stress and sentence stress. On the contrary, L2 readers divide their time more or less equally between function and content words and are weak at noticing cohesive ties in a text efficiently. Many of them read at the word level only, relating word groups no further than to the previous or the following sentence.

Studies on relationships between L2 reading strategies and L2 language proficiency, from another standpoint, show that the types of reading strategies an L2 reader employs are directly related to his or her level of linguistic competence in the second language. Stanovich (1986) points out that high level L2 readers use context less frequently than low level readers do because they can decode faster. Nevertheless, when dealing with lexical difficulty, both levels of readers intend to employ a co-text inferring strategy if the unfamiliar word occurs in the surrounding text of sufficient and clear schemata and other linguistic cues (Fraser 1999, Zhang 2001).

However, so far as Japanese and Chinese learners of English are concerned, whose mother tongues have structurally much distance from English, the processes of their inferencing are still in the dark. In other words, our knowledge regarding how those
readers increasingly generate word meaning and form opinions of what they read on
the basis of linguistic and situational elements in the text does not seem to be
adequate. For example, few studies have been systematically tried to investigate how
those EFL readers construct cohesion in a text. To be more specifically, are there any
differences between the readers with different L1 backgrounds? Another unresolved
issue is how EFL readers' English knowledge and reading comprehension levels
influence the inferencing processes.

This present study attempted to explore different types of inferring procedure that
Japanese and Chinese EFL readers take in reading comprehension. First, the readers'
ability to identify referential ties in a text was investigated. Second, the readers'
ability was analyzed in accordance with different levels of English knowledge and
reading comprehension. To fulfill these goals, the following three research questions
were addressed:

1. Where are problematic areas of identifying referential ties for Japanese and
   Chinese students?
2. Is there any relationship between the students' English knowledge and their
   ability to identify referential ties?
3. Is there any relationship between the students' English reading comprehension
   levels and their ability to identify referential ties?

II. Referential Strategy Model As a Research Method

The terminology of referential strategies was used by Kitajima (1997) and Pan
(1997). We can also find similar researches with different terminologies, e.g.
questioning strategies (Kern 1989), text accentuation measures (Hron et al. 1985), and
signaling method (Meyer 1975). For the purpose of the present study, the author
modified the strategy model by combining it with Halliday and Hassan's cohesive ties
(1976).

The referential strategy model includes 3 types of referential ties: an immediate
tie, a remote tie and a mediated/remote tie. An immediate tie is the simplest form of
presupposition, relating the sentence to that which immediately precedes it. A remote
tie is not in the adjacent sentence, but in some sentence that is more distant. A tie may
also be both mediated and remote (a mediated/remote tie). On the one hand, the
presupposed item may be not in the immediately preceding sentence. On the other
hand, the presupposed item may itself be cohesive, presupposing another item that is
still further back, so the whole chain of presuppositions before the original target item
is mediated. Referential ties include not only referents such as nouns and pronouns,
but also verbs, adjectives and adverbials concerning emotion, attitude, points of views,
and logical or coherent relations among sentences.

III. Design of the Present Study
3.1 Material

The reading passage was taken from a TOEIC exercise book (Appendix 1). It was

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chosen because the text contains four different referring expressions that all refer to the same person: John Smith, an unusual millionaire, the happiest man, and the world's richest penniless man: the text also contains another two referring expressions that refer to another person: the average millionaire and the millionaire. And he is an alternative way of conveying the two people.

After reaching agreement with a Japanese classroom teacher, a Chinese classroom teacher, and a native English speaker, the author made 20 multiple-choice questions based on the text. The questions covered 3 types of referential ties and were divided into two sections. Section I (1-13) concentrated on content words (noun, verbs, adjectives, adverbs); section II (a-g) concentrated on pronouns (referents). The maximum score for the reading passage was 20 (one point for one correct answer).

3.2 Analysis of the Material

According to our referential strategy model, we regard the referential ties in the passage as an immediate tie, a remote tie, or a mediated/remote tie. The following sentences taken from the reading passage exemplifies the way in which we divided.

1. I know a man called John Smith who is a very unusual millionaire.
2. What makes him unusual is that he has no money.
3. He says the average millionaire never uses money and always gets other people to pay for drinks.
4. This is because he is so used to thinking in millions that small amounts of money are not worth thinking about.
5. But this does not mean he has no worries.
6. On the contrary, he worries constantly about his businesses.
7. His great wealth also makes it difficult for him to be happy and comfortable with other people.

In sentence 1, the who refers to John Smith. No money in sentence 2 has relation with unusual millionaire in sentence 1. They are the simplest form of presupposition, relating the item or the sentence to that which immediately precedes them; we refer to them as immediate ties. Now consider the word difficult in sentence 7. Taken by itself, difficult is uninterpretable; if we look back sentence 5, we can find the noun worries cohere with difficult. However, there are no intermediate references to each other. Thus we regard difficult as a remote tie of the noun worries.

Finally, a tie may be both mediated and remote. For example, the he in sentence 6 refers back to sentence 5 and 4, but the presupposed items in 5 and 4 are again he; hence the tie is mediated. At the same time, since the original item of he in sentence 6 is average millionaire in sentence 3, hence the tie is remote.

Therefore, we divided the 20 multiple-choice questions in the following ways:

Section I (1-13)
Syntactical strategy a: 1, 4, 9, 12, and 13;
Syntactical strategy b: 3, 7, 8, 10, and 11;
Syntactical strategy c: 2, 5, and 6.
Section II (a-g)  
Syntactical strategy a: a, b, c, and e;  
Syntactical strategy b: 0  
Syntactical strategy c: d, f, and g.

3.3 Procedure  
Prior to the treatment, all the students were given an English test that consisted of 90 items to examine whether there were any differences among them. The test was chosen from a practical TOEFL exam paper. Because the present study focused on referential strategies used in EFL reading, we examined the students' ability to recognize grammar and usage suitable for standard written English (Section I: 40 points) and their reading comprehension levels (Section II: 50 points).

One week later, the students were administered the reading material during classroom periods. They were instructed to read the text at their own speed, without using a dictionary. The reading tasks included two sections. First, the students were asked to choose proper word(s) from four choices for each blank. The task aimed to examine the students' ability of dealing with content words. And then, they were asked to choose one answer from four choices that exactly fits the meaning of each underlined word. This reading task aimed to examine the students' ability of identifying referents.

3.4 Subjects  
Two groups of EFL students, 90 Japanese students and 74 Chinese students, participated in the study. Both groups were non-English major university freshmen.

In order to analyze the relationships between the referential strategy uses and the EFL levels, we chose upper 20% and lower 20% students from each group to form 8 sub-groups. Those Japanese who have gotten higher scores in the Structure and Written Expression or in Reading Comprehension, named GHJ and RHJ respectively; those Japanese who have gotten lower scores in the two test sections, named GLJ and RLJ respectively. Following the same way, the Chinese were named GHC, GLC, RHC, RLC, respectively. The number of the students in each sub-group is summarized in Table 1.

<table>
<thead>
<tr>
<th>Table 1 Groups of the Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Knowledge</td>
</tr>
<tr>
<td>High Level</td>
</tr>
<tr>
<td>Japanese</td>
</tr>
<tr>
<td>Chinese</td>
</tr>
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</table>

IV. Results  
4.1 A Comparison of English Knowledge Levels between the Two Groups

The subjects' English test scores are listed in Table 2. The results showed no significant difference between the two groups on reading comprehension levels. But
the Chinese group showed higher ability than the Japanese group to recognize grammar and usage suitable for standard written English (F=4.071, p<0.001).

Table 2 English Knowledge Levels

<table>
<thead>
<tr>
<th></th>
<th>Japanese group (n=90)</th>
<th>Chinese group(n=74)</th>
<th>t-test</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Str&amp;Wri(Max=40)</td>
<td>22.46</td>
<td>4.64</td>
<td>25.72</td>
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<tr>
<td>Reading(Max=50)</td>
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<td>5.47</td>
<td>24.16</td>
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<tr>
<td>Total(Max=90)</td>
<td>46.21</td>
<td>8.53</td>
<td>49.63</td>
</tr>
</tbody>
</table>

*p<0.001    **p<0.05

4.2 A Comparison of Using Referential Strategies between the Japanese and Chinese Groups

The percentages of correctly identifying referential ties by the two groups are shown in Appendix II. The ratings showed the Japanese students were less confident in identifying the meaning of two content words (questions 6 & 13) and one referent (question c). Even GHJ and RHJ were also weak at recognizing those ties.

It was found that less than 50% of the students in both groups failed to correctly answer questions c, 6 and 13. By analyzing the passage, we knew question 6 requires a recall of the tie that was far in the past. It seemed that most of the students could not construct meaning correctly if the antecedent was remote and mediated. For question 13, most students chose the wrong answer most. It was explained that the students prefer using grammar knowledge to identifying referential ties. We noticed that the antecedent of question c was mingled with a sub-clause in the previous sentence. It indicated that EFL learners with Japanese or Chinese L1 background had difficulty in interpreting demonstrative pronoun whose antecedent is implicit.

Since the statistical analysis reported no difference between the two groups’ scores for the passage (Mean=13.08, Mean=13.18 respectively), we conducted a one-way ANOVA to compare each question and found that significant differences in use of referential strategies existed between the groups (Table 3). It is of interest to specifically compare between the two groups according to the students' English knowledge and reading comprehension levels.

4.3 A Comparison between GHJ and GHC

Significant differences were found between GHJ and GHC for question 10 (F(1,30)=8.222, p<0.05), question 6 (F(1,30)= 7.350, p<0.05), question f (F(1,30)=7.560, p<0.05), and question g (F(1,30)=7.560, p<0.05). It was noticed that those questions tried to investigate the uses of strategy b and strategy c. It was found that the percentages of correct answers for these questions by the GHC were lower than the GHJ. A possible explanation for this may be that the GHC prefers to read at bottom-up level, relating word groups no further than to the preceding or the following sentence.

By comparing questions 3, 11, and c, we also found that both GHJ and GHC made
Table 3 Comparisons of Correctness for Each Item between the Two Groups.

<table>
<thead>
<tr>
<th>Question Item</th>
<th>Jap. vs. Chi.</th>
<th>GHJ vs. GHJC</th>
<th>GLJ vs. GLJC</th>
<th>RHJ vs. RHC</th>
<th>RLJ vs. RLC</th>
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</thead>
<tbody>
<tr>
<td>Sect I: Content Word</td>
<td></td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
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<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>a:</td>
<td>7.161**</td>
<td>ns</td>
<td>ns</td>
<td>13.720*</td>
<td>ns</td>
</tr>
<tr>
<td>9</td>
<td>7.661**</td>
<td>ns</td>
<td>8.222**</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>12</td>
<td>ns</td>
<td>ns</td>
<td>7.560**</td>
<td>378*</td>
<td>ns</td>
</tr>
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<td>ns</td>
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<tr>
<td>Strategy b:</td>
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<tr>
<td>3</td>
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<td>ns</td>
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<td>4.922**</td>
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<tr>
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<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>5</td>
<td>5.581**</td>
<td>ns</td>
<td>7.560**</td>
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<tr>
<td>6</td>
<td>ns</td>
<td>7.350**</td>
<td>ns</td>
<td>7.350**</td>
<td>8.222**</td>
</tr>
<tr>
<td>Sect II: Referent</td>
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<td></td>
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<tr>
<td>Strategy a:</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a:</td>
<td>ns</td>
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<td>ns</td>
<td>7.560**</td>
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<td>b</td>
<td>49.771*</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>e</td>
<td>96.561*</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
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<tr>
<td>Strategy c:</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>d</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>f</td>
<td>13.526*</td>
<td>7.560**</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>g</td>
<td>ns</td>
<td>7.560**</td>
<td>378*</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

*p<0.001, **p<0.05, ***p<0.01
only about 50% correct answers for each question.

4.4 A Comparison between GLJ and GLC

It seemed that the GLJ was better than GLC for the process of identifying immediate ties (question 9: F (1,30)=8.222, p<0.05; question 12: F (1,30)=7.560, p<0.05). Being similar to GHJ and GHC, both GLJ and GLC met difficulties in identifying remote ties and remote/mediate ties (item 3, 11, d).

4.5 A Comparison between RHJ and RHC

Table 3 showed that the RHC group could indicate immediate ties better than the RHJ (question 4: F (1,30)=13.720,p<0.001). However, the RHJ group read better at top-down level than the RHC, because they can use more logical information to answer question 5 (F(1,30)=7.560, p<0.05) and question 6 (F(1,30)= 7.350, p<0.05).

When meeting an unfamiliar word (question 13), both the RHJ and RHC could not specify remote or remote/mediated tie successfully. If there were co-reference to refer to the same person, the students would lose their way in the reading process (e.g. question d).

V. Discussion and Conclusion

The findings of the present study indicated some distinctive features of referential strategy usage by the two groups. The results showed that the Chinese group's English grammatical knowledge level was higher than the Japanese group. But the Japanese group showed higher level in top-down reading process.

As for the first research question of this study, namely, the problematic areas of identifying the three referential ties in inferencing process for the Japanese students and the Chinese students, most students in both groups showed difficulties in interpreting co-reference. It was especially obvious when the antecedent was not in the adjacent sentences, or when the referent "he" was alternatively used for two different people. Furthermore, whether the tie was immediate or remote, the subjects showed difficulties to understand such demonstrative pronoun whose antecedent is a phrase or a sentence.

The results also revealed that there were some possible relationships between EFL proficiency levels and ability to identify referential ties. First, it was identified that those students with high level of reading comprehension would like to rely on semantic clues. While those students with high level of English grammatical knowledge seemed to read at syntactical process. Second, when meeting an unfamiliar word, those readers with higher level of English grammatical knowledge preferred depending on their English grammar knowledge rather than using referential strategies. If they failed, they would employ referential strategies to infer the meaning of the word. Thus, based on these findings, it might be advisable in the future strategy research dividing subjects into different groups according to their linguistic knowledge and reading comprehension levels.
References


Appendix I. Reading Passage

I know a man called John Smith who is a very unusual millionaire. What makes him unusual is that he has ___. He says the average millionaire never uses money and always gets other people to pay for drinks.
This is because _he b_ is so used to thinking in millions that small amounts of money are not worth thinking about. But _this c_ does not mean he has no worries. On the contrary, _2_ worries constantly about his businesses. His great wealth also makes it _3_ for him to be happy and comfortable with other people. Are they friendly because they like _him d_? Or do they _4_ like him because they want his money? John Smith says _he e_ feels very _5_ for millionaires, who, instead of being masters of their wealth, are slaves of their millions. In one way, however, John Smith always behaves exactly _6_ a millionaire. I mean he never has any money and generally manages to _7_ someone else to pay for his drinks. But unlike _8_, he gives back good value for money. He is full of _9_. An evening spent with him is not _10_ because he is usually very thirsty. But _he f_ always makes people happy. _He g_ does not give much thought for tomorrow. He is the _11_ I have ever met. Whenever I meet him, he tells me, "In money I am not rich, _12_ in peace of mind I am a millionaire." And then the world's _13_ penniless man usually adds, with a smile, "Do you have time for another drink? How can I refuse?

Some examples of questions:
Section I. Choose the best answer to fill in the blanks.
1. A. much money B. drinks C. no money D. a little money
2. A. John Smith B. the average millionaire C. an unusual millionaire D. the person who pays for drinks
3. A. difficult B. easy C. natural D. unnatural
4. A. really B. manage to C. pretend to D. try to
5. A. sorry B. admirable C. praiseworthy D. commendable

Section II. Choose the best answer to fit the underlined parts in the passage.
a. The word "who" refers to
   A. the writer B. John Smith C. someone else D. a millionaire
b. The word "he" refers to
   A. John Smith B. an other person who pay for drinks C. an average millionaire D. an unusual millionaire
c. The word "this" refers to
   A. thinking in millions B. paying for drinks by other people C. having millions of money D. thinking small amounts of money
d. The word "him" refers to
   A. the average millionaire B. John Smith C. an unusual millionaire D. a happy man
e. The word "he" refers to
   A. The author B. John Smith C. the average millionaire D. a person who wants money
Appendix II. Percentage of Correct Answers for Each Item

<table>
<thead>
<tr>
<th>Section</th>
<th>I: Strategy a</th>
<th>Strategy b</th>
<th>Strategy c</th>
<th>II: Strategy a</th>
<th>Strategy c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question No.</td>
<td>1 4 9 12 13</td>
<td>3 7 8 10 11</td>
<td>2 5 6 a b c e</td>
<td>d f g</td>
<td></td>
</tr>
<tr>
<td>Jap n=90</td>
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<td>54 76 76 61 63</td>
<td>62 64 32</td>
<td>99 76 26 69</td>
<td>66 76 84</td>
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<td>67 89 89 89 44</td>
<td>89 89 56</td>
<td>100 89 44 89</td>
<td>89 100 100</td>
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<tr>
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<td>44 67 22</td>
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</tr>
<tr>
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<td>56 100 56</td>
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